# FINAL

SASOL MINING MIDDELBULT - BLOCK 8 - SHONDONI

### EIAR (NEMA & MPRDA)

ENVIRONMENTAL IMPACT ASSESSMENT

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## **VOLUME II OF IV**





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### 6. ENVIRONMENTAL IMPACT ASSESSMENT

### 6.1 IMPACT ASSESSMENT METHODOLOGY

The impact assessment methodology used for the Middelbult – Block 8 - Shondoni Project is based on a Sasol Mining Standard Impact Assessment Rating Matrix.

This matrix was developed in-house by Sasol Mining, but nevertheless contains all the critical elements for Environmental Impact Assessment as proposed in the formal DEAT Protocol for Environmental Impact Assessment – *DEAT (2002) Impact Significance, Information Series 5, Department of Environmental Affairs and Tourism (DEAT), Pretoria.* 

The protocol comprise a series of steps in order to systematically go through a process of:

- 1. Identifying and quantifying an impact (determining the severity). Step 1.
- 2. Calculating the likelihood of an impact happening. Step 2.
- 3. Quantification of the level of magnitude attached to the impact. Step 3.

During the identification process the following aspects are considered:

- The physical quantity of the potential impact (be it a volume, concentration or quantitative measurement).
- The toxicity of impact, measured against a pre-defined hazard rating.
- The measurement of the extent of an impact.
- The duration of the impact, measured in years.
- The environmental status of the impact.
- The regulatory impact in terms of legislation that has relevance.
- The impact on any Interested and Affected Parties.

A quantitative rating system is used to assign a value to each of the above aspects:

Criteria	Definition	Points
Quantity	The quantity (Volume) that will impact on the	
	environment	
	Less than $1 \text{m}^3$ / incident or > 10 mg/ m <sup>3</sup> or < 61dBa	0
	More than 1 m <sup>3</sup> but less than 10 m <sup>3</sup> per incident or $> 25$	1
	$mg/m^3$	
	More than 10 m <sup>3</sup> but less than 100 m <sup>3</sup> per incident $> 50$	2
	$mg/m^3$ or > 61dBa	
	More than 100 m <sup>3</sup> but less than 1000 m <sup>3</sup> per incident or $>$	3
	$100 mg/m^3$	
	More than 1000 m <sup>3</sup> per incident $\setminus$ continuous or > 120	4
	$mg/m^3$ or > 85dBa	



Toxicity	Hazard rating (Dangerous properties of hazardous	
	Material)	0
	risk)	0
	Hazard rating 1 – (Substances which could result in	1
	relatively low risk)	
	Hazard rating 2 – (Substances which could result in	2
	serious risk)	
	Hazard rating 3 – (Substance which could result in severe risk)	3
Extent	How far does the impact extend?	
	Limited to Business unit	0
	Limited to mine lease area	1
	Regional (Refer to TEKSA area)	2
	National (Refer to Mnumalanga area)	3
	National (Neter to Impunialanga area)	5
	International (refer to beyond South Africa's boundaries)	4
Duration	How long will the impact last?	
	Less than 5 years	0
	Between 5 – 15 years	1
	Exceeding mine lifetime	2
	Impact permanently present	3
Status	Status of impact	
	Beneficial (Improve the environment) – no risk reduction	-1
	needed	
	Neutral (No change to the environment) – No risk	0
	reduction needed	
	Adverse (Degradation of the environment) – Risk	1
	reduction needed	
Legislation	Are there any regulatory requirements applicable to	
	aspects – impacts?	0
		0
	Yes, No fines, not cause loss of operating permit, but still reportable incident	1
	Yes and will result in / prosecution or loss in production	2
	Ves, and will cause loss of operating permit or mine	3
	stoppage.	5
	Yes, and may lead to closing down of mine	4
I & AP's	Interested and affected parties (I&AP)	
~	No impact	0
	Impact to employees in unit	1
	Impact to local community / stakeholders	2
	Impact to general public _ beyond TEKSA groa (Pad	2
	nublicity)	5
 Table 6 1(A)	Import Aggagement Criteria used at Middelbult Dlash	•

Table 6.1(A). Impact Assessment Criteria used at Middelbult – Block 8 - Shondoni.



Once a sum value has been determined for a specific impact, an Impact Severity Score is calculated (C-number) as **Step 1**, based on the Table below:

Severity score	Risk matrix Consequence Category
21 - 22	C7
19 - 20	C6
17 - 18	C5
14 - 16	C4
10 - 13	C3
5 - 9	C2
Less than 5	C1

 Table 6.1(B). Impact Assessment Criteria used at Middelbult – Block 8 

 Shondoni.

During **Step 2** the likelihood of an impact occurring/re-occurring is assessed at the hand of the Table provided below:

Likelihood Descriptors	Probability Intervals	Likelihood Definitions	P-value
Unforeseen	0 - 0.1%	The event is not foreseen to occur	P1
Highly unlikely	0.1 - 1%The event may occur in exceptional circumstances (very remote)		Р2
Very unlikely	1 - 5%	The event may occur in certain circumstances (remote chance)	Р3
Low	5 - 15%	The event could occur (moderate chance)	P4
Possible	15 - 40%	The event may occur (realistic chance)	P5
Likely	40 - 75%	The event will probably occur (significant chance)	P6
Almost Certain	75 – 100%	The event is expected to occur or occurs regularly	P7

 Table 6.1(C). Likelihood of an Impact Occurring (P-value).



Finally, the overall impact is quantified in a "Level of Risk" matrix, by combining the C-value (calculated in **Step 1**) with the P-value (calculated in **Step 2**) in the matrix provided below (**Step 3**). The overall impacts will be ranked based on the Level of Risk, as identified below:

	P1	P2	P3	P4	P5	P6	P7
C7	Level 3	Level 3	Level 3	Level 1	Level 1	Level 1	Level 1
C/	Risk						
<u>C6</u>	Level 3	Level 3	Level 3	Level 2	Level 2	Level 2	Level 1
Co	Risk						
C5	Level 4	Level 4	Level 4	Level 3	Level 2	Level 2	Level 2
CS	Risk						
C4	Level 5	Level 5	Level 5	Level 3	Level 3	Level 3	Level 3
C4	Risk						
C2	Level 6	Level 6	Level 6	Level 5	Level 5	Level 5	Level
CS	Risk	Risk	Risk	Risk	Risk	Risk	4Risk
C2	Level 6	Level 5					
C2	Risk						
C1	Level 6						
CI	Risk						

Table 6.1(D). Level of Risk Matrix for Impacts at Middelbult – Block 8 - Shondoni.

The matrices shown above make use of generic criteria in order to systematically identify, predict, evaluate and determine the significance of impacts resulting from project construction, operation and decommissioning. However, in order to enhance the accuracy and integrity of the outcome of the Impact Assessment, the suite of potential environmental impacts (to both the natural and human environments) identified in the EIA, were as far as possible **quantified during the various specialist studies conducted** – see discussion in section 6.4 of this report.



### 6.2 CONSTRAINTS AND LIMITATIONS OF IMPACT ASSESSMENT

The base line studies conducted for the Sasol Mining Middelbult – Block 8 – Shondoni EIA/EMPR and related Authorization Processes, represents the basis from which to assess impacts related to both existing and proposed mining activities and also provides the required environmental objectives to be pursued during the conceptualization and design of environmental management measures.

Insufficient base line characterization could therefore present constraints to impact assessment. Not all of the environmental components considered during the base line studies are prone to actual impacts at Middelbult – Block 8 – Shondoni, most notably meteorology and geology. However, deficiencies in the description of these aspects, could influence the assessment of impacts related to other environmental components.

### **Meteorology**

A stand alone meteorological study was not conducted for this project. However, all the relevant information as required by other disciplines such as ground water, surface water and air quality was generated by the individual specialists and discussed in their respective reports. A stand alone discussion was nevertheless compiled from these other reports for inclusion into the EIAR. Although the project is not expected to have any impact on the meteorology of the area, the meteorological information generated was required for impact assessments related to ground water, surface water, air quality, plant life, animal life, aquatic ecosystems, as well as noise.

### **Topography**

A detailed DTM (Digital Terrain Model), covering the entire study area, was obtained from Sasol Mining for the purposes of this project. An elevation resolution of 2 m topographic elevation intervals was used for this project. However, due to the accuracy of the base data, interpolation to even higher resolution is possible. The information generated will support a surface subsidence monitoring program, as well as the surface water impact assessment and the design of water management and waste management measures.

### <u>Soils</u>

With the exception of a small section of the old Middelbult Mine in the extreme south of the study area, the remainder of the old Middelbult Mining Area, the entire Block 8 Area and also the new Springbokdraai, Leeuwpan and Block 8 Northern Reserves, have all been covered with a high density quantitative soils survey, which resulted in a soils base line description and impact assessment of very high integrity and confidence.

### Land Use and Land Capability

The land use and land capability base line study and impact assessment was based on the detailed soils study and are both of similar accuracy, integrity and confidence than the soils study.



### **Geology**

Due to the fact that the study area is a highly developed mining area, a wealth of both regional and local geological data and reletad information (structural geological information pertaining to the presence of dolerite dykes, dolerite sills and faults) was readily available from Sasol Mining. The available data was, however, supplemented through the drilling of a number of geological boreholes to generate site specific geological information in support of essentially the ground water investigation for the site. The geological understanding of the site is therefore of high integrity.

The geological investigation also attended to geochemical aspects as it relate to the potential for Acid Mine Drainage and the long term deterioration in mine water and ground water quality. The geochemical study was focussed on the coal seam horizons and is deemed to be fully sufficient for the purposes of long term water quality prediction at Middelbult – Block 8 – Shondoni, especially as the calculations could be calibrated at the hand of observed underground mine water qualities from mined out underground sections in the greater study area.

### **Ground Water**

The following constraints and limitations can be present at the ground water impact assessment study:

Quantity:	The quantification of ground water related impacts are sometimes based on the results of ground water models and/or analytical calculations. These quantities are calibrated with
	known similar geohydrological conditions. However, the exact
	impact can only be determined during the operational phase
	activities when monitoring/measurement devices are used. In the
	event where a loss in borehole yield takes place, this loss in
	volume is based on information sourced from 3 <sup>rd</sup> parties.
Toxicity:	The toxicity of ground water quality deterioration is measured
	against SABS Drinking Water Standards. No detailed
	Toxicological studies were performed. The Standard use is
	deemed sufficient for the study.
Extent:	A high degree of certainty can be attached to this parameter. The
	most ground water related impacts take place within the
	Business Unit.
Duration:	The duration of ground water related impacts can be assessed at
	the hand of the time of impact, i.e. Operational Phase, Close
	Phase, etc. The duration of long term impacts is a function of
	the calibration of flooding models. No single mining operation
	is the same, and flooding rates will differ. Continuous
	monitoring will increase the confidence levels of models.
Status:	No limitations or constraints exist for these criteria.
Legislation:	The legislation pertaining to EIA applications. MPRDA
0	regulations and DWAF regulations is very clear.
I & AP:	No limitations or constraints exist for these criteria.



### Surface Water

Due to the availability of extensive meteorological data sets, and due to the highly accurate topographical data available for the study area, the surface water base line description and impact assessment is highly quantitative and is deemed to be accurate to high levels of confidence.

### <u>Plant Life</u>

There were no major constraints or limitations associated with the plant life assessment. Of minor concern was the fact that this study and assessment was undertaken in winter, but was based on detailed data collected during the growing season. The potential limitations of this approach are addressed by recommending a follow-up survey for threatened plants in the footprint of proposed infrastructure during the flowering season of those species that could potentially occur on site.

### Animal Life

Specific quantities for the listed activities were not provided so it was necessary to estimate these in order to define the "quantity" of each impact.

### **Wetlands**

The impact assessment is based on the baseline information contained within this report, which is made up of data collected in the field during 2010, as well as data contained in the wetland report compiled in 2004.

The project description used for the impact assessment was taken from Chapters 1-4 of the Sasol Mining Middelbult-Shondoni Environmental Impact Assessment report compiled by JMA Consulting.

The impact assessment methodology was used as provided by JMA Consulting.

### Aquatic Ecosystems

The impacts for ecosystems were rated according to a once-off field survey which may have missed important species with spatially or temporally isolated distributions. For example, certain fish species may have been missed and may erroneously have been assumed to be absent.

The ratings given for listed activities and water use licence applications have been lumped and should therefore be seen as an estimate of the overall impact. These should therefore be viewed as guidelines only and should be considered in association with individual impacts for each activity.

Specific activities were not identified under each water use licence application and exemption application category and impacts may therefore have been missed.



### Air Quality

The only air quality impacts that will be associated with the mine, will occur during the construction and decommissioning phases and will be related to dust and gaseous emissions from construction vehicles. In view of the documented limited extent, duration, intensity and significance of these air quality impacts, and in view of the standard management measures which will be applied by the contractors during these activities, an air quality specialist study was not deemed to be required. This aspect has been documented in the Scoping Report and Plan of Study and was approved by the I&AP's as well as the authorities.

### <u>Noise</u>

The noise base line study and impact assessment for this project are both highly quantitative and are based on worst case direct noise measurements (winter; day and night) both at sources, as well as at current and potential receptor localities. The impact assessment as based on the existing noise sources, supplemented with what is expected from the additional activities is deemed adequate.

### <u>Visuals</u>

The visuals assessment is deemed of high quality and integrity. The base line study represents a site specific visibility assessment supplemented with a detailed and comprehensive photographic assessment. The impact assessment was done subject to a well researched contextual analyses.

### <u>Heritage</u>

A Phase I Heritage Impact Assessment (HIA) study, as required in terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999), was done for this project.

### Socio-Economics

The study is supported by an approved Social and Labour Plan.

### **Summary Statement (Constraints and Limitations)**

A high integrity Environmental Impact Assessment requires three fundamental compontents:

- highly accurate and site specific base line descriptions supported with data generated through on site observation/measurement and monitoring.
- detailed quantitative process descriptions related to all activities that could impact on the environment in order to be able to identify and describe all potential impacts of the activity on the environment.
- sophisticated impact assessment tools that can describe and assess impacts through all the life cycle phases of the project, including calculation tools and simulation models that can simulate the effects of activities on the receiving environment in a transient manner.



In view of the above, and based on the work performed for this project and which is discussed extensively in this report, it is believed that the Environmental Impact assessment conducted for Middelbult – Block 8 – Shondoni, is indeed of high quality and integrity. The constraints and limitations that were identified, were taken into consideration during the numerical ratings in the sense that where they could influence the rating, the more conservative rating was always selected.



### 6.3 IDENTIFICATION OF ACTIVITIES/ASPECTS

During the impact assessments performed by the various specialists in their specialist studies, each specialist identified impacts based on his/her experience and with reference to the project description provided by the EAP for the project (JMA Consulting). This was done to ensure that specialists are not guided to only address impacts specifically mentioned in "Listed Activities" but that they would indeed identify and assess all activities related to the Middelbult – Block 8 – Shondoni Mine's current and future operations and which may impact on the environment. The full specialist reports compiled by the different specialists are contained as APPENDICES in VOLUME IV of this submission.

However, for this EIAR, the EAP structured the "Activities/Aspects" which needed to be assessed, in groups relating to the legal authorization process requirements as relevant to the different regulating authorities, namely Mpumalanga DEDET and Gauteng DWA. In addition to this, and specifically to support the development of the overall comprehensive EIA/EMP for the Mine in support of the requirements of DMR, including already authorized existing Shafts at Middelbult and Block 8, activities requiring assessment for the EMP design purposes were additionally identified and grouped into three additional categories, namely:

- Middelbult Block 8 Shondoni Surface Shaft Activities. (The activities identified for these areas were compiled subject to the detailed Shondoni Shaft Activity Inventory as compiled from the detailed project description for the new shaft (Shondoni Techno-Economic Study), supplemented with all activities identified at the remaining Middelbult Block 8 Shafts as contained in the previous two approved EMPR's Main Shaft, West Shaft, Ithembalethu Shaft. North Shaft and North West shaft have been decommissioned and closed).
- Middelbult Block 8 Shondoni Underground Mining Activities. (The underground mining activities related to the Middelbult Block 8 Mine, and which could impact on the environment, have all long been identified, described and assessed. From a pure mining perspective, the Shondoni project merely represents an altered and extended underground mine plan. No "new" impacts are therefore anticipated, but the changes and extensions to the underground mine plan have necessitated that the impacts had to be revisited and re-assessed).
- Middelbult Block 8 Shondoni Coal Conveyor Activities. (Activities related to two conveyors are relevant. The first one has been in operation since the days of the original Middelbult EMPR that was approved in 2002. The second conveyor is the new one proposed for the Shondoni project.

Once an activity was identified, it is assumed that it will run through all the life cycle phases of the project namely, **construction phase**, **operational phase**, **decommissioning and closure phase**, **and post closure phase**.

However, for previously approved activities, although some are still operational, others have already been decommissioned and closed, such as for example the Middelbult North Shaft and Middelbult North West Shaft.



### 6.3.1 NEMA EIA Listed Activities (GNR 386 & GNR 387)

National Environmental Management Act, Act No. 107 of 1998			
Section 24	Environmental Authorisation Application		
Activity 1(c)	The construction of facilities or infrastructure, including associated structures of infrastructure, for the storage of 250 tons or more but less than 100 000 tons of coal	Coal throw out stockpile area at Shondoni Shaft	
Activity 1(m)	The construction of facilities or infrastructure, including associated structures of infrastructure, for any purpose in the 1:10 year flood line of a river or stream, or within 32 <i>m</i> from the bank of the river or stream where the flood line is unknown, excluding purposes associated with existing residential use, but including – (i) canals; (ii) channels; (iii) bridges; (iv) dams; (v) weirs	Conveyor Pedestal for crossing of Trichardt Spruit	
Activity 1(n)	The construction of facilities or infrastructure, including associated structures of infrastructure, for the off-stream storage of water, including dams and reservoirs, with a capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of the activity listed in item 6 of Government Notice No. R. 387 of 2006	Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex	
Activity 4	The dredging, excavation, infilling, removal or moving of soil, sand or rock exceeding 5 cubic metres from a river, tidal lagoon, tidal river, lake, in-stream dam, floodplain or wetland.	Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit	
Activity 7	The above ground storage of a dangerous good, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres at any one location or site.	Diesel Fuel Storage Tanks at Shondoni Shaft Complex	
Activity 12	The transformation or removal of indigenous vegetation of 3 hectares or more or of any size where the transformation or removal would occur within a critically endangered or an endangered ecosystem listed in terms of it section 52 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).	Removal of Indigenous Vegetation during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure	
Activity 13	The abstraction of groundwater at a volume where any general authorisation issued in terms of the National Water Act, 1998 (Act No. 36 of 1998) will be exceeded.	Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people	
Activity 14	The construction of masts of any material or type and of any height, including those used for telecommunication broadcasting and radio transmission.	Tetra Radio System that will be installed above ground at the Shaft Complex Area.	
Activity 15	metres or that has a reserve wider than 6 metres, excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 metres long.	Access Road to Shondoni Shaft Complex from Tar road R547	
	GNR 387		
Activity 1 (l)	including associated structures or infrastructure, for the transmission and distribution of above ground electricity with a capacity of 120 kilovolts or more.	Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays.	
Activity 1(j)	The construction of facilities or infrastructure, including associated structures or infrastructure, for the bulk transportation of dangerous goods using pipelines, funiculars or conveyors with a throughput capacity of 50 tons or 50 cubic metres or more per day.	Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (Sasol Coal Supply, the central coal stockpile area).	
Activity 2	structures and infrastructure, where the total area of the developed area is, or is intended to be, 20 hectares or more.	Developed area including shaft surface infrastructure and conveyor route.	



### 6.3.2 NWA Water Uses

National Water Act, Act No. 36 of 1998				
NWA Section 40	Integrated Water Use License Application (Includes Registrations)			
Section 21(a)	Taking water from a water resource	Service water used underground sourced from underground water make (21(j))		
Section 21(c)	Impeding or diverting the flow of water in a watercourse	Coal conveyor from Shondoni Shaft to Central Coal Stockpile Area		
Section 21(f)	Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit	Shondoni Shaft Sewerage Plant		
Section 21(g)	Disposing of waste in a manner which may detrimentally impact on a water resource Water PCD and Shondoni Shaft Berms Wall			
Section 21(i)	Altering the bed, banks, course or characteristics of a watercourse	Coal Conveyor from Shondoni Shaft to Central Coal Stockpile Area. Possible stream diversion at Shaft Locality for Incline Shaft.		
Section 21(j)	Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people			
NWA Section 39	General Authorisations			
Section 21(c)	To be applied for in consultation with DWAF			
Section 21(f)	To be applied for in consultation with DWAF			
Section 21(g)	To be applied for in consultation with DWAF			
Section 21(i)	To be applied for in consultation with DWAF			
GNR 1352	Water Use Registration			
	Included in Water Use License Application and/or General Authorisation			

### 6.3.3 NWA GNR 704 Activity Exemptions

	National Water Act, Act No. 3	6 of 1998
GNR 740 (R 3)	Exemptions from GNR 704	
Regulation 4 (a) (Restrictions On Locality)	No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked.	Shondoni Shaft Complex
Regulation 4 (b) (Restrictions On Locality)	No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest.	Entire Middelbult, Block 8, Springbokdraai and Leeuwpan Reserve
Regulation 4 (d) (Restrictions On Locality)	No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary.	Shondoni Shaft Complex and Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (Sasol Coal Supply, the central coal stockpile area).
Regulation 5 (Restrictions On Use of Material)	No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource.	Use of overburden material excavated from Shondoni Shafts for construction of berms around Shondoni Shaft Complex



### 6.3.4 NEMWA Listed Waste Management Activities

National Environmental Management Waste Act, Act No. 59 of 2009			
NEMWA Section 45	NEMWA Section 45 Application for Waste Management Licences		
Category B (7)	Treatment of sewage with an annual throughput capacity of 15 000 cubic metres or more.	Shondoni Shaft Sewerage Plant.	

#### 6.3.5 MPRDA Middelbult – Block 8 – Shondoni Surface Shaft Activities

Mineral and Petroleum Resources Development Act, Act No. 28 of 2002			
MPRDA Section 44	Mining Right Application		
	Shondoni Shaft, Main Shaft, West Shaft and Ithembalethu Shaft		
Site clearance prio	or to construction		
Storage of topsoil	stripped during construction		
Compaction of in-situ footprints prepared for infrastructure construction			
Excavation during shaft sinking (vertical and incline)			
Storage of materials generated during shaft sinking			
Construction of access road			
Construction of surface buildings, shaft headgear, parking areas, etc			
Construction of surface coal handling facilities (bunker, throw-out area, emergency stockpile)			
Construction of water management infrastructure(canals, berms, silt traps, dams)			
Erection of securi	ty fences		

### 6.3.6 MPRDA Middelbult – Block 8 – Shondoni Underground Mining Activities

Mineral and Petroleum Resources Development Act, Act No. 28 of 2002										
MPRDA Section 44 Mining Right Application										
No.4 Sea	am and No.2 Seam Underground Bord and Pillar and Selective High Extraction Mining									
Primary developm	ent and bord and pillar mining on the No.2 coal seam horizon									
Primary developm	ent and bord and pillar mining on the No.4 coal seam horizon									
Possible increased	extraction on the No.4 coal seam horizon									
Storage of excess mine water in mined underground sections										
Storage of excess	mine water in mined underground sections									

### 6.3.7 MPRDA Middelbult – Block 8 – Shondoni Coal Conveyor Activities

	Mineral and Petroleum Resources Development Act, Act No. 28 of 2002
MPRDA Section 44	Mining Right Application
	Shondoni Shaft Conveyor and Main Shaft Conveyor
Site clearance alor	ng conveyor servitude
Storage of topsoil	stripped during construction
Excavation for cor	iveyor pedestals
Construction of co	nveyor and conveyor housing
Construction of (or	ver and under) road crossings
Erection of securit	y fences



### 6.4 IDENTIFY AND ASSESS IMPACTS – SPECIALIST STUDIES

Based on the identified "activities and aspects" each specialist identified and assessed impacts related to each of the relevant environmental components during the specialist study phase of the project.

#### 6.4.1 Meteorological Assessment

A dedicated meteorological specialist study was not conducted for this project. The information contained in Chapter 5 of this report was collated from other specialist studies and represents base line information in support of other specialist studies that require meteorological data, such as ground water, surface water, air quality and noise. The activities at Middelbult – Block 8 – Shondoni will not have any effect on the meteorology or climate of the study area.

### 6.4.2 Topographical Assessment

Although a dedicated topographical specialist study was not conducted for this project, Sasol Mining was already in possession of a detailed DTM for the study area, which provides the base line data in support of other specialist studies that require topographical data, such as ground water, surface water and visuals. However, high extraction coal mining as planned for certain sections of the No.4 seam in the Block 8 – Shondoni area, could under certain conditions result in surface subsidence. The base line topographical data available, and used in this report, will facilitate identification and quantification of such subsidences in the unlikely event that it does occur.

#### 6.4.3 Soils Assessment

A higly quantitative, analytical Soils Study was undertaken for the Middelbult – Block 8 – Shondoni project, the results of which are detailed in a Soils Specialist Study which is attached as APPENDIX 5.3(A) in VOLUME IV of this submission. The high integrity base line study, which included field observation and soil sampling on a predetermined grid, followed by soil laboratory analyses, facilitated a high integrity empirical/analytical impact assessment for large sections of the old, already mined out, Middelbult Reserve, for the entire Block 8 Reserve, as well as for the three new reserve blocks, Springbokdraai, Leeuwpan and Block 8 Northern Reserves.

### 6.4.4 Land Capability & Land Use Assessment

A specialist study was conducted to assess land capability and land use from a biophysical perspective. The specialist report, which is a combined report with the soils study, is attached as APPENDIX 5.3(A) in VOLUME IV of this submission. The biophysical assessment defined the current land use, as well as the soil/land potential, for different land use applications.

The impact assessment for land capability and land use is an empirical/analytical one, supported with accurate quantitative onsite information on current land use, supplemented with soil physical and chemical impact information for the current activities as generated during the soils study.



From a legal land capability and land use perspective, the information contained in the Property Description in Chapter 4 of VOLUME I of this report, details the zoning status for each of the properties located within the larger mine lease area.

### 6.4.5 Geological/Geochemical Assessment

The specialist work conducted for the geological/geochemical assessment, represents base line information required to support impact assessments related to land capability and land use, ground water, surface water, plant life, animal life, wetlands, aquatic ecosystems, and air quality. The results of these assessments are contained in one combined Specialist Reports, namely a Geology Specialist Report attached as APPENDIX 5.5(A) in VOLUME IV of this submission.

The information generated is of a highly accurate, site specific, quantitative nature and which will support both analytical and stochastical impact assessment. The geological regime was quantified through on site borehole drilling and sampling, both by Sasol Mining for geological exploration, as well as by JMA, for investigative purposes, followed by laboratory testing of ANA samples, resulting in both physical and geochemical characterization of the geological regime.

### 6.4.6 Ground Water Assessment

A higly quantitative, site specific geohydrological investigation, comprising a base line study, impact assessment and design of a ground water management measures and monitoring plan was conducted for the Middelbult – Block 8 – Shondoni project. A copy of the Ground Water Specialist Report is attaced as APPENDIX 5.6(A) in VOLUME IV of this submission. The ground water impact assessment is of very high integrity and contains elements of empirical and analytical mine water balance, and salt balance, impact assessment. The base line study provided all the necessary quantitative data to facilitate analytical impact modelling for a wide range of ground water related impacts.

### 6.4.7 Surface Water Assessment

A surface water specialist report is attached as APPENDIX 5.7(A) in VOLUME IV of this submission. The highly accurate and quantitative Meteorological and Topographical information generated for the project, enabled high integrity hydrological calculations and modelling to be performed for the existing and proposed mining activities. The impact of existing and proposed new facilities on the storm water run-off volumes and quality of the site, could therefore be assessed analytically to a very high degree of confidence.

### 6.4.8 Plant Life Assessment

A Plant Life Specialist Report is attached as APPENDIX 5.8(A) in VOLUME IV of this submission. The survey conducted has resulted in an accurate empirical/analytical plant life impact assessment for both the current, as well as future activities.



### 6.4.9 Animal Life Assessment

An Animal Life Specialist Report is attached as APPENDIX 5.9(A) in VOLUME IV of this submission. The survey conducted resulted in an accurate empirical/analytical animal life impact assessment for both the current, as well as future activities.

### 6.4.10 Wetland Assessment

A Wetland Specialist Report is attached as APPENDIX 5.10(A) in VOLUME IV of this submission. The survey conducted resulted in an accurate empirical/analytical animal life impact assessment for both the current, as well as future activities.

### 6.4.11 Aquatic Ecosystems Assessment

An Aquatic Ecosystems Specialist Report is attached as APPENDIX 5.11(A) in VOLUME IV of this submission. The survey conducted has resulted in an accurate empirical/analytical aquatic ecosystems impact assessment for both the current, as well as future activities.

### 6.4.12 Air Quality Assessment

The only air quality impacts that will be associated with the mine, will occur during the construction and decommissioning phases and will be related to dust and gaseous emissions from construction vehicles. In view of the documented limited extent, duration, intensity and significance of these air quality impacts, and in view of the standard management measures which will be applied by the contractors during these activities, an air quality specialist study was not deemed to be required. This aspect has been documented in the Scoping Report and Plan of Study and was approved by the I&AP's as well as the authorities.

### 6.4.13 Noise Assessment

A Noise Specialist Report is attached as APPENDIX 5.13(A) in VOLUME IV of this submission. The survey conducted, represents the current situation at Middelbult – Block 8 – Shondoni for winter, day and night conditions, thus resulting in an accurate empirical/analytical noise impact assessment for both the current, as well as future activities.

### 6.4.14 Visual Assessment

A Visual Aspects Specialist Report is attached as APPENDIX 5.14(A) in VOLUME IV of this submission. The survey conducted, represents the current situation at Middelbult – Block 8 – Shondoni, thus resulting in an accurate empirical/analytical visual impact assessment for both the current, as well as future activities.



### 6.4.15 Heritage Assessment

A Heritage Aspects Specialist Report is attached as APPENDIX 5.15(A) in VOLUME IV of this submission. The survey conducted, represents the current situation at Middelbult – Block 8 – Shondoni, thus resulting in an accurate empirical/analytical heritage aspects impact assessment for both the current, as well as future activities.

### 6.4.16 Socio-Economic Assssment

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The study is supported by an approved Social and Labour Plan, a copy of which is attached as APPENDIX 5.16(A) in VOLUME IV of this submission.



### 6.5 ASSESSMENT OF IMPACT SIGNIFICANCE

For a detailed and in depth discussion on the assessment of impact significance for each of the individual environmental components, please refer to the Specialist Study Reports contained in VOLUME IV of this submission.

However, for the purposes of this EIAR, the project EAP, JMA Consulting, collated and summarized all the available impact assessment information from the Specialist Study Reports into Impact Significance Assessment Tables.

The method used to compile these Tables has been described in section 6.1, the aspects related to each of the NEMA and NEMWA listed activites, the NWA Water Uses and GNR 704 Exemptions, as well as the different MPRDA Mining Activities at Middelbult – Block 8 – Shondoni, have been identified in section 6.3, and the impacts associated with each aspect have been obtained from the specialist study reports.

Tables have been compiled for each of the Middelbult – Block 8 – Shondoni life cycle phases, construction, operation, decommissioning and closure, as well as post closure. For currently existing activities/aspects, the construction phase has obviously not been assessed. However, for all new/proposed activities/aspects, impacts have been assessed for each life cycle phase.

The Impact Assessment Tables contain the following columns:

- o Activity/Aspect Description
- Impact Identification and Description
- o Quantity
- o Toxicity
- o Extent
- o Duration
- o Status
- o Legislation
- o I&AP's
- Severity Total
- Severity C Number
- Degree of Likelihood
- o Risk Level Before Mitigation



### 6.5.1 Construction Phase Impact Significance Tables

CONSTRUCTION PHASE ACTIVITIES		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Topography						Тор	ography				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998); GN 386 ACTIVITIES			L	ISTED ACTIVIT	IES AT SHONE	DONI IN TERMS	OF NEMA (A	ACT 107 OF 1998):	GN 386 ACTIVITIES	5	
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tang but long than 100,000 tang. Activity 1 (a)	The coal throw out stockpile will change the topographical view, but will not alter the topographical profile.	1	0	1	1	0	1	0	4	C1	Almost Certain	Level 6 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10	N/A	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at	Some excavation will take place in the construction of the dams, but will not alter the											
Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	topographical profile.	1	0	1	1	0	1	0	4	C1	Almost Certain	Level 6 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	N/A	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	N/A	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	N/A	~	~	~	~	~	~	~	~	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	N/A	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	N/A	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	N/A	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			L	ISTED ACTIVIT	IES AT SHOND	DONI IN TERMS	S OF NEMA (A	ACT 107 OF 1998):	GN 387 ACTIVITIES	3	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (l).	N/A	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	N/A	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	N/A	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40		1	1	•	NATIONAL	WATER ACT (	ACT 36 OF 19	98): SECTION 40	1	r	1
Taking water from a water resource - Section 21 (a).	N/A	~	~	~	~	~	~	~	~	~	~	~
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	N/A	~	~	~	~	~	~	~	~	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	N/A	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	N/A	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	N/A	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	N/A	~	~	~	~	~	~	~	~	~	~	~
H	Exemptions from GNR 704		-		-		Exemptions	from GNR 70	4	_		
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or												
within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled	N/A	~	~	~	~	~	~	~	~	~	~	~
specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).												
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining.												
prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest -	N/A	~	~	~	~	~	~	~	~	~	~	~
Regulation 4(b). No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any unbettered which entry are in the term.	N/A											
for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	IV/A	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway. or for any other purpose which	N/A	~	~	~	~	~	~	~	~	~	~	~
is likely to cause pollution of a water resource - Regulation 5.												



CONSTRUCTION PHASE ACTIVITIES		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL	ENVIRONMEN	TAL MANAGEN	MENT ACT: V	VASTE ACT, ACT	NO. 59 OF 2008	1	
	MINE SHAFT AREAS	~	~	~	~	~	~ MINE SH	~ AFT AREAS	~	~	~	~
Construction and commissioning of the shaft complex at Shondoni	N/A	~	~	~	~	~	~	~	~	~	~	~
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft)	N/A	~	~	~	~	~	~	~	~	~	~	~
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM		1		UNDE	ERGROUND MI	NING ACTIVIT	IES OF THE N	NO.S 2 AND 4 COA	AL SEAM		
None.	N/A ONVEYOR BELT ROUTE	~	~	~	~	~	~ CONVEYOR	~ R BELT ROUT	~ `E	~	~	~
Construction and commissioning of the conveyor	N/A	~	~	~	~	~	~	~	~	~	~	~
					Criteria for Dete	ermining Severity	v					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Soils and Land Capability						Soils and L	and Capability	7			
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LI	STED ACTIVIT	TIES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998):	GN 386 ACTIVITIES	3	
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Contamination of soil footprint by RoM Product, and loss of soil utilization	4	2	1	1	1	1	1	11	C3	Almost Certain - P7	Level 4 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Contamination of soil footprint by RoM Product and Hydrocarbon spills, and loss of soil utilization	4	3	1	1	1	2	1	13	C3	Almost Certain - P7	Level 47 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Contamination of subsoils by dirty water seepage, and loss of utilization of the resource	4	3	1	2	1	2	1	14	C4	Almost Certain	Level 3 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	None - Completed during construction phase - No added impacts	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Possible contamination of soil footprint outside of bunded area. Loss of soil utilization	3	3	1	1	1	2	1	12	C3	Possible P5	Level 5 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Loss of soil and land utilization if this is ongoing into the operational phase.	3	1	1	2	1	1	2	11	C3	Likely - P6	Level 5 Risk
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Potential ongoing impact on soil moisture and loss of land utilization	3	2	1	1	1	2	2	12	C3	Likely - P6	Level 5 Risk
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Completed in Construction Phase - No additional impacts of consequence other than the loss of the soil resource and utilization potential	2	0	0	1	2	1	1	7	C2	Likely - P6	Level 5 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15	Loss of soil resource and utilization potential and possible contamination by product and hydrocarbon spills	4	3	2	1	1	2	2	15	C4	Likely - P6	Level 3 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LI	STED ACTIVIT	TIES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998):	GN 387 ACTIVITIES	5	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Ongoing loss of soil resource and utilization potential due to service road	4	0	2	2	1	1	2	12	C3	Almost Certain - P7	Level 4 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	On-going loss of soil resource and utilization potential and possible contamination by product and hydrocarbon spills	4	3	2	1	1	2	2	15	C4	Likely - P6	Level 3 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2	Loss of soil resource and utilization potential and possible contamination by product and hydrocarbon spills	4	2	2	2	1	1	2	14	C4	Almost Certain P7	Level 3 Risk
NATIONAL WAT	FER ACT (ACT 36 OF 1998): SECTION 40			• •	ı 	NATIONAL	WATER ACT (	ACT 36 OF 19	98): SECTION 40			
Taking water from a water resource - Section 21 (a).	The on-going reduction in water resources will potentially reduce the irrigation potential	4	0	2	2	1	2	2	13	C3	Almost Certain P7	Level 4 Risk
Impeding or diverting the flow of water in a watercourse - Section	Diversion of water from its present course could affect the land capability in terms of	4	0	2	2	1	2	2	13	C3	Possible P5	Level 5 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f)	Discharge of waste to unprotected soils will render them less useable. The loss of this resource could potentially be permanent if not managed.	4	1	2	1	1	2	2	13	C3	Low P4	Level 5 Risk
Disposing of waste in a manner which may detrimentally impact on a water measure. Section 21 (a)	N/A to soils directly. However, the contamination of the water resource would ultimately impact as soils that are irrigated or over which they flow if not protocted	4	1	2	1	1	2	2	13	C3	Low P4	Level 5 Risk
Altering the bed, banks, course or characteristics of a watercourse Section 21 (i)	Diversions of water courses or rivers will impact the soils over which the water is engineered to flow. These soils will be lost from the system and potentially be	4	0	2	2	1	2	2	13	C3	Possible P5	Level 5 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for	contaminated or impacted by poor quality water Taking of water from the earth's system will alter the soil moisture dynamics which will in turn affect the biosphere and ecology of the area that is dependent on and adapted to the	4	1	2	2	1	2	2	14	C3	Almost Certain P7	Level 4 Risk
the safety of people - Section 21 (j).	present biological balance.											
No person in control of a mine or activity may locate or place any	Exemptions from GNK 704						Exemptions	110m GNR 704	+ I			
residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged,	N/A	~	~	~	~	~	~	~	~	~	~	~



CONSTRUCTION PHASE ACTIVITIES		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
undermined, unstable or cracked - Regulation 4(a).												
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	N/A	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	N/A	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	N/A	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL NEMWA Section 19(3) and GN 718	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008	~	~	~	NATIONAL I		TAL MANAGEN ~	MENT ACT: W	ASTE ACT, ACT	NO. 59 OF 2008	~	~
HEM WIT Section 17(5) and Giv 110.	MINE SHAFT AREAS						MINE SH	AFT AREAS				
On-going mining - haulage of raw product to surface and	Continued loss of soil resource and utilization potential, plus possible contamination of	3	2	0	1	1	1	1	9	C2	Almost Certain - P7	level 5 Risk
Possible contamination of footprint soils and stored berm materials by dirty water in area of shaft workings	Continued loss of soil resource and utilization potential, plus possible contamination of footprint soils.	3	3	0	1	1	1	1	10	C3	Likely - P6	Level 4 Risk
Compaction of in-situ footprint and stored material, plus erosion of unprotected areas and storage facilities.	Continued loss of soil resource and utilization potential	3	1	0	1	1	1	1	8	C2	Likely - P6	Level 6 Risk
Vehicle impacts	Loss of resource by dust emissions	3	1	1	1	1	1	1	9	C2	Likely - P6	Level 6 Risk
and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	Continued loss of soil resource and utilization potential, plus possible contamination of footprint soils.	3	2	0	1	1	1	1	9	C2	Almost Certain - P7	level 5 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDE	RGROUND MI	NING ACTIVIT	IES OF THE N	O.S 2 AND 4 COA	L SEAM		
Ongoing operation of shafts, access roads and haulage ways	Continued loss of soil resource with possibility of contamination by operational activities - Rom product and vehicle impacts - Hydrocarbons, compaction and/or erosion	3	1	0	1	1	1	1	8	C2	Almost Certain - P7	Level 5 Risk
shafts operations - water, by product and hydrocarbons from operation vehicles	The continued loss of resource and utilization potential due to operation of mining infrastructure and storage of product (RoM) and natural materials	3	1	0	1	1	1	1	8	C2	Almost Certain - P7	Level 5 Risk
С	ONVEYOR BELT ROUTE			1			CONVEYOR	R BELT ROUT	E	I		
C Operation of haulage facility	ONVEYOR BELT ROUTE Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons	4	3	2	1	1	CONVEYOR 1	2 BELT ROUT	<b>E</b> 14	C4	Almost Certain P7	Level 3 Risk
C Operation of haulage facility	ONVEYOR BELT ROUTE Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons	4	3	2	1 Criteria for Dete	1 ermining Severity	CONVEYOF	2 BELT ROUT	<b>E</b> 14	C4	Almost Certain P7	Level 3 Risk
C Operation of haulage facility Activity Description	ONVEYOR BELT ROUTE Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons Impact Identification/Description	4 Quantity	3 Toxicity	2 Extent	l Criteria for Dete Duration	1 ermining Severity Status	CONVEYOF 1 7 Legislation	BELT ROUT	E 14 SEVERITY TOTAL	C4 SEVERITY C- NUMBER	Almost Certain P7 Degree Of Likelihood	Level 3 Risk Risk Level Before Mitigation
C Operation of haulage facility Activity Description	ONVEYOR BELT ROUTE Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons Impact Identification/Description Ground Water	4 Quantity	3 Toxicity	2 Extent	l Criteria for Dete Duration	1 ermining Severity Status	CONVEYOF 1 Legislation Groun	I & AP's	E 14 SEVERITY TOTAL	C4 SEVERITY C- NUMBER	Almost Certain P7 Degree Of Likelihood	Level 3 Risk Risk Level Before Mitigation
C Operation of haulage facility Activity Description LISTED ACTIVITIES AT SHONDONI	ONVEYOR BELT ROUTE Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons Impact Identification/Description Ground Water IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES	4 Quantity	3 Toxicity	2 Extent	1 Criteria for Dete Duration STED ACTIVIT	1 srmining Severity Status IES AT SHOND	CONVEYOF 1 Legislation Grow ONI IN TERMS	I & AP's	E 14 SEVERITY TOTAL CT 107 OF 1998):	C4 SEVERITY C- NUMBER GN 386 ACTIVITIES	Almost Certain P7 Degree Of Likelihood	Level 3 Risk Risk Level Before Mitigation
C Operation of haulage facility Activity Description LISTED ACTIVITIES AT SHONDONI Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	ONVEYOR BELT ROUTE Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons Impact Identification/Description Ground Water IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES The construction of a 15 000t ROM coal stockpile area at Shondoni Shaft. The construction activities consist of the preparation of a suitable footprint area and will in itself not lead to onv porticing ground water production	4 Quantity 2	3 Toxicity	2 Extent Ll 0	1 Criteria for Dete Duration STED ACTIVIT 0	1 srmining Severity Status IES AT SHOND 0	CONVEYOF 1 Legislation Grou ONI IN TERMS 3	I & AP's OF NEMA (A	E 14 SEVERITY TOTAL CT 107 OF 1998): • 7	C4 SEVERITY C- NUMBER GN 386 ACTIVITIES C2	Almost Certain P7 Degree Of Likelihood Almost Certain	Level 3 Risk Risk Level Before Mitigation Level 5 Risk
C           Operation of haulage facility           Activity Description           LISTED ACTIVITIES AT SHONDONI           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	ONVEYOR BELT ROUTE Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons Impact Identification/Description Ground Water IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES The construction of a 15 000t ROM coal stockpile area at Shondoni Shaft. The construction activities consist of the preparation of a suitable footprint area and will in itself not lead to any potential ground water pollution. Conveyor Pedestal will not intersect ground water, so no impact will take place.	4 Quantity 2 ~	3 Toxicity 1	2 Extent U 0	1 Criteria for Dete Duration STED ACTIVIT 0 ~	1 prmining Severity Status IES AT SHOND 0 ~	CONVEYOR 1	I & AP's OF NEMA (A	E 14 SEVERITY TOTAL CT 107 OF 1998): • 7 0	C4 SEVERITY C- NUMBER GN 386 ACTIVITIES C2	Almost Certain P7 Degree Of Likelihood S Almost Certain ~	Level 3 Risk Risk Level Before Mitigation Level 5 Risk
C           Operation of haulage facility           Activity Description           LISTED ACTIVITIES AT SHONDONI           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	ONVEYOR BELT ROUTE Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons Impact Identification/Description Ground Water IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES The construction of a 15 000t ROM coal stockpile area at Shondoni Shaft. The construction activities consist of the preparation of a suitable footprint area and will in itself not lead to any potential ground water pollution. Conveyor Pedestal will not intersect ground water, so no impact will take place. The construction of a Storm Water Pollution Control Dam that can lead to a deterioration of ground water quality directly beneath the facility.	4 Quantity 2 ~ 4	3 <b>Toxicity</b> 1 ~ 1	2 Extent 0 0	1       Criteria for Dete       Duration       STED ACTIVIT       0       ~       0       0	1 ermining Severity Status IES AT SHOND 0 ~ 0 0	CONVEYOF 1 Legislation Grow ONI IN TERMS 3 ~ 3 3	BELT ROUT 2 I & AP's I & AP's OF NEMA (A 1 -~ 1	E 14 SEVERITY TOTAL CT 107 OF 1998): • 7 0 9	C4 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2	Almost Certain P7 Degree Of Likelihood Almost Certain ~ Almost Certain Almost Certain	Level 3 Risk Risk Level Before Mitigation Level 5 Risk - Level 5 Risk Level 5 Risk
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C           Operation of haulage facility           Activity Description           LISTED ACTIVITIES AT SHONDONI           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	ONVEYOR BELT ROUTE           Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons           Impact Identification/Description           Ground Water           IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES           The construction of a 15 000t ROM coal stockpile area at Shondoni Shaft. The construction activities consist of the preparation of a suitable footprint area and will in itself not lead to any potential ground water pollution.           Conveyor Pedestal will not intersect ground water, so no impact will take place.           The storage of diesel fuel in storage tanks can lead to ground water pollution due to spillages/leaks.           Clearance of vegetation will not intersect ground water, so no impact will take place.	4 Quantity 2 ~ 4 ~ 2 2 ~ 2 ~ 2 ~	3 <b>Toxicity</b> 1 ~ 3 ~ 3	2 Extent 0 ~ 0 ~ 0 ~ 0 ~	1         Criteria for Dete         Duration         STED ACTIVIT         0         ~         0         ~         2         ~	1         ermining Severity         Status         IES AT SHOND         0         ~         0         ~         1         ~         1         ~	CONVEYOF 1 Legislation Grou ONI IN TERMS 3 ~ 3 ~ 3 ~ 3 ~ 3 ~	BELT ROUT 2 I & AP's I & AP's OF NEMA (A 1 ~ 1 ~ 2 2 ~	E 14 SEVERITY TOTAL CT 107 OF 1998): 7 0 9 0 13 0	C4 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C3 ~	Almost Certain P7 Degree Of Likelihood Almost Certain Almost Certain Almost Certain Almost Certain Almost Certain	Level 3 Risk Risk Level Before Mitigation Level 5 Risk C Level 5 Risk C Level 6 Risk C
C           Operation of haulage facility           Activity Description           Image: Activity Description           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.           Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	ONVEYOR BELT ROUTE           Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons           Impact Identification/Description           Ground Water           IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES           The construction of a 15 000t ROM coal stockpile area at Shondoni Shaft. The construction activities consist of the preparation of a suitable footprint area and will in itself not lead to any potential ground water pollution.           Conveyor Pedestal will not intersect ground water, so no impact will take place.           The construction of a Storm Water Pollution Control Dam that can lead to a deterioration of ground water quality directly beneath the facility.           Conveyor Pedestal will not intersect ground water, so no impact will take place.           The storage of diesel fuel in storage tanks can lead to ground water pollution due to spillages/leaks.           Clearance of vegetation will not intersect ground water, so no impact will take place.           Any water removed from the No.4 Coal seam will be deemed polluted and stored in other sections of mined out areas, or pumped to surface to the Storm Water Pollution Control Dam (SWPCD).	4 Quantity 2 ~ 4 ~ 2 2 ~ 2 ~ 2 ~ 4 2 ~ 4	3 <b>Toxicity</b> 1 ~ 3 ~ 1 ~ ~	2 Extent 0 ~ 0 ~ 1	1           Criteria for Dete           Duration           STED ACTIVIT           0           ~           0           ~           2           ~           0	1         sermining Severity         Status         IES AT SHOND         0         ~         0         ~         1         ~         0         ~         0         ~         0         0         ~         0	CONVEYOF 1 Legislation Grow ONI IN TERMS 3 ~ 3 ~ 3 ~ 3 ~ 3 ~ 3 3 ~ 3	BELT ROUT     2     I & AP's     I & AP's     OF NEMA (A     1     ~     2     ~     1     ~     1     ~     1     ~     1     1     1     1	E 14 SEVERITY TOTAL CT 107 OF 1998): 7 0 9 0 13 0 10	C4 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C3 ~ C3	Almost Certain P7 Degree Of Likelihood Almost Certain  Almost Certain  Almost Certain  Very unlikely  Very unlikely	Level 3 Risk Risk Level Before Mitigation Level 5 Risk C Level 5 Risk Level 6 Risk Level 6 Risk Level 6 Risk
C           Operation of haulage facility           Activity Description           LISTED ACTIVITIES AT SHONDONI           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.           Removal of Mater found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.           Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	ONVEYOR BELT ROUTE           Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons           Impact Identification/Description           Impact Identification/Description           Ground Water           IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES           The construction of a 15 000t ROM coal stockpile area at Shondoni Shaft. The construction activities consist of the preparation of a suitable footprint area and will in itself not lead to any potential ground water pollution.           Conveyor Pedestal will not intersect ground water, so no impact will take place.           The storage of diesel fuel in storage tanks can lead to ground water pollution due to spillages/leaks.           Clearance of vegetation will not intersect ground water, so no impact will take place.           Any water removed from the No.4 Coal seam will be deemed polluted and stored in other sections of mined out areas, or pumped to surface to the Storm Water Pollution Control Dam (SWPCD).           Installation of Radio System will not intersect ground water, so no impact will take place.	4 Quantity 2 ~ 4 ~ 2 ~ 2 ~ 2 ~ 4 ~ 2 ~ 4 ~ 2 ~ 4 ~ 2 ~ 4 ~ ~ 4 ~	3 Toxicity 1 ~ 3 ~ 1 ~ ~	2 Extent 0 ~ 0 ~ 1 ~	1       Criteria for Dete       Duration       STED ACTIVIT       0       ~       0       ~       2       ~       0       ~       0       ~       0       ~       0       ~       0       ~       0       ~       0       ~       0	1  status  ES AT SHOND 0  ~ 0  ~ 1  0  ~ 0  ~ 0 ~ 0 ~ 0 ~ 0 ~	CONVEYOF 1 1 Legislation Grou ONI IN TERMS 3 ~ 3 ~ 3 ~ 3 ~ 3 ~ 3 ~ 3 ~ 3 ~ 3 ~ 3	BELT ROUT 2 I & AP's I & AP's OF NEMA (A 1 - 1 - 2 2 - 1 - 1 - 1 - 1 - 1 - 1 - 1	E 14 SEVERITY TOTAL CT 107 OF 1998): 7 0 9 0 13 0 10 0	C4 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C3 ~ C3 ~	Almost Certain P7 Degree Of Likelihood S Almost Certain ~ Almost Certain ~ Highly Unlikely ~ Very unlikely ~	Level 3 Risk Risk Level Before Mitigation Level 5 Risk C Level 5 Risk C Level 6 Risk C Level 6 Risk C C Level 6 Risk C C C C C C C C C C C C C C C C C C C
C           Operation of haulage facility           Activity Description           Instruction of the end of	ONVEYOR BELT ROUTE           Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons           Impact Identification/Description           Impact Identification/Description           Ground Water           IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES           The construction of a 15 000t ROM coal stockpile area at Shondoni Shaft. The construction activities consist of the preparation of a suitable footprint area and will in itself not lead to any potential ground water pollution.           Conveyor Pedestal will not intersect ground water, so no impact will take place.           The construction of a Storm Water Pollution Control Dam that can lead to a deterioration of ground water quality directly beneath the facility.           Conveyor Pedestal will not intersect ground water, so no impact will take place.           The storage of diesel fuel in storage tanks can lead to ground water pollution due to spillages/leaks.           Clearance of vegetation will not intersect ground water, so no impact will take place.           Any water removed from the No.4 Coal seam will be deemed polluted and stored in other sections of mined out areas, or pumped to surface to the Storm Water Pollution Control Dam (SWPCD).           Installation of Radio System will not intersect ground water, so no impact will take place.           The construction of an access road will not intersect ground water, so no im	4 Quantity 2 ~ 4 ~ 2 ~ 2 ~ 4 ~ 2 ~ 4 ~ 2 ~ 4 ~ 2 ~ 4 ~ ~ 2 ~ ~ 4 ~ ~ 4 ~ ~ 2 ~ ~ 4 ~~~~~~~~	3 Toxicity 1 ~ 3 ~ 1 ~ 3 ~ 1 ~ ~ 2	2 Extent 0 ~ 0 ~ 1 ~ ~	1           Criteria for Dete           Duration           STED ACTIVIT           0           ~           0           ~           0           ~           0           ~           0           ~           0           ~           0           ~           0           ~           0           ~           0           ~           0           ~           0           ~           0	1  prmining Severity  Status  HES AT SHOND  0  ~  0  ~  1  0  ~  0  ~  0  ~  0  ~  0 ~  0 ~  0 ~  0 ~  0 ~ ~  0 ~	CONVEYOR 1 1 Legislation Groun ONI IN TERMS 3 ~ 3 ~ 3 ~ 3 ~ 3 ~ 3 ~ 3 ~ ~ 3 ~ ~ 3 ~ ~ 3 ~ ~ ~ ~ ~ ~ ~ ~	BELT ROUT 2 I & AP's I & AP's OF NEMA (A 1 - 1 - 2 2 - 1 - 1 1 1	E 14 SEVERITY TOTAL CT 107 OF 1998): 7 0 9 0 13 0 10 0 0 0	C4 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C3 ~ C3 ~ C3 ~ C3 ~	Almost Certain P7 Degree Of Likelihood S Almost Certain ~ Almost Certain ~ Highly Unlikely ~ Very unlikely ~ ~	Level 3 Risk Risk Level Before Mitigation Level 5 Risk C Level 5 Risk C Level 6 Risk C Level 6 Risk C C C Level 6 Risk C C C C C C C C C C C C C C C C C C C
C           Operation of haulage facility           Activity Description           Image: Activity Description           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.           Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.           Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.           Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.           LISTED ACTIVITIES AT SHONDONI	ONVEYOR BELT ROUTE           Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons           Impact Identification/Description           Impact Identification/Description           Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons           Impact Identification/Description           Impact Identification/Description           Ongoing ONEMA (ACT 107 OF 1998): GN 386 ACTIVITIES           The construction of a 15 000t ROM coal stockpile area at Shondoni Shaft. The construction activities consist of the preparation of a suitable footprint area and will in itself not lead to any potential ground water pollution.           Conveyor Pedestal will not intersect ground water, so no impact will take place.           The storage of diesel fuel in storage tanks can lead to ground water pollution due to spillages/leaks.           Conveyor Pedestal will not intersect ground water, so no impact will take place.           The storage of diesel fuel in storage tanks can lead to ground water pollution due to spillages/leaks.           Clearance of vegetation will not intersect ground water, so no impact will take place.           Any water removed from the No.4 Coal seam will be deemed polluted and stored in other sections of mined out areas, or pumped to surface to the Storm Water Pollution Control Dam (SWPCD).	4 Quantity 2 ~ 4 ~ 2 ~ 2 ~ 4 ~ 2 ~ 4 ~ 2 ~ 4 ~ 2 ~ 4 ~ ~ 2 ~ ~ 4 ~ ~ 2 ~ ~ 4 ~ ~ ~ 4 ~~~~~~~~	3 Toxicity 1 ~ 1 ~ 3 ~ 1 ~ 1 ~ 3 ~ 1 ~ 1 ~	2 Extent 0 ~ 0 ~ 1 ~ L	1         Criteria for Dete         Duration         STED ACTIVIT         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         STED ACTIVIT	1         sermining Severity         Status         IES AT SHOND         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         Ites AT SHOND	CONVEYOF 1 Legislation Grow ONI IN TERMS 3 ~ 3 ~ 3 ~ 3 ~ 3 ~ ONI IN TERMS ONI IN TERMS	BELT ROUT         2           I & AP's         I           OF NEMA (A         1           ~         1           ~         2           ~         1           ~         1           ~         1           ~         1           ~         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0	E 14 14 SEVERITY TOTAL CT 107 OF 1998): 7 0 0 9 0 13 0 10 0 0 CT 107 OF 1998): 5	C4 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C3 ~ C3 ~ C3 ~ C3 ~ C3 ~	Almost Certain P7 Degree Of Likelihood Almost Certain Almost Certain Almost Certain Almost Certain Very unlikely C Very unlikely C C C C C C C C C C C C C C C C C C C	Level 3 Risk Risk Level Before Mitigation Level 5 Risk C Level 5 Risk C Level 6 Risk C Level 6 Risk C C C C C C C C C C C C C C C C C C C
C           Operation of haulage facility           Activity Description           Image: Construction of the state of the st	ONVEYOR BELT ROUTE           Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons           Impact Identification/Description           Impact Identification/Description           Ground Water           IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES           The construction of a 15 000t ROM coal stockpile area at Shondoni Shaft. The construction activities consist of the preparation of a suitable footprint area and will in itself not lead to any potential ground water pollution.           Conveyor Pedestal will not intersect ground water, so no impact will take place.           The construction of a Storm Water Pollution Control Dam that can lead to a deterioration of ground water quality directly beneath the facility.           Conveyor Pedestal will not intersect ground water, so no impact will take place.           The storage of diesel fuel in storage tanks can lead to ground water pollution due to spillages/leaks.           Clearance of vegetation will not intersect ground water, so no impact will take place.           Any water removed from the No.4 Coal seam will be deemed polluted and stored in other sections of mined out areas, or pumped to surface to the Storm Water Pollution Control Dam (SWPCD).           Installation of Radio System will not intersect ground water, so no impact will take place.           The construction of an access road will not intersect ground water, so no im	4 Quantity 2 ~ 4 ~ 2 ~ 4 ~ 2 ~ 4 ~ 2 ~ 4 ~ 2 ~ 4 ~ ~ 2 ~ 4 ~ ~ 2 ~ ~ 4 ~ ~ ~ 4 ~ ~ ~ ~	3 Toxicity 1 ~ 1 ~ 3 ~ 1 ~ 1 ~ 3 ~ 1 ~ ~ 1 ~ ~ 1 ~ ~	2 Extent 0 ~ 0 ~ 1 ~ Li 0 ~ Li 0 ~ Li 0 ~ Li 0 ~ Li 0 ~ Li 0 ~ Li 0 ~ Li 0 ~ Li 0 ~ Li 0 ~ Li 0 ~ Li 0 ~ Li ~ Li 0 ~ Li ~ ~ Li ~ ~ ~ Li ~ ~ ~ ~ ~ ~ ~ ~ ~	I       Criteria for Dete       Duration       STED ACTIVIT       0       ~       0       ~       2       ~       0       ~       0       ~       0       ~       0       ~       0       ~       0       ~       STED ACTIVIT       ~	1  primining Severity  Status  TES AT SHOND  0  ~  0  ~  1  0  ~  1  C  C  C  C  C  C  C  C  C  C  C  C	CONVEYOR 1 1 Legislation Groun ONI IN TERMS 3 ~ 3 ~ 3 ~ 3 ~ 3 ~ 0 0 0 0 0 0 0 0 0 0	BELT ROUT         2           I & AP's         I           OF NEMA (A         1           ~         1           ~         2           OF NEMA (A         1           ~         1           ~         1           ~         1           ~         1           ~         2           ~         1           ~         2           ~         1           ~         2           ~         1           ~         2           ~         1           ~         ~           OF NEMA (A           ~         ~	E 14 14 SEVERITY TOTAL CT 107 OF 1998): 7 0 0 9 0 13 0 10 0 0 CT 107 OF 1998): 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C4 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C3 ~ C3 ~ C3 ~ C3 ~ C3 ~	Almost Certain P7 Degree Of Likelihood Almost Certain Almost Certain Almost Certain Almost Certain Very unlikely C Very unlikely C C C C C C C C C C C C C C C C C C C	Level 3 Risk Risk Level Before Mitigation Level 5 Risk C C Level 5 Risk C C Level 6 Risk C C Level 6 Risk C C C C C C C C C C C C C C C C C C C



CONSTRUCTION PHASE ACTIVITIES					Criteria for Dete	ermining Severit	y					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	take place.											
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2	This activity only refers to surface disturbance. Since no ground water is intersected, no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
NATIONAL WAT	ER ACT (ACT 36 OF 1998): SECTION 40		<b>I</b>		1	NATIONAL	WATER ACT (	ACT 36 OF 19	98): SECTION 40			
Taking water from a water resource - Section 21 (a).	Ground water seepage into the shaft complex during construction activities, through	2	0	0	0	1	2	1	6	C2	Likely	Level 6 Risk
Impeding or diverting the flow of water in a watercourse - Section	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
21 (1). Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Ground water seepage captured in the shaft complex during construction activities will be pumped to pollution control dams on surface. Since the water originated in a construction	2	0	0	0	1	2	1	6	C2	Likely	Level 6 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i)	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (i)	Any water removed from the No.4 Coal seam will be deemed polluted and stored in other sections of mined out areas. A detailed mine optimisation plan has been designed to create the necessary storage of water in mined out areas for the total Life of Mine	4	1	1	0	0	3	1	10	C3	Very unlikely	Level 6 Risk
the safety of people - Section 21 (j).	xemptions from GNR 704		1				Exemptions	from GNR 704	ļ			
No person in control of a mine or activity may locate or place any							prom					
residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged,	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
undermined, unstable or cracked - Regulation 4(a). No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
NATIONAL ENVIRONMENTAL N	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL I	ENVIRONMEN	TAL MANAGE	MENT ACT: W	ASTE ACT, ACT	NO. 59 OF 2008		
NEMWA Section 19(3) and GN 718.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Construction and commissioning of the shaft complex at Shondoni	MINE SHAFT AREAS Depletion in ground water availability and quality as a result of ground water seepage during the construction of the shaft complex	2	0	1	0	1	2	AFT AREAS 1	7	C2	Likely	Level 6 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North Wast Shaft)	Depletion in ground water availability and quality as a result of ground water seepage during the construction of the shaft complex.	2	0	1	0	1	2	1	7	C2	Likely	Level 6 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDE	RGROUND MI	NING ACTIVIT	IES OF THE N	O.S 2 AND 4 COA	AL SEAM		
Construction and commissioning of the shaft complex at	No mining activities will commence at Shondoni before the shaft complex is completed	~	~	~	~	~	~	~	0	~	~	~
Shondoni.			<u> </u>		+				0			<u> </u>
C0	ONVEYOR BELT ROUTE		I	I	1	I	CONVEYOR	R BELT ROUT	E			
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area).	The construction of a coal conveyor belt will not intersect ground water, so no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
					Criteria for Dete	ermining Severit	y					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Surface Water						Surfa	ce Water				
LISTED ACTIVITIES AT SHONDONLI	N TERMS OF NEMA (ACT 107 OF 1998): CN 386 ACTIVITIES			L	ISTED ACTIVIT	TES AT SHONE	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998).	GN 386 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Impact on water quality: Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion	1	0	1	0	1	1	0	4	Cl	Possible	Level 6 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Impact on water quality: Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion	1	0	1	0	1	1	0	4	Cl	Possible	Level 6 Risk
Service Water Dams and Storm Water Pollution Control Dam at	Impact on water quality:	1	0	1	0	1	1	0	4	C1	Possible	Level 6 Risk



CONSTRUCTION PHASE ACTIVITIES					Criteria for Det	ermining Severity	y					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion											
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Impact on water quality: Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion	1	0	1	0	1	1	0	4	Cl	Possible	Level 6 Risk
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Impact on water quality: Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion	1	0	1	0	1	1	0	4	C1	Possible	Level 6 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Impact on water quality: Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion	1	0	1	0	1	1	0	4	Cl	Possible	Level 6 Risk
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Impact on water quality: Based on Sasol Mining's experience at similar shafts, groundwater quality from the shafts is likely to be slightly to moderately impacted on in terms of sulphates and TDS, with potential impacts if allowed to spill to the catchment.	3	1	1	0	1	2	0	8	C2	Likely	Level 6 Risk
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Impact on water quality: Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion	1	0	1	0	1	1	0	4	C1	Possible	Level 6 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Impact on water quality: Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion	1	0	1	0	1	1	0	4	Cl	Possible	Level 6 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES				STED ACTIVI	TIES AT SHOND	OONI IN TERMS	S OF NEMA (A	<u>CT 107 OF 1998):</u>	GN 387 ACTIVITIES	8	
from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (l).	N/A	~	~	~	~	~	~	~	~	~	~	~
Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion	1	0	1	0	1	1	0	4	C1	Possible	Level 6 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Impact on water quality: Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion	1	0	1	0			0	4	C1	Possible	Level 6 Risk
Taking water from a water resource - Section 21 (a)	Impact on groundwater yield not a surface water impact				1	NATIONAL	WAIEK ACI (	ACT 50 OF 19	0			
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Impact on water quality: Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion. Applicable at conveyor stream crossings .	1	0	1	0	1	1	0	4	C1	Possible	Level 6 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	N/A	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact	Impact         on         water         quality:           Overburden removed from the shaft excavations will be placed in an overburden stockpile.         This material has the potential to contain some carbonaceous material.	3	1	1	0	1	2	0	8	C2	Likely	Level 6 Risk
on a water resource - Section 21 (g).	Impact on water quality: Based on Sasol Mining's experience at similar shafts, groundwater quality from the shafts is likely to be slightly to moderately impacted on in terms of sulphates and TDS, with potential impacts if allowed to spill to the catchment.	3	1	1	0	1	2	0	8	C2	Likely	Level 6 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Impact         on         water         quality:           Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion. Applicable at conveyor stream crossings.	1	0	1	0	1	1	0	4	C1	Possible	Level 6 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Impact on water quality: Based on Sasol Mining's experience at similar shafts, groundwater quality from the shafts is likely to be slightly to moderately impacted on in terms of sulphates and TDS, with potential impacts if allowed to shill to the catchment	3	1	1	0	1	2	0	8	C2	Likely	Level 6 Risk
H	Exemptions from GNR 704		•	•	·	·	Exemptions	from GNR 70	4	ı		
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not applicable during construction phase	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not applicable during construction phase	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not applicable during construction phase	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not applicable during construction phase	~	~	~	~	~	~	~	~	~	~	~



CONSTRUCTION PHASE ACTIVITIES					Criteria for Dete	ermining Severit	у					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL	ENVIRONMEN	TAL MANAGE	MENT ACT: V	VASTE ACT, ACT	NO. 59 OF 2008		1
NEMWA Section 19(3) and GN 718.	MINE SHAFT AREAS	~	~	~	~	~	~ MINE SE	~ IAFT AREAS	~	~	~	~
Material from the shaft sinking activities	Impact         on         water         quality:           Overburden removed from the shaft excavations will be placed in an overburden stockpile.         This material has the potential to contain some carbonaceous material.	3	1	1	1	1	2	2	11	C3	Likely	Level 5 Risk
Dewatering of water ingress to the shaft	Impact on water quality: Based on Sasol Mining's experience at similar shafts, groundwater quality from the shafts is likely to be slightly to moderately impacted on in terms of sulphates and TDS, with potential impacts if allowed to spill to the catchment.	3	1	1	0	1	2	1	9	C2	Likely	Level 6 Risk
Coal handling infrastructure (shaft, bunker workshops, offices and stockpiles)	Civil         activities         related         to         construction:           Impact         on         water         quality:           Stripping of vegetation and topsoil during construction activities, resulting in increased         suspended solids and some risk of erosion	1	0	1	0	1	1	0	4	C1	Possible	Level 6 Risk
Water management infrastructure, involving construction of: - Clean water diversion canals and berms - Pollution control dams	Impact on water quality: Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion	1	0	1	0	1	1	0	4	Cl	Possible	Level 6 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft)	N/A during the operational phase.	~	~	~	~	~	~	~	~	~	~	~
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDE	RGROUND MI	NING ACTIVIT	TIES OF THE N	NO.S 2 AND 4 COA	L SEAM		
None	The construction phase involves all activities prior to the mining of coal.	~	~	~	~	~	~		~	~	~	~
Stripping of topsoil and undertaking of civil works for the conveyor belt	Impact on water quality: Stripping of vegetation and topsoil during construction activities, resulting in increased suspended solids and some risk of erosion	1	0	1	0	1			4	C1	Possible	Level 6 Risk
CONSTRUCTION PHASE ACTIVITIES					Criteria for Dete	ermining Severit	y					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Plant Life					<u> </u>	Pl	ant life				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998), CN 386 ACTIVITIES			TI	STED ACTIVIT	TES AT SHONE	ONI IN TERM	S OF NEMA (A	CT 107 OF 1008).	CN 386 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of	Habitat destruction, loss of populations of threatened plant species, potential loss of	4	1	1					11	C3	Almost Certain	Level / Risk
more than 250 tons but less than 100 000 tons - Activity 1 (c). Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10	populations of medicinal plant species, habitat fragmentation. Habitat destruction, loss of populations of threatened plant species, potential loss of	-	1	1	2	1	1	2	11	C3		
year flood line) - Activity 1 (m).	populations of medicinal plant species, habitat fragmentation.	2	0	1	3	1	I	3	11	C3	Almost Certain	Level 4 Risk
Service water Dans and Storm water Fondton Control Dan at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Habitat destruction, loss of populations of threatened plant species, potential loss of populations of medicinal plant species, habitat fragmentation.	3	1	1	2	1	1	2	11	C3	Almost Certain	Level 4 Risk
Spruit, removing more than 5 cubic meters of material - Activity 4. Discel Eucl Storage Tanks at Shondoni Shaft Complex with a	Habitat destruction, loss of populations of threatened plant species, potential loss of populations of medicinal plant species, habitat fragmentation.	2	0	1	2	1	1	3	10	C3	Almost Certain	Level 4 Risk
combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Habitat destruction, loss of populations of threatened plant species, potential loss of populations of medicinal plant species, habitat fragmentation.	2	2	1	1	1	1	1	9	C2	Almost Certain	Level 5 Risk
Site Clearance for Construction of Shordoni Shaft Complex and related Infrastructure - Activity 12.	Habitat destruction, loss of populations of threatened plant species, potential loss of populations of medicinal plant species, habitat fragmentation.	2	0	1	3	1	1	1	9	C2	Almost Certain	Level 5 Risk
Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13. Installation of a Tetra Badio System above ground at the Shaft	Habitat destruction, loss of populations of threatened plant species, potential loss of populations of medicinal plant species, habitat fragmentation.	0	1	1	2	1	1	2	8	C2	Almost Certain	Level 5 Risk
Complex Area - Activity 14.	populations of medicinal plant species, habitat fragmentation.	1	0	1	1	1	1	2	7	C2	Almost Certain	Level 5 Risk
Shaft Complex from Tar road R547 - Activity 15.	populations of medicinal plant species, habitat fragmentation.	4	1	1	2	1	1	3	13	C3	Almost Certain	Level 4 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		-	L	STED ACTIVIT	TES AT SHONE	OONI IN TERMS	S OF NEMA (A	CT 107 OF 1998):	GN 387 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1)	Habitat destruction, loss of populations of threatened plant species, potential loss of populations of medicinal plant species, alien plant invasions, habitat fragmentation, habitat deterioration, change in physical abiotic conditions.	3	0	1	2	1	1	3	11	C3	Almost Certain	Level 4 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (i)	Habitat destruction, loss of populations of threatened plant species, potential loss of populations of medicinal plant species, alien plant invasions, habitat fragmentation, habitat deterioration, change in physical abiotic conditions	4	1	1	2	1	1	3	13	C3	Almost Certain	Level 4 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2	Habitat destruction, loss of populations of threatened plant species, potential loss of populations of medicinal plant species, alien plant invasions, habitat fragmentation, habitat deterioration, change in physical abiotic conditions	4	1	1	2	1	1	2	12	C3	Almost Certain	Level 4 Risk
NATIONAL WAT	FER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL	WATER ACT	(ACT 36 OF 19	98): SECTION 40			
Taking water from a water resource - Section 21 (a).	None								0			
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Habitat destruction, loss of populations of threatened plant species, potential loss of populations of medicinal plant species, habitat fragmentation, change in physical abiotic conditions.	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	None	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	None	~	~	~	~	~	~	~	~	~	~	~



CONSTRUCTION PHASE ACTIVITIES					Criteria for Dete							
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Habitat destruction, loss of populations of threatened plant species, potential loss of populations of medicinal plant species, habitat fragmentation, change in physical abiotic conditions.	2	0	1	3	1	2	2	11	C3	Almost Certain	Level 4 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	None	~	~	~	~	~	~	~	~	~	~	~
E	Exemptions from GNR 704		•				Exemptions	from GNR 704	4			
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	2	0	1	3	1	2	3	12	C3	Almost Certain	Level 4 Risk
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	2	0	1	3	1	2	3	12	C3	Almost Certain	Level 4 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	2	0	1	3	1	2	3	12	С3	Almost Certain	Level 4 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	2	0	1	3	1	2	3	12	C3	Almost Certain	Level 4 Risk
NATIONAL ENVIRONMENTAL N	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008		1	1	NATIONAL	ENVIRONMEN	TAL MANAGE	MENT ACT: W	VASTE ACT, ACT	T NO. 59 OF 2008	T	1
	None.	~	~	~	~	~	~		~	~	~	~
	MINE SHAFT AKEAS Habitat destruction loss of populations of threatened plant species notantial loss of		1	T	1	Г	MINE SH	AFI AKEAS	r		[	
Construction and commissioning of the shaft complex at Shondoni.	populations of medicinal plant species, habitat fragmentation and deterioration and change in physical abiotic conditions.	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
All other remaining operational shafts (Main Shaft, west Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	Habitat destruction, loss of populations of threatened plant species, potential loss of populations of medicinal plant species, habitat fragmentation and deterioration and change in physical abiotic conditions.	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM		1		UNDE	ERGROUND MI	NING ACTIVIT	IES OF THE N	IO.S 2 AND 4 COA	AL SEAM		
None.	None.	~	~	~	~	~		~ DELT DOUT	~	~	~	~
Construction and commissioning of the conveyor	Habitat destruction	4	0	1	2	1		2	L 11	C3	Almost Certain	Level 4 Risk
Construction and commissioning of the conveyor	Loss of populations of threatened plant species	2	0	2	2	1	1	2	10	C3	Almost Certain	Level 4 Risk
Construction and commissioning of the conveyor	Loss of populations of medicinal plant species	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
Construction and commissioning of the conveyor	Habitat fragmentation	4	0	2	2	1	1	2	12	C3	Almost Certain	Level 4 Risk
					Criteria for Det	ermining Severity	y					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Animal Life						Ani	nal Life				
LISTED A CTIVITIES AT SHONDONLI	N TEDMS OF NEMA (ACT 107 OF 1008), CN 295 ACTIVITIES			T	ISTED ACTIVIT	TIES AT SHOND	ONI IN TEDMS	OF NEMA (A	CT 107 OF 1009).	CN 386 ACTIVITIE	2	
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Habitat Loss, Habitat Fragmentation and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Habitat Loss, Habitat Fragmentation and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Habitat Loss, Habitat Fragmentation and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Habitat Loss, Habitat Fragmentation and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Habitat Loss, Habitat Fragmentation and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and	Habitat Loss, Habitat Fragmentation and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation and the potential	4	0	1	2	1	1	3	12	C3	Almost Certain	Level 4 Risk



CONSTRUCTION PHASE ACTIVITIES		Criteria for Determining Severity SEVERITY C-										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
related Infrastructure - Activity 12.	loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area											
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	None	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Habitat Loss, Habitat Fragmentation and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	1	0	1	2	1	1	2	8	C2	Almost Certain	Level 5 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Habitat Loss, Habitat Fragmentation and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emicration from the disturbed area	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4 Risk
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			L	ISTED ACTIVIT	TES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998):	GN 387 ACTIVITIES	5	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Habitat Loss, Habitat Fragmentation and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	2	0	1	1	1	1	3	9	C2	Almost Certain	Level 5 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Habitat Loss, Habitat Fragmentation and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	2	0	1	1	1	1	3	9	C2	Almost Certain	Level 5 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Habitat Loss, Habitat Fragmentation and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emicration from the disturbed area.	2	0	1	1	1	1	3	9	C2	Almost Certain	Level 5 Risk
NATIONAL WAT	'ER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL	WATER ACT (A	ACT 36 OF 19	98): SECTION 40			
Taking water from a water resource - Section 21 (a).	None	~	~	~	~	~	~	~	~	~	~	~
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Habitat Loss, Habitat Fragmentation, Habitat Deterioration and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation, a deterioration in the quality of the habitat due to changes in the vegetation and/or abiotic characteristics and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	1	0	2	1	1	1	3	9	C2	Almost Certain	Level 5 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	None	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	None	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Habitat Loss, Habitat Fragmentation, Habitat Deterioration and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation, a deterioration in the quality of the habitat due to changes in the vegetation and/or abiotic characteristics and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	1	0	2	1	1	1	3	9	C2	Almost Certain	Level 5 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the sofety of people a Section 21 (i)	None	~	~	~	~	~	~	~	~	~	~	~
E	Exemptions from GNR 704			1		•	Exemptions	from GNR 704	ļ	1	L	
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Habitat Loss, Habitat Fragmentation, Habitat Deterioration and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation, a deterioration in the quality of the habitat due to changes in the vegetation and/or abiotic characteristics and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	4	0	2	2	1	2	2	13	C3	Almost Certain	Level 4 Risk
to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Habitat Loss, Habitat Fragmentation, Habitat Deterioration and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation, a deterioration in the quality of the habitat due to changes in the vegetation and/or abiotic characteristics and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	4	0	2	2	1	2	2	13	C3	Almost Certain	Level 4 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Habitat Loss, Habitat Fragmentation, Habitat Deterioration and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation, a deterioration in the quality of the habitat due to changes in the vegetation and/or abiotic characteristics and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	2	0	2	2	1	2	3	12	C3	Almost Certain	Level 4 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Habitat Loss, Habitat Fragmentation, Habitat Deterioration and the Potential Loss of Red Data List Fauna : The clearing of vegetation will lead to a loss of habitat, habitat fragmentation, a deterioration in the quality of the habitat due to changes in the vegetation and/or abiotic characteristics and the potential loss of Red Data List fauna due either to accidental deaths during construction or due to emigration from the disturbed area	2	0	2	2	1	2	3	12	C3	Almost Certain	Level 4 Risk
NATIONAL ENVIRONMENTAL N NEMWA Section 19(3) and GN 718	NANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008 None	~	~	~	NATIONAL 1	ENVIRONMEN'	TAL MANAGEN ~	1ENT ACT: W ~	ASTE ACT, ACT	NO. 59 OF 2008	~	~
	MINE SHAFT AREAS		· · · · ·	· · · · ·			MINE SH	AFT AREAS		· · · · ·	· · · · ·	
Construction and commission of the Shondoni Shaft Complex and all associated infrastructure.	Habitat Loss: The clearing of vegetation will lead to a loss of available habitat for terrestrial fauna. Habitat Fragmentation: The construction of the access road will lead to a fragmentation of habitat. Loss of Red Data List Fauna: Construction activities may lead to the accidental or deliberate death of fauna and avifauna. Habitat Deterioration: Changes in both the vegetation and abiotic characteristics of the area can have a negative impact on	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4 Risk



CONSTRUCTION PHASE ACTIVITIES					Criteria for Dete	ermining Severit	y					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	habitat quality. Habitat Loss: The clearing of vegetation will lead to a loss of available habitat for terrestrial fauna. Habitat Fragmentation: The construction of the access road will lead to a fragmentation of habitat. Loss of Red Data List Fauna: Construction activities may lead to the accidental or deliberate death of fauna and avifauna. Habitat Deterioration: Changes in both the vegetation and abiotic characteristics of the area can have a negative impact on habitat quality.	4	0	1	2	1	1	3	12	C3	Almost Certain	Level 4 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM		1	T	UNDE	RGROUND MI	INING ACTIVIT	IES OF THE N	O.S 2 AND 4 COA	AL SEAM		
C	ONVEYOR BELT ROUTE	~	~	~	~	~	CONVEYOR	~ R BELT ROUT	~ E	~	~	~
Construction of the Conveyer Belt and fenced servitude between the Shondoni Shaft Complex and the Middelbult Main Shaft Conveyer	Habitat Fragmentation: The construction of the access road will lead to a fragmentation of habitat	4	0	2	2	1	1	2	12	C3	Almost Certain	Level 4 Risk
Construction of the Conveyer Belt and fenced servitude between the Shondoni Shaft Complex and the Middelbult Main Shaft Conveyer	Habitat Loss: The clearing of vegetation will lead to a loss of available habitat for terrestrial fauna	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4 Risk
Construction of the Conveyer Belt and fenced servitude between the Shondoni Shaft Complex and the Middelbult Main Shaft Conveyer	Loss of Red Data List Fauna: Construction activities may lead to the accidental or deliberate death of fauna and avifauna	4	0	2	2	1	1	3	13	C3	Almost Certain	Level 4 Risk
Construction of the Conveyer Belt and fenced servitude between the Shondoni Shaft Complex and the Middelbult Main Shaft Conveyer	Habitat Deterioration: Changes in both the vegetation and abiotic characteristics of the area can have a negative impact on habitat quality	4	0	2	2	1	1	2	12	C3	Almost Certain	Level 4 Risk
					Criteria for Dete	ermining Severit	y					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Wetlands						We	etlands				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LI	ISTED ACTIVIT	TES AT SHONI	DONI IN TERMS	OF NEMA (A	CT 107 OF 1998):	GN 386 ACTIVITIES	3	
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Construction will involve the clearing of vegetation as well as earth works (excavation, compaction, levelling etc.). Impacts resulting from these activities will include, loss of wetland habitat, increased sediment movement into adjacent wetlands, deterioration in water quality, and increased surface run-off that could lead to erosion.	2	1	1	0	1	2	2	9	C2	Almost certain	Level 5 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Construction of the conveyor pedestal within the Trichardtspruit floodplain wetland will result in some loss of wetland habitat, increased erosion risk within the wetland, increase in suspended solids and turbidity downstream of the construction site and an increase in alien and weedy species within the wetland.	1	1	1	0	1	2	2	8	C2	Almost certain	Level 5 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Construction will involve the clearing of vegetation as well as earth works (excavation, compaction, levelling etc.). Impacts resulting from these activities will include, loss of wetland habitat, increased sediment movement into adjacent wetlands, deterioration in water quality, and increased surface run-off that could lead to erosion.	2	1	1	1	1	2	2	10	C3	Almost certain	Level 4 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Construction of the conveyor pedestal within the Trichardtspruit floodplain wetland will result in some loss of wetland habitat, increased erosion risk within the wetland, increase in suspended solids and turbidity downstream of the construction site and an increase in alien and weedy species within the wetland.	1	1	1	0	1	2	2	8	C2	Almost certain	Level 5 Risk
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Construction will involve the clearing of vegetation as well as earth works (excavation, compaction, levelling etc.). Impacts resulting from these activities will include, loss of wetland habitat, increased sediment movement into adjacent wetlands, deterioration in water quality, and increased surface run-off that could lead to erosion.	4	1	1	1	1	2	2	12	C3	Almost certain	Level 4 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Clearing of vegetation will result in a loss of wetland habitat	4	n/a	1	2	1	2	2	12	C3	Almost certain	Level 4 Risk
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Removal of water from the underground workings per se is not expected to have any impact on the wetlands of the area, as these wetlands are considered to be supported by surface water. However, release of this water into any water resource is likely to result in changes to the hydrology (flow volumes and velocities) of the receiving water resource, a change in water quality as well as an increased erosion risk.	0	1	2	2	1	2	2	10	C3	Almost certain	Level 4 Risk
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Construction will involve the clearing of vegetation as well as earth works (excavation, compaction, levelling etc.). Impacts resulting from these activities will include, loss of wetland habitat, increased sediment movement into adjacent wetlands, deterioration in water quality, and increased surface run-off that could lead to erosion.	1	1	1	1	1	2	2	9	C2	Almost certain	Level 5 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Construction will involve the clearing of vegetation as well as earth works (excavation, compaction, levelling etc.). Impacts resulting from these activities will include, loss of welland habitat, increased sediment movement into adjacent wetlands, deterioration in water unality, and increased surface run-off that could lead to erosion.	2	1	1	1	1	2	2	10	C3	Almost certain	Level 4 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		1	L	ISTED ACTIVIT	TES AT SHONE	DONI IN TERMS	OF NEMA (A	CT 107 OF 1998):	GN 387 ACTIVITIES	5	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Construction of the power line pylons and associated service road will result in some loss of wetland vegetation, increased erosion risk where construction takes place within wetland areas, as well as increased sediment movement into the wetlands. The power line will further pose a hazard to larger water birds found within the wetlands on site.	2	1	1	2	1	2	2	11	C3	Almost certain	Level 4 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Construction will involve the clearing of vegetation as well as earth works (excavation, compaction, levelling etc.). Impacts resulting from these activities will include, loss of wetland habitat, increased sediment movement into adjacent wetlands, deterioration in water quality, and increased surface run-off that could lead to erosion.	2	1	1	1	1	2	2	10	C3	Almost certain	Level 4 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Construction will involve the clearing of vegetation as well as earth works (excavation, compaction, levelling etc.). Impacts resulting from these activities will include, loss of wetland habitat, increased sediment movement into adjacent wetlands, deterioration in	2	1	1	1	1	2	2	10	C3	Almost certain	Level 4 Risk



CONSTRUCTION PHASE ACTIVITIES		Criteria for Determining Severity SEVERITY C. Degree O										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
NATIONAL WAT	water quality, and increased surface run-off that could lead to erosion.					NATIONAL	. WATER ACT (	ACT 36 OF 19	98) · SECTION 40			
Taking water from a water resource - Section 21 (a).	Where water is taken from a groundwater source on site, no significant impact is expected to the wetlands. Where water is taken from a wetland, decreased flows within the affected wetland could result in a change in species composition of the biodiversity associated with that wetland.	2	0	1	0	1	2	2	8	C2	Almost certain	Level 5 Risk
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Any activities that impede or impound flows within the wetlands on site could result in changes to the wetland hydrology, resulting in increased erosion risk where flow concentration has taken place, while extended saturation due to impoundment of flows could result in changes to species composition.	2	1	1	2	1	3	3	13	C3	Almost certain	Level 4 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Deterioration in water quality as well as altered hydrology are likely to result from the discharge of water containing waste, resulting in changes to the species composition of aquatic fauna as sensitive taxa are lost, as well as increased sediment transport and erosion due to increased flows.	2	1	2	1	1	3	3	13	C3	Almost certain	Level 4 Risk
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Waste disposal could result in a deterioration of water quality.	1	2	2	1	1	3	3	13	C3	Almost certain	Level 4 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Any activity altering the bed, banks or characteristics of a water resource could result in loss of wetland habitat, increased erosion risk and sediment transport, water quality deterioration (increase in suspended solids and turbidity) and an increase in alien vegetation due to disturbance.	2	1	1	2	1	3	3	13	C3	Almost certain	Level 4 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Removal of water from the underground workings per se is not expected to have any impact on the wetlands of the area, as these wetlands are considered to be supported by surface water. However, release of this water into any water resource is likely to result in changes to the hydrology (flow volumes and velocities) of the receiving water resource, a change in water resource is used as a considered of the support of the receiving water resource.	0	1	2	2	1	3	3	12	C3	Almost certain	Level 4 Risk
I	Exemptions from GNR 704					l	Exemptions	from GNR 70	4			
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Construction of any of the listed activities (residue deposit, dam, reservoir together with any associated structure or any other facility) within the 1:100 year flood line of any of the watercourses on site could result in loss of wetland habitat, increased sediment movement into adjacent wetlands, deterioration in water quality, and increased surface run-off that could lead to erosion.	2	1	1	1	1	2	2	10	C3	Almost certain	Level 4 Risk
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Mining underneath the wetlands on site could result in collapse of the strata overlying the mine, resulting in surface subsidence. This could impact on the wetlands on site through the increased infiltration of surface water into groundwater, resulting in decreased flows within the wetlands and associated desiccation of the wetland habitat. New wetland areas could also be created where subsidence leads to the formation of depressions and inwardly draining areas within the landscape. This could further reduce flows within the wetlands as water is isolated from the main drainage lines. However, these impacts would only become apparent during the operational phase and post-closure phases. No impact is expected during the construction phase due to undermining of the wetlands. Construction of any infrastructure within the 1:50 year flood line of any of the watercourses on site could result in loss of wetland habitat, increased sediment movement into adjacent wetlands, deterioration in water quality, and increased surface run-off that could lead to erosion.	2	1	1	1	1	2	2	10	C3	Almost certain	Level 4 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Construction of any of the listed activities (sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource) within the 1:100 year flood line of any of the watercourses on site could result in loss of wetland habitat, increased sediment movement into adjacent wetlands, deterioration in water quality, and increased surface run-off that could lead to erosion.	2	1	1	1	1	2	2	10	C3	Almost certain	Level 4 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Using residue or substances likely to cause pollution to construct any dam, impoundment, embankment, berm, road or railway etc. is likely to result in deterioration of water quality.	2	1	2	2	1	3	2	13	C3	Likely	Level 4 Risk
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008			1	NATIONAL	ENVIRONMEN	TAL MANAGE	MENT ACT: V	VASTE ACT, ACT	NO. 59 OF 2008	ſ	
NEMWA Section 19(3) and GN 718.	compaction and excavation of soils. This could result in a loss of wetland habitat as well as detailection of wetland theorem in the source in	4	1	1	1	1	2	2	12	C3	Almost certain	Level 4 Risk
	MINE SHAFT AREAS		1	L			MINE SH	AFT AREAS	I			
Construction of Shondoni shaft area.	Loss of wetlands will occur where the shaft area intrudes on the wetlands on site. Clearing of vegetation and earth works will result in increased surface run-off and increased sediment transport into the adjacent water resources, including wetlands. Disturbance to wetlands adjacent to the construction area could result in displacement of species and an increase in alien vegetation. Deterioration in water quality could result as a consequence of spillages of hazardous materials on site, as well as from run-off from materials stockpiles and littering.	1	0	1	3	1	3	3	12	C3	Almost certain	Level 4 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	Loss of wetlands will occur where the shaft area intrudes on the wetlands on site. Clearing of vegetation and earth works will result in increased surface run-off and increased sediment transport into the adjacent water resources, including wetlands. Disturbance to wetlands adjacent to the construction area could result in displacement of species and an increase in alien vegetation. Deterioration in water quality could result as a consequence of spillages of hazardous materials on site, as well as from run-off from materials stockpiles and littering.	1	0	1	3	1	3	3	12	C3	Almost certain	Level 4 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM During construction of the underground mine it is likely that groundwater will be pumped				UNDE	RGROUND MI	NING ACTIVIT	IES OF THE N	NO.S 2 AND 4 COA	AL SEAM		
Construction of the underground mine	out of the workings. Release of this water could result in deteriorating water quality and altered flows within receiving water resources.	1	1	2	2	1	3	3	13	C3	Almost certain	Level 4 Risk
C	ONVEYOR BELT ROUTE		Ĩ		1	I	CONVEYOR	R BELT ROUT	TE			



CONSTRUCTION PHASE ACTIVITIES		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Construction of the conveyor belt	Loss of wetland habitat will occur within the direct footprint of the conveyor servitude	2	0	2	2	1	3	2	12	C4	Almost certain	Level 4 Risk
Construction of the conveyor belt	Clearing of vegetation and earth works will result in increased surface run-off and increased sediment transport into the adjacent water resources, including wetlands. This will be especially significant on the approach and departure slopes to valley bottoms.	2	1	1	0	1	3	2	10	C3	Almost certain	Level 4 Risk
Construction of the conveyor belt	Increased erosion risks within the wetlands were conveyor pedestals are constructed within the wetlands (e.g. within the 1:10 year flood line of the Trichardtspruit) due to disturbance of sediments and concentration of flows.	2	0	2	2	1	3	2	12	C4	Likely	Level 4 Risk
Construction of the conveyor belt	Increased erosion risk on the approach and departure slopes to valley bottom and floodplain wetlands due to the preferential flow path provided by the service road adjacent to the conveyor route.	2	1	1	0	1	3	2	10	C3	Almost certain	Level 4 Risk
Construction of the conveyor belt	Habitat fragmentation will result as a consequence of the clearing of vegetation along the conveyor servitude and the setting up of fences.	2	0	2	2	1	2	2	11	C3	Almost certain	Level 4 Risk
					Criteria for Dete	ermining Severit	y					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Before Mitigation
	Aquatic Ecosystems						Aquatic	Ecosystems				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			I	ISTED ACTIVIT	TIES AT SHOND	ONI IN TERMS	S OF NEMA (A	CT 107 OF 1998):	GN 386 ACTIVITIES	5	
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Acidification and salinisation of surface and groundwater as a result of seepage/runoff	3	3	2	1	1	2	2	14	C3	Possible	Level 3 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Mobilisation of sediments, increased suspended solids and turbidity in watercourses and invasion by alien vegetation	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Contamination of surface water or groundwater as a result of overspill, seepage or structural failure of pollution dams	2	1	1	1	1	2	2	10	3	Possible	Level 5 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Mobilisation of sediments, increased suspended solids and turbidity at stream crossings	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Mobilisation of sediments, increased sediment loads in drainage lines	1	0	1	0	1	0	0	3	1	Likely	Level 6 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Mobilisation of sediments, increased sediment loads in drainage lines	1	0	1	0	1	0	0	3	1	Likely	Level 6 Risk
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	None during construction phase	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	None	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Mobilisation of sediments, increased sediment loads in drainage lines	1	0	1	0	1	0	0	3	1	Likely	Level 6 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			I	ISTED ACTIVIT	TIES AT SHOND	ONI IN TERMS	S OF NEMA (A	CT 107 OF 1998):	<b>GN 387 ACTIVITIES</b>	5	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (l).	Mobilisation of sediments in drainage lines/stream crossings	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Mobilisation of sediments, increased suspended solids and turbidity at stream crossings	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Mobilisation of sediments in drainage lines/stream crossings	1	0	1	0	1		0	3	1	Likely	Level 5 Risk
NATIONAL WAT	<b>EXACT (ACT 30 OF 1998): SECTION 40</b> Where water is taken from a groundwater source on site no significant impact is expected					NATIONAL	WAIER ACT (	(ACI 36 OF 19	98): SECTION 40			
Taking water from a water resource - Section 21 (a).	to the wetlands. Where water is taken from streams, decreased flows within the affected stream could result in a change in species composition of the biodiversity associated with that watercourse.	3	0	1	0	1	2	2	9	C2	Almost Certain	Level 5 Risk
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Road, power line and conveyor crossings are likely to cause restricted flows during construction. This will result in erosion. Constrictions for extended periods may result in changes in habitat type and species composition, especially with regard to fish.	3	0	2	1	1	3	2	12	3	Almost Certain	Level 4 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Deterioration in water quality as well as altered hydrology are likely to result from the discharge of water containing waste, resulting in changes to the species composition of aquatic fauna as sensitive taxa are lost, as well as increased sediment transport and erosion due to increased flows.	4	2	2	1	1	3	3	16	C4	Almost Certain	Level 3 Risk
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Contamination of surface and groundwater	1	3	2	1	1	3	3	14	C4	Possible	Level 3 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Mobilisation of sediments, increased suspended solids and turbidity at stream crossings, Loss of wetland vegetation and habitat, invasion by alien vegetation.	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Removal of water from the underground workings per se is not expected to have any impact on the wetlands of the area, as these wetlands are considered to be supported by surface water. However, release of this water into any water resource is likely to result in changes to the hydrology (flow volumes and velocities) of the receiving water resource, a change in water unality as well as an increased erosion risk	4	1	2	2	1	3	3	16	C4	Almost Certain	Level 3 Risk
	Exemptions from GNR 704		I	<u> </u>	· · · · · · · · · · · · · · · · · · ·		Exemptions	s from GNR 704	1	I	I	
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or	Construction of any of the listed activities (residue deposit, dam, reservoir together with any associated structure or any other facility) within the 1:100 year flood line of any of the watercourses on site could result in loss of wetland habitat, increased sediment movement	4	1	1	1	1	2	2	12	C3	Almost Certain	Level 4 Risk



CONSTRUCTION PHASE ACTIVITIES		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged,	into adjacent wetlands, deterioration in water quality, and increased surface run-off that could lead to erosion.											
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest -	Not applicable during construction.	~	~	~	~	~	~	~	~	~	~	~
Regulation 4(b). No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Contamination of surface water as a result of spills (e.g. hydrocarbons, cement, sewage), increased erosion, sediment movement into watercourses, increased surface runoff which may alter hydrology and exacerbate erosion.	1	3	3	0	1	1	3	12	3	Likely	Level 5 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource. Penulation 5	Contamination of surface water or groundwater as a result of spills of hazardous materials, overspill, seepage or structural failure of pollution dams	4	1	1	1	1	2	2	12	3	Possible	Level 5 Risk
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL I	ENVIRONMEN	TAL MANAGEN	MENT ACT: W	ASTE ACT, ACT	'NO. 59 OF 2008		
NEMWA Section 19(3) and GN 718.	MINE CITA ET ADE AC	~	~	~	~	~	~	~	~	~	~	~
Construction and commissioning of the shaft complex at Shondoni	MINE SHAFT AREAS Mobilisation of sediments	2	0	1	0	1	1	AFT AREAS	8	2	Almost Certain	Level 5 Risk
Construction and commissioning of the shaft complex at Shondoni	Contamination of surface water as a result of spills (e.g. hydrocarbons, cement, sewage)	1	3	3	0	1	1	3	12	3	Likely	Level 5 Risk
Pollution control dams	Contamination of surface water or groundwater as a result of overspill, seepage or structural	4	1	1	1	1	2	2	12	3	Possible	Level 5 Risk
Drainage/seepage from overburden stockpile	Acidification and salinisation of surface and groundwater	4	3	2	1	1	2	2	15	4	Possible	Level 3 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDE	RGROUND MI	NING ACTIVIT	IES OF THE N	O.S 2 AND 4 COA	AL SEAM		
N/A		~	~	~	~	~	~	~	~	~	~	~
Construction of pedicels and conveyor tunnels/road crossings	Mobilisation of sediments, increased suspended solids and turbidity in streams and	2	0	2	0	1	2	3	10	3	Almost Certain	Level / Risk
Construction of peticers and conveyor tunners/toad crossings	wetlands; invasion by alien vegetation Habitat fragmentation will result as a consequence of the clearing of vegetation along the	Z	0	2	0	1	2	3	10	3	Annost Certain	Level 4 Kisk
Conveyor Route	appropriate and the setting up of fanges	4	0	2	2	1	2	2	13	C3	Almost Certain	Level 4 Risk
	conveyor servitude and the setting up of rences.											
Construction of stream crossings	Conveyor service and the setting up or rences. Constriction/diversion of flows at road/conveyor crossings	3	0	2		1	3	2	12	3	Almost Certain	Level 4 Risk
Construction of stream crossings	Conveyor servinde and the setting up or felces. Constriction/diversion of flows at road/conveyor crossings	3	0	2	1 Criteria for Dete	1 rmining Severity	3	2	12	3	Almost Certain	Level 4 Risk
Construction of stream crossings Activity Description	Constriction/diversion of flows at road/conveyor crossings Impact Identification/Description	3 Quantity	0 Toxicity	2 Extent	l Criteria for Dete Duration	1 rmining Severity Status	3 Legislation	2 I & AP's	12 SEVERITY TOTAL	3 SEVERITY C- NUMBER	Almost Certain Degree Of Likelihood	Level 4 Risk Risk Level Before Mitigation
Construction of stream crossings Activity Description	Constriction/diversion of flows at road/conveyor crossings Impact Identification/Description Air Quality	3 Quantity	0 Toxicity	2 Extent	1 Criteria for Dete Duration	l rmining Severity Status	3 V Legislation	2 I & AP's Quality	12 SEVERITY TOTAL	3 SEVERITY C- NUMBER	Almost Certain Degree Of Likelihood	Level 4 Risk Risk Level Before Mitigation
Construction of stream crossings Activity Description LISTED ACTIVITIES AT SHONDONI 1	Conveyor serving and the setting up or relices. Constriction/diversion of flows at road/conveyor crossings Impact Identification/Description Air Quality N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES	3 Quantity	0 Toxicity	2 Extent	1 Criteria for Dete Duration STED ACTIVIT	1 rmining Severity Status IES AT SHOND	3 Legislation Air ONI IN TERMS	2 I & AP's Quality OF NEMA (A	12 SEVERITY TOTAL CT 107 OF 1998):	3 SEVERITY C- NUMBER GN 386 ACTIVITIES	Almost Certain Degree Of Likelihood	Level 4 Risk Risk Level Before Mitigation
Construction of stream crossings Activity Description LISTED ACTIVITIES AT SHONDONI 1 Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Constriction/diversion of flows at road/conveyor crossings  Impact Identification/Description  Air Quality  N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES  Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.	3 Quantity	0 Toxicity 0	2 Extent LI	1 Criteria for Dete Duration STED ACTIVIT 1	1 rmining Severity Status IES AT SHOND 0	3 Legislation Air ONI IN TERMS	2 I & AP's Quality OF NEMA (A 1	12 SEVERITY TOTAL CT 107 OF 1998): 5	3 SEVERITY C- NUMBER GN 386 ACTIVITIES C2	Almost Certain Degree Of Likelihood Almost Certain	Level 4 Risk Risk Level Before Mitigation
Construction of stream crossings Activity Description LISTED ACTIVITIES AT SHONDONI Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c). Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Conveyor servitide and the setting up or refices. Constriction/diversion of flows at road/conveyor crossings Impact Identification/Description Air Quality N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities. N/A	3 Quantity 1	0 <b>Toxicity</b> 0 ~	2 Extent LI	1 Criteria for Dete Duration STED ACTIVIT 1	1 rmining Severity Status IES AT SHOND 0 ~	3 V Legislation Air ONI IN TERMS 1	2 I & AP's Quality OF NEMA (A 1	12 SEVERITY TOTAL CT 107 OF 1998): 5	3 SEVERITY C- NUMBER GN 386 ACTIVITIES C2	Almost Certain Degree Of Likelihood Almost Certain	Level 4 Risk Risk Level Before Mitigation Level 5 Risk ~
LISTED ACTIVITIES AT SHONDONI 1           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.	3 Quantity 1 ~ 1	0 <b>Toxicity</b> 0 ~ 0	2 Extent 1 1	1 Criteria for Dete Duration STED ACTIVIT 1 ~ 1	1 rmining Severity Status IES AT SHOND 0 ~ 0	3 Legislation Air ONI IN TERMS 1 ~ 1	2 I & AP's Quality OF NEMA (A 1 -~ 1	12 SEVERITY TOTAL CT 107 OF 1998): 5 ~ 5	3 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2	Almost Certain Degree Of Likelihood Almost Certain ~ Almost Certain Almost Certain	Level 4 Risk Risk Level Before Mitigation Level 5 Risk C Level 5 Risk Level 5 Risk
Construction of stream crossings         LISTED ACTIVITIES AT SHONDONI 1         Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).         Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).         Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).         Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Constriction/diversion of flows at road/conveyor crossings  Impact Identification/Description  Air Quality  N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES  Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.  N/A  Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.  N/A	3 Quantity 1 ~ 1 ~	0 <b>Toxicity</b> 0 ~ 0 ~ 0 ~	2 Extent 1 ~	1         Criteria for Dete         Duration         STED ACTIVIT         1         ~         1         ~         1         ~         1	1 rmining Severity Status IES AT SHOND 0 ~ 0 ~ 0 ~	3 Legislation Air ONI IN TERMS 1 ~ 1	2 I & AP's Quality OF NEMA (A 1 ~ 1	12 SEVERITY TOTAL CT 107 OF 1998): 5 ~ 5 ~ 5 ~ 5 ~	3 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 ~	Almost Certain Degree Of Likelihood Almost Certain ~ Almost Certain ~	Level 4 Risk Risk Level Before Mitigation Level 5 Risk C Level 5 Risk C
Construction of stream crossings           Activity Description           LISTED ACTIVITIES AT SHONDONI I           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Conveyor servitude and the setting up of relices.         Constriction/diversion of flows at road/conveyor crossings         Impact Identification/Description         Air Quality         N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A       Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A       N/A         N/A       N/A	3 Quantity 1 ~ 1 ~	0 <b>Toxicity</b> 0 ~ 0 ~ ~ ~	2 Extent 1 ~ ~	1         Criteria for Dete         Duration         STED ACTIVIT         1         ~         1         ~         1         ~         2         2         ~         ~	1 rmining Severity Status IES AT SHOND 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0	3 Legislation Air ONI IN TERMS 1 ~ 1 ~ 2	2 I & AP's Quality OF NEMA (A 1 	12 SEVERITY TOTAL CT 107 OF 1998): 5 ~ 5 ~ 5 ~ 5 ~ 7 ~ 7	3 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~	Almost Certain Degree Of Likelihood Almost Certain Almost Certain Almost Certain	Level 4 Risk Risk Level Before Mitigation Level 5 Risk C Level 5 Risk C C C C C C C C C C C C C C C C C C C
Construction of stream crossings           Activity Description           LISTED ACTIVITIES AT SHONDONI 1           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Constriction/diversion of flows at road/conveyor crossings         Impact Identification/Description         Air Quality         N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         N/A         N/A	3 Quantity 1 ~ 1 ~ 1	0 <b>Toxicity</b> 0 ~ 0 ~ 0 ~ 0	2 Extent 1 ~ 1	1         Criteria for Dete         Duration         STED ACTIVIT         1         ~         1         ~         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1	1 rmining Severity Status UES AT SHOND 0 ~ 0 ~ 0 ~ 0 0 0 0 0 0 0 0 0 0 0 0 0	3 V Legislation Air ONI IN TERMS 1 ~ 1 ~ 1	2 I & AP's Quality OF NEMA (A 1 ~ 1 ~ 1	12 SEVERITY TOTAL CT 107 OF 1998): 5 ~ 5 5 ~ 5	3 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C2 C2	Almost Certain Degree Of Likelihood Almost Certain Almost Certain	Level 4 Risk Risk Level Before Mitigation Level 5 Risk ~ Level 5 Risk ~ Level 5 Risk
Construction of stream crossings           Activity Description           LISTED ACTIVITIES AT SHONDONI 1           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.           Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Constriction/diversion of flows at road/conveyor crossings  Impact Identification/Description  Air Quality  N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES  Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.  N/A  Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	3 Quantity 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~	0 Toxicity 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ ~	2 Extent 1 ~ 1 ~	1         Criteria for Dete         Duration         STED ACTIVIT         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1	1 rmining Severity Status IES AT SHOND 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0	3 V Legislation Air ONI IN TERMS 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1	2 I & AP's Quality OF NEMA (A 1 ~ 1 ~ 1 ~ 1 ~ 1 ~	12 SEVERITY TOTAL CT 107 OF 1998): 5 ~ 6 ~ 5 ~ 5 ~ 7 ~ ~ 7 7 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	3 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C2 ~ C2 C2 ~	Almost Certain Degree Of Likelihood Almost Certain Almost Certain Almost Certain Almost Certain Almost Certain	Level 4 Risk Risk Level Before Mitigation Level 5 Risk C Level 5 Risk C C Level 5 Risk C C Level 5 Risk C C C C C C C C C C C C C C C C C C C
Construction of stream crossings           Activity Description           LISTED ACTIVITIES AT SHONDONI           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.           Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.           Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Constriction/diversion of flows at road/conveyor crossings  Impact Identification/Description  Air Quality  N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES  Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.  N/A  Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	3 Quantity 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ ~ 1 ~ ~ ~ 1 ~ ~ ~ ~ ~ ~	0 Toxicity 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ ~ 0 ~ ~ 0 ~ ~ 0 ~ ~ 0 ~ ~ ~	2 Extent 1 ~ 1 ~ 1 ~ 1 ~ 2	1         Criteria for Dete         Duration         STED ACTIVIT         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         ~         ~	1 rmining Severity Status EES AT SHOND 0 0 0 0 0 0 0 0	3 V Legislation Air ONI IN TERMS 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~	2 I & AP's Quality OF NEMA (A 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 2	12 SEVERITY TOTAL CT 107 OF 1998): 5 ~ 5 ~ 5 ~ 5 ~ 5 ~ 5 ~ 5 ~ 5 ~ 5 ~ 7 ~ 5 ~ 7 ~ 5 ~ 7 ~ 5 ~ 7 ~ 5 ~ 7 ~ 5 ~ 7 ~ 5 ~ 7 ~ 7 7 7 7 7 7 7 7 7 7 7 7 7	3 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C2 ~ C2 ~ C2 ~ C2 ~ C2	Almost Certain Degree Of Likelihood Almost Certain Almost Certain Almost Certain Almost Certain Almost Certain	Level 4 Risk Risk Level Before Mitigation Level 5 Risk 
Construction of stream crossings           Activity Description           Image: Construction of the store of th	Constriction/diversion of flows at road/conveyor crossings         Impact Identification/Description         Air Quality         N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A	3 Quantity 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1	0 Toxicity 0 ~ 0 0 ~ ~ 0 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	2 Extent 1 ~ 1 ~ 1 ~ 1 ~ 1	1         Criteria for Dete         Duration         STED ACTIVIT         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1	1 rmining Severity Status IES AT SHOND 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0	3       Legislation       Air       ONI IN TERMS       1       ~       1       ~       1       ~       1       ~       1       1       1       1       1       1       1       1       1       1       1       1       1       1	2 I & AP's Quality OF NEMA (A 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1	12 SEVERITY TOTAL CT 107 OF 1998): 5 ~ ~ 5 ~ ~ 5 ~ ~ ~ 5 ~ ~ ~ 5 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	3 SEVERITY C-NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C2 ~ C2 ~ C2 ~ C2 C2	Almost Certain          Degree Of         Likelihood         Almost Certain         ~         Almost Certain	Level 4 Risk Risk Level Before Mitigation Level 5 Risk C Level 5 Risk C C C Level 5 Risk
Construction of stream crossings           Activity Description           Instruction of stream crossings           LISTED ACTIVITIES AT SHONDONI I           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.           Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.           Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.           LISTED ACTIVITIES AT SHONDONI	Constriction/diversion of flows at road/conveyor crossings         Impact Identification/Description         Air Quality         N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         N	3 Quantity 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1	0 Toxicity 0 ~ 0 0 ~ ~ 0 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	2 Extent LI 1 1 1 1 1 1 1 1 LI	1         Criteria for Dete         Duration         STED ACTIVIT         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         STED ACTIVIT	1  rmining Severity  Status  IES AT SHOND  0  ~  0  ~  0  ~  0  C  0  C  C  0  C  C  C  0  C  C  C	3 Legislation Air ONI IN TERMS 1 ~ 1 · 1 · · · · · · · · · · · · ·	2 I & AP's Quality OF NEMA (A 1 ~ 1 1 ~ 1 1 ~ 1 1 ~ 1 ~ 1 ~ 1 1 ~ 1 1 ~ 1 1 1 1 1 1 1 1 1 1 1 1 1	12 SEVERITY TOTAL CT 107 OF 1998): 5 ~ 7 5 ~ 5 5 ~ 7 ~ 5 ~ 7 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	3 SEVERITY C-NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C2 ~ C2 ~ C2 ~ C2 C2 ~ C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2	Almost Certain  Degree Of Likelihood  Almost Certain	Level 4 Risk Risk Level Before Mitigation Level 5 Risk C Level 5 Risk C C C C C C C C C C C C C C C C C C C
Construction of stream crossings           Activity Description           LISTED ACTIVITIES AT SHONDONI           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.           Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.           Installation of a Tetra Radio System above ground at the Shaft Complex from Tar road R547 - Activity 15.           LISTED ACTIVITIES AT SHONDONI           Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Constriction/diversion of flows at road/conveyor crossings  Impact Identification/Description  Air Quality  N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES  Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	3 Quantity 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ ~ 1 ~ ~ 1 ~ ~ 1 ~ ~ ~ 1 ~ ~ ~ 1 ~~~~~~	0 Toxicity 0 ~ ~ 0 0 ~ 0 0 ~ ~ 0 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	2 Extent LI 1	1         Criteria for Dete         Duration         STED ACTIVIT         1         ~         1         <	1         rmining Severity         Status         EES AT SHOND         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         0         ~         0         EES AT SHOND         ~         0         IES AT SHOND         ~         0	3       Legislation       Air       ONI IN TERMS       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ONI IN TERMS       ~	2 I & AP's Quality OF NEMA (A 1 ~ 1 ~ 1 ~ 1 OF NEMA (A ~ 1 OF NEMA (A ~	12 SEVERITY TOTAL CT 107 OF 1998): 5 ~ 5 CT 107 OF 1998): 5 ~ 7 7 ~ ~ 7 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	3 SEVERITY C- NUMBER GN 386 ACTIVITIES C2 ~ C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2	Almost Certain Degree Of Likelihood Almost Certain Almost Certain Almost Certain Almost Certain Almost Certain Almost Certain	Level 4 Risk Risk Level Before Mitigation Level 5 Risk 
Construction of stream crossings           Activity Description           Instruction of stream crossings           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.           Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.           Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.           LISTED ACTIVITIES AT SHONDONI I           Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SoL B) to Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         N/A         N/A         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         N/A         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         N/A         N/A         N/A         N/A         N/A         N/A         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A         Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.         N/A <td>3 Quantity 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1</td> <td>0 Toxicity 0 ~ 0 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~</td> <td>2 Extent 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 1</td> <td>1         Criteria for Dete         Duration         STED ACTIVIT         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         1         1         1         1         1         1         1         1         1         1         1</td> <td>1 rmining Severity Status UES AT SHOND 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 C C 0 C C C C</td> <td>3       Legislation       Air       ONI IN TERMS       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1</td> <td>2 I &amp; AP's Quality OF NEMA (A 1 ~ 1 ~ 1 ~ 1 OF NEMA (A ~ 1 OF NEMA (A ~ 1 1 ~ 1</td> <td>12 SEVERITY TOTAL CT 107 OF 1998): 5 ~ 5 5 ~ 5 5 ~ 7 ~ 5 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~</td> <td>3 SEVERITY C-NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C2 C2 ~ C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2</td> <td>Almost Certain          Almost Certain         Likelihood         Almost Certain         ~         Almost Certain</td> <td>Level 4 Risk Risk Level Before Mitigation Level 5 Risk ~ Level 5 Risk ~ Level 5 Risk ~ Level 5 Risk ~ Level 5 Risk</td>	3 Quantity 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1	0 Toxicity 0 ~ 0 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	2 Extent 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 1	1         Criteria for Dete         Duration         STED ACTIVIT         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         ~         1         1         1         1         1         1         1         1         1         1         1         1	1 rmining Severity Status UES AT SHOND 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 ~ 0 C C 0 C C C C	3       Legislation       Air       ONI IN TERMS       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1       ~       1	2 I & AP's Quality OF NEMA (A 1 ~ 1 ~ 1 ~ 1 OF NEMA (A ~ 1 OF NEMA (A ~ 1 1 ~ 1	12 SEVERITY TOTAL CT 107 OF 1998): 5 ~ 5 5 ~ 5 5 ~ 7 ~ 5 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ 7 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	3 SEVERITY C-NUMBER GN 386 ACTIVITIES C2 ~ C2 ~ C2 ~ C2 C2 ~ C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2	Almost Certain          Almost Certain         Likelihood         Almost Certain         ~         Almost Certain	Level 4 Risk Risk Level Before Mitigation Level 5 Risk ~ Level 5 Risk ~ Level 5 Risk ~ Level 5 Risk ~ Level 5 Risk



CONSTRUCTION PHASE ACTIVITIES				Criteria for Determining Severity								
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
2. NATIONAL WAT	FED A CT (A CT 26 OF 1008), SECTION 40					NATIONAL	WATED ACT (	A CT 26 OF 10	08), SECTION 40			
Taking water from a water resource - Section 21 (a).	N/A	~	~	~	~	~		~	~	~	~	~
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	N/A	~	~	~	~	~	~	~	~	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	N/A	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	N/A	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	N/A	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	N/A	~	~	~	~	~	~	~	~	~	~	~
I	Exemptions from GNR 704						Exemptions	from GNR 704	1			
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	N/A	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	N/A	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	N/A	~	~	~	~	~	~	~	~	~	~	~
substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	N/A	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008			-	NATIONAL	ENVIRONMEN	TAL MANAGE	MENT ACT: W	VASTE ACT, ACT	NO. 59 OF 2008		
	N/A MINE CHAFT ADDAG	~	~	~	~	~	~		~	~	~	~
Construction and commissioning of the shaft complex at Shondoni	Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities	1	0	1	1	0	1	1	5	C2	Almost Certain	Level 5 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	Construction vehicles will create localised secondary fugitive dust and gaseous particles due to construction activities.	1	0	1	1	0	1	1	5	C2	Almost Certain	Level 5 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDE	ERGROUND MI	NING ACTIVIT	IES OF THE N	IO.S 2 AND 4 COA	AL SEAM		
None.	N/A ONVEVOD BELT DOUTE	~	~	~	~	~		RELT DOUT	~	~	~	~
	Construction vehicles will create localised secondary fugitive dust and gaseous particles						CONVETOR	K BELT KUUT	L			
Construction and commissioning of the conveyor	due to construction activities at the conveyour belt.	1	0	1	l Criteria for Dete	0 prmining Severity	1 v	1	5	C2	Almost Certain	Level 5 Risk
						 						D'IT ID C
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Noise							1	Noise				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LI	STED ACTIVII	TIES AT SHOND	OONI IN TERMS	5 OF NEMA (A	CT 107 OF 1998):	GN 386 ACTIVITIES	5	
more than 250 tons but less than 100 000 tons - Activity 1 (c).	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk



CONSTRUCTION PHASE ACTIVITIES			Criteria for Determining Severity									
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		I	L	ISTED ACTIVIT	TIES AT SHONE	DONI IN TERMS	OF NEMA (A	CT 107 OF 1998):	GN 386 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Localized Noise caused by construction activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
NATIONAL WAT	<b>FER ACT (ACT 36 OF 1998): SECTION 40</b>					NATIONAL	WATER ACT (	ACT 36 OF 19	98): SECTION 40	Cl		
Impeding or diverting the flow of water in a watercourse - Section 21 (a). 1 (c).	N/A N/A	~	~	~	~	~	~	~	~	C1	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	N/A	~	~	~	~	~	~	~	~	C1	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	N/A	~	~	~	~	~	~	~	~	C1	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	N/A	~	~	~	~	~	~	~	~	C1	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (i).	N/A	~	~	~	~	~	~	~	~	C1	~	~
I I I I I I I I I I I I I I I I I I I	Exemptions from GNR 704		1			1	Exemptions	from GNR 704	1			
residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged,	N/A	~	~	~	~	~	~	~	~	Cl	~	~
undermined, unstable or cracked - Regulation 4(a). No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	N/A	~	~	~	~	~	~	~	~	Cl	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d). No person in control of a mine or activity may use any residue or	N/A	~	~	~	~	~	~	~	~	CI	~	~
substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5	N/A	~	~	~	~	~	~	~	~	C1	~	~
NATIONAL ENVIRONMENTAL 1	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL	ENVIRONMEN	TAL MANAGEN	MENT ACT: W	VASTE ACT, ACT	NO. 59 OF 2008		1
NEMWA Section 19(3) and GN 718.	N/A MINE SHAFT AREAS	~	~	~	~	~	~ MINE SH	~ AFT AREAS	~	~	~	~
Blasting at surface during shaft construction	Airblast noise	1	0	1	0	1	1	2	6	C2	P5	Level 6 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft)	Operating shafts with no blasting activities, no reportable impact.	0	0	0	0	0	0	0	0	C1	~	~
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM		I	I	UNDI	ERGROUND MI	NING ACTIVIT	IES OF THE N	NO.S 2 AND 4 COA	AL SEAM		
N/A	N/A ONVEYOR BELT DOUTE	0	0	0	0	0			0	C1	~	~
Conveyor construction	Foundation digging and erection of steel construction noise	0	0	0	0	0	0	1	1	C1	P5	Level 6 Risk
					Criteria for Det	ermining Severit	у					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Visuals						v	isuals				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			L	ISTED ACTIVIT	TIES AT SHONE	DONI IN TERMS	OF NEMA (A	CT 107 OF 1998):	GN 386 ACTIVITIES		
coar throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~



CONSTRUCTION PHASE ACTIVITIES					Criteria for Determining Severity							
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		1		ISTED ACTIVIT	TIES AT SHOND	OONI IN TERMS	S OF NEMA (A	CT 107 OF 1998):	GN 387 ACTIVITIES	S	1
from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40		T	I	T	NATIONAL	WATER ACT (	ACT 36 OF 19	98): SECTION 40	ľ	1	1
Taking water from a water resource - Section 21 (a).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
21 (c).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (i).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
E	Exemptions from GNR 704						Exemptions	from GNR 70	4			
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL N NEMWA Section 19(3) and GN 719	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008		1		NATIONAL	ENVIRONMEN	TAL MANAGE	MENT ACT: V	VASTE ACT, ACT	NO. 59 OF 2008		
TYLINI W A SCOUDI 17(5) ANU ON /10.	MINE SHAFT AREAS	~	- ~	- ~	~	~	MINE SH	~ IAFT AREAS	- ~		~	- ~
Clearing of Vegetation	Highly visible from R547; has impact on short to medium range views on road users	0	0	1	0	1	0	1	3	C1	Almost Certain	Level 6 Risk
	Alterations to Landscape and Visual Character (Vegetation & Landcover)	0	0	1	0	1	0	1	3	C1	Almost Certain	Level 6 Risk
	Alterations to Landscape and Visual Character (Hydrology)	0	0	1	0	1	0	1	3	C1	Likely	Level 6 Risk
Construction Activities	Highly visible from R547; has impact on short to medium range views on road users	0	0	1	1	1	0	2	5	C1	Almost Certain	Level 6 Risk
	Visibility impact for long range views from east	0	0	1	1	0	0	2	4	C1	Almost Certain	Level 6 Risk



CONSTRUCTION PHASE ACTIVITIES					Criteria for Dete	ermining Severity	ý					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Alterations to Landscape and Visual Character (Morphology & Topography)	0	0	1	1			2	4	C1	Almost Certain	Level 6 Risk
None.	N/A				UNDE	KGKOUND MII	NING ACTIVITI	LES OF THE N	0.5 2 AND 4 COA	AL SEAM		
C	ONVEYOR BELT ROUTE			ľ		1	CONVEYOR	BELT ROUT	E			
Clearing of Vegetation	Brendan Village residents	0	0	1	0	1	0	2	4	C1	Almost Certain	Level 6 Risk
	Alterations to Landscape and Visual Character (Vegetation & Landcover)	0	0	1	0	1	0	1	3	C1	Almost Certain	Level 6 Risk
Construction Activities	Alterations to Landscape and Visual Character (Hydrology) Highly visible from R547 and Brendan Village; has impact on short to medium range views on road users and residents	0	0	1	0	0	0	2	3	CI CI	Likely Almost Certain	Level 6 Risk
	Visibility Impact on road users at road-crossings	0	0	1	0	1	0	1	3	C1	Almost Certain	Level 6 Risk
	Visibility impact for long range views Alterations to Landscape and Visual Character (Morphology & Topography)	0	0	1	0	0	0	2	3	C1 C1	Almost Certain	Level 6 Risk
	Visual Exposure impact for road users of R547 as well as Brendan Village residents	0	0	1	0	1	0	2	4	Cl	Almost Certain	Level 6 Risk
					Criteria for Dete	ermining Severity	y					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Heritage						He	ritage				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES		I	L	STED ACTIVIT	IES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998):	GN 386 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		1	L	STED ACTIVIT	TES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998):	GN 387 ACTIVITIES		
from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40				•	NATIONAL	WATER ACT (A	ACT 36 OF 19	98): SECTION 40	·		·
1 aking water from a water resource - Section 21 (a). Impeding or diverting the flow of water in a watercourse - Section	Not Applicable	~	~	~	~	~	~	~	~	CI	~	~
21 (c). Discharging waste or water containing waste into a water resource	Not Applicable	~	~	~	~	~	~	~	~	CI	~	~
21 (f). Disposing of waste in a manner which may detrimentally impact	Not Applicable	~	~	~	~	~	~	~	~		~	~
on a water resource - Section 21 (g).		~	~	~	~	~	~	~	~	CI	~	~
- Section 21 (i). Removing, discharging or disposing of water found underground	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~
No person in control of a mine or activity may locate or place any	sxempuons from GNK 704						Exemptions	from GNR 704	•			
residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged,	Not Applicable	~	~	~	~	~	~	~	~	Cl	~	~


CONSTRUCTION PHASE ACTIVITIES		Criteria for Determining Severity											
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation	
undermined, unstable or cracked - Regulation 4(a).													
No person in control of a mine or activity may, except in relation													
to a matter contemplated in Regulation 10 (winning sand and													
alluvial minerals), carry on any underground or opencast mining,													
prospecting or any other operation or activity under or within the	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~	
1:50 year flood line or within a horizontal distance of 100 metres													
from any water course or estuary, whichever is the greatest -													
Regulation 4(b).													
No person in control of a mine or activity may use any area or													
locate any sanitary convenience, fuel depots, reservoir or depots													
for any substance which causes or is likely to cause pollution of a	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~	
water resource within the 1:50 year flood line of any water course													
or estuary - Regulation 4(d).													
No person in control of a mine or activity may use any residue or													
substance which causes or is likely to cause pollution of a water													
resource for the construction of any dam or other impoundment or	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~	
any embankment, road or railway, or for any other purpose which													
is likely to cause pollution of a water resource - Regulation 5.													
NATIONAL ENVIRONMENTAL N	AANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL	ENVIRONMEN	TAL MANAGE	MENT ACT: V	VASTE ACT, ACT	TNO. 59 OF 2008			
N/A	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~	
	MINE SHAFT AREAS						MINE SH	IAFT AREAS					
Construction and commissioning of the shaft complex at	Not Applicable									C1			
Shondoni.	Not Applicable	~	~	~	~	~	~	~	~	CI	~	~	
All other remaining operational shafts (Main Shaft, West Shaft													
and Ithembalethu Shaft) and decommissioned shafts (North Shaft	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~	
and North-West Shaft).													
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDE	RGROUND MI	NING ACTIVIT	IES OF THE N	IO.S 2 AND 4 COA	AL SEAM			
None.	Not Applicable	~	~	~	~	~	~	~	~	C1	~	~	
CO	ONVEYOR BELT ROUTE						CONVEYO	R BELT ROUT	`E				
Construction and commissioning of the conveyor belt.	Construction activities affecting sites CEO2 (cattle kraal) and FC02 (buildings).	1	0	0	3	1	2	2	9	C2	Likely	Level 6	
Construction and commissioning of the conveyor belt.	Construction activities affecting sites GY15, GY16, GY17 and GY 18 (all graves).	1	0	0	3	1	2	2	9	C2	Likely	Level 6	
					Criteria for Dete	ermining Severit	у						
										SEVERITY C-	Degree Of	Risk Level Before	
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY	NUMBER	Likelihood	Mitigation	
			č				0		TOTAL				
	Socio-Economic						Socio-	Economic					
Diance wefer to	Diago rafes to Social Shandani Social and Labour Plan					Plance we	for to Socol Show	doni Social an	d Labour Plar				
Please refer to	Sasoi Shohuom Sociai allu Ladour Fian					r lease re	erer to Sasor Shor	iuoili Social an	u Labour Fian				



## 6.5.2 Operational Phase Impact Significance Tables

OPERATIONAL PHASE ACTIVITIES					Criteria for De	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Topography						Тор	ography		•		•
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998); GN 386 ACTIVITIES			LI	STED ACTIVIT	TIES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): GI	N 386 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of	As discussed for the Construction Phase	~	~	~	~	~	~	~	~	~	~	~
more than 250 tons but less than 100 000 tons - Activity 1 (c).												
year flood line) - Activity 1 (m).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n)	As discussed for the Construction Phase.	~	~	~	~	~	~	~	~	~	~	~
Dissel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres. Activity 7	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
related Infrastructure - Activity 12. Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Shaft Complex from Tar road R547 - Activity 15.	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES				STED ACTIVIT	TIES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998) · CF	N 387 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line	IN TERMS OF NEWA (ACT 10/ OF 1770), ON 307 ACTIVITIES		1			LES AT SHOND		OF REMA (A	(C1 10/ OF 1998). G	1 367 ACTIVITES		
from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL	WATER ACT (	ACT 36 OF 19	98): SECTION 40			
Taking water from a water resource - Section 21 (a).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
I	Exemptions from GNR 704		•	•		•	Exemptions	from GNR 704	4			
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable.	~	~	~	~	~	~	~	~	~	2	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL	ENVIRONMEN	TAL MANAGEN	MENT ACT: W	VASTE ACT, ACT N	O. 59 OF 2008		
INERVIWA SECTION 19(5) and GN /18.	MINE SHAFT AREAS	~	~	~	~	~	MINE SH	AFT AREAS	~	-	~	~
None	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
UNDERGROUND MINING Increased extraction of the No. 4 Coal seam.	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM Increased extraction of pillars on the No.4 Coal seam will lead to roof and overburden collapse that might reach surface. This will lead to surface and sub-surface subsidence	4	0	1	2 UNDE	ERGROUND MI	NING ACTIVIT	IES OF THE N 2	12 12 12 12 12 12 12 12 12 12 12 12 12 1	C3	Possible	Level 5 Risk
С	ONVEYOR BELT ROUTE						CONVEYOR	R BELT ROUT	E			
Operation of the conveyor	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~



OPERATIONAL PHASE ACTIVITIES					Criteria for Det	ermining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
					Criteria for Det	ermining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Soil and Land Capability						Soil and La	and Capability				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			L	ISTED ACTIVIT	IES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): GI	N 386 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c)	Contamination of soil footprint by RoM Product, and loss of soil utilization	4	2	1	1	1	1	1	11	C3	Almost Certain - P7	Level 4 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Contamination of soil footprint by RoM Product and Hydrocarbon spills, and loss of soil utilization	4	3	1	1	1	2	1	13	C3	Almost Certain - P7	Level 47 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Contamination of subsoils by dirty water seepage, and loss of utilization of the resource	4	3	1	2	1	2	1	14	C4	Almost Certain	Level 3 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	None - Completed during construction phase - No added impacts								0			
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Possible contamination of soil footprint outside of bunded area. Loss of soil utilization	3	3	1	1	1	2	1	12	C3	Possible P5	Level 5 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Loss of soil and land utilization if this is ongoing into the operational phase.	3	1	1	2	1	1	2	11	C3	Likely - P6	Level 5 Risk
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Potential ongoing impact on soil moisture and loss of land utilization	3	2	1	1	1	2	2	12	C3	Likely - P6	Level 5 Risk
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Completed in Construction Phase - No additional impacts of consequence other than the loss of the soil resource and utilization potential	2	0	0	1	2	1	1	7	C2	Likely - P6	Level 5 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Loss of soil resource and utilization potential and possible contamination by product and hydrocarbon spills	4	3	2	1	1	2	2	15	C4	Likely - P6	Level 3 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			L	ISTED ACTIVIT	IES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): GI	N 387 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Ongoing loss of soil resource and utilization potential due to service road	4	0	2	2	1	1	2	12	C3	Almost Certain - P7	Level 4 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	On-going loss of soil resource and utilization potential and possible contamination by product and hydrocarbon spills	4	3	2	1	1	2	2	15	C4	Likely - P6	Level 3 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Loss of soil resource and utilization potential and possible contamination by product and hydrocarbon spills	4	2	2	2	1	1	2	14	C4	Almost Certain P7	Level 3 Risk
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL	WATER ACT (	ACT 36 OF 199	98): SECTION 40			
Taking water from a water resource - Section 21 (a).	The on-going reduction in water resources will potentially reduce the irrigation potential and render the land capability less productive due to lowering of soil moisture content.	4	0	2	2	1	2	2	13	C3	Almost Certain P7	Level 4 Risk
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Diversion of water from its present course could affect the land capability in terms of productivity due to reduction in soil moisture content	4	0	2	2	1	2	2	13	C3	Possible P5	Level 5 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Discharge of waste to unprotected soils will render them less useable. The loss of this resource could potentially be permanent if not managed.	4	1	2	1	1	2	2	13	C3	Low P4	Level 5 Risk
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	N/A to soils directly. However, the contamination of the water resource would ultimately impact on soils that are irrigated or over which they flow if not protected.	4	1	2	1	1	2	2	13	C3	Low P4	Level 5 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	engineered to flow. These soils will be lost from the system and potentially be contaminated or impacted by poor quality water	4	0	2	2	1	2	2	13	C3	Possible P5	Level 5 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (i).	Taking of water from the earth's system will alter the soil moisture dynamics which will in turn affect the biosphere and ecology of the area that is dependent on and adapted to the present biological balance.	4	1	2	2	1	2	2	14	С3	Almost Certain P7	Level 4 Risk
E	Exemptions from GNR 704		-	-			Exemptions	from GNR 704				
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, underside an archard a Regulation 4(a).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~



OPERATIONAL PHASE ACTIVITIES					Criteria for Det	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
or estuary - Regulation 4(d).												
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008		•	•	NATIONAL	ENVIRONMEN	TAL MANAGEN	AENT ACT: W	ASTE ACT, ACT N	O. 59 OF 2008		
NEMWA Section 19(3) and GN 718.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
On-going mining - haulage of raw product to surface and	MINE SHAFT AREAS Continued loss of soil resource and utilization potential, plus possible contamination of	-			1 .		MINE SH	AFTAKEAS			Almost Certain -	
beneficiation Possible contamination of footprint soils and stored berm	footprint soils.	3	2	0	1	1	1	1	9	C2	P7	level 5 Risk
materials by dirty water in area of shaft workings Compaction of in-situ footprint and stored material, plus erosion	footprint soils.	3	3	0	1	1	1	1	10	C3	Likely - P6	Level 4 Risk
of unprotected areas and storage facilities. Vehicle impacts	Continued loss of soil resource and utilization potential Loss of resource by dust emissions	3	1	0	1	1	1	1	8	C2 C2	Likely - P6 Likely - P6	Level 6 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft)	Continued loss of soil resource and utilization potential, plus possible contamination of footprint soils.	3	2	0	1	1	1	1	9	C2	Almost Certain - P7	level 5 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM		•	•	UNDE	RGROUND MI	NING ACTIVIT	ES OF THE N	O.S 2 AND 4 COAL	SEAM		
Ongoing operation of shafts, access roads and haulage ways	Continued loss of soil resource with possibility of contamination by operational activities - Rom product and vehicle impacts - Hydrocarbons, compaction and/or erosion	3	1	0	1	1	1	1	8	C2	Almost Certain - P7	Level 5 Risk
Potential for contamination of stored soils from adit declines and shafts operations - water, by product and hydrocarbons from operation vehicles	The continued loss of resource and utilization potential due to operation of mining infrastructure and storage of product (RoM) and natural materials	3	1	0	1	1	1	1	8	C2	Almost Certain - P7	Level 5 Risk
С	ONVEYOR BELT ROUTE						CONVEYOR	BELT ROUT	E			
Operation of haulage facility	Ongoing loss of resource and soil utilization potential, and the potential for contamination by spillage of product and hydrocarbons	4	3	2	1	1	1	2	14	C4	Almost Certain P7	Level 3 Risk
					Criteria for De	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Ground Water						Grou	nd Water				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES		-	L	ISTED ACTIVIT	TES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): GI	N 386 ACTIVITIES	-	
Coal throw out stockpile area at Shondoni Shaft with a storage of	The operation of a 15 000t ROM coal stockpile area at Shondoni Shaft. Seepage from the stockpile area can lead to ground water pollution if not managed correctly	4	1	0	2	1	3	1	12	C3	Very Unlikely	Level 6 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10	Conveyor Pedestal will not intersect ground water pondulon, if not managed correctly.	~	~	~	~	~	~	~	0	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres	The operation of a Storm Water Pollution Control Dam (SWPCD) that can lead to a detarioration of ground water quality directly beneath the facility.	4	2	1	2	1	3	2	15	C4	Highly Unlikely	Level 5 Risk
or more - Activity 1 (n). Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit removing more than 5 cubic meters of material - Activity	Conveyor Pedestal will not intersect ground water so no impact will take place	~	~	~	~	~	~	~	0	~	~	~
4. Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a	The storage of diesel fuel in storage tanks can lead to ground water pollution due to	2	2	1	2		2	2	14	64	11:-h1-11-1:h-1-	Level 5 Dista
000 cubic metres - Activity 7. Removal of Indianaus Vegetation of 3 bectares or more during	spillages/leaks.	2	3	1	2	1	5	2	14	C4		Level 5 Kisk
Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Any water removed from the No.4 Coal seam will be deemed polluted and stored in other sections of mined out areas, or pumped to surface to the Storm Water Pollution Control Dam (SWPCD).	4	2	1	2	1	3	2	15	C4	Highly Unlikely	Level 5 Risk
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			L	ISTED ACTIVIT	TIES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): GI	N 387 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	The operation of the Overhead Power line will not intersect ground water, so no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	The operation of a coal conveyor belt will not intersect ground water, so no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2	This activity only refers to surface disturbance. Since no ground water is intersected, no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
2. NATIONAL WAT	FER ACT (ACT 36 OF 1998): SECTION 40		I		1	NATIONAL	WATER ACT (	ACT 36 OF 199	98): SECTION 40	I		
	All underground water accruing in mining sections during the operational phase will be								.,			
Taking water from a water resource - Section 21 (a).	stored in mined-out underground mine workings (storage reservoirs). This component will only be triggered if any water is pumped to surface. No 21(a) application is required at this stage. If and when this happens, an amendment to the WULA will be done.	~	~	~	~	~	~	~	0	~	~	~
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Discharging waste or water containing waste into a water resource	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~



OPERATIONAL PHASE ACTIVITIES					Criteria for De	ermining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f)												
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (a)	Ground water seepage captured from the ROM stockpile (maximum 2000m <sup>3</sup> /a) at Shondoni Shaft Complex will be pumped to the Storm Water Pollution Control Dam (SWPCD)	4	1	0	2	1	2	1	11	C3	Almost Certain	Level 4 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i)	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Removing, discharging or disposing of water found underground	Any water removed from the No.2 and No.4 Coal seam will be deemed polluted and stored	4	1	1	2	1	2	2	14	64	Almost Contain	Louil 2 Dist
the safety of people - Section 21 (j).	create the necessary storage of water in mined out areas for the total Life of Mine.	4		1	2	1	5	2	14	C4	Annost Certain	Level 5 Kisk
E No person in control of a mine or activity may locate or place any	xemptions from GNR 704		1		1		Exemptions	from GNR 704			[	
residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a)	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
No person in control of a mine or activity may, except in relation												
to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b)	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
No person in control of a mine or activity may use any area or												
for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
is likely to cause pollution of a water resource - Regulation 5. NATIONAL ENVIRONMENTAL M	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL	ENVIRONMEN'	TAL MANAGEN	MENT ACT: W	ASTE ACT, ACT N	O. 59 OF 2008		
NEMWA Section 19(3) and GN 718.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
	MINE SHAFT AREAS		1	1	1		MINE SH	AFT AREAS		1	I	
Operating the shaft complex at Shondoni for the Life of Mine.	as a result of ground water seepage during the operational phase of the shaft complex. The shaft complex will be sealed/grouted, so little to no impact will take place.	1	0	0	2	1	1	1	6	C2	Highly Unlikely	Level 6 Risk
and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North West Shaft)	as a result of ground water seepage during the operational phase of the shaft complex. The shaft complex will be scaled ground water seepage during the operational phase of the shaft complex. The	1	0	0	2	1	1	1	6	C2	Highly Unlikely	Level 6 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM			1	UNDE	RGROUND MI	NING ACTIVITI	ES OF THE N	O.S 2 AND 4 COAL	SEAM	<b>I</b>	
The influx of groundwater recharge into mine workings due to	Ground water recharge from surface will enter areas of bord and pillar mining due to the	4	0	1	2	1	3	1	12	C3	Almost Certain	Level 4 Risk
The increased influx of groundwater into mine workings due to pillor axtraction activities of the No 4 coal seam	An increased ground water recharge from surface will take place due to sub-surface subsidence on the No.4 cool ecam	4	0	1	2	1	3	1	12	C3	Almost Certain	Level 4 Risk
Inter-mine and inter-section flow of ground water during the operational phase.	Ground water resources stored in underground mining units can migrate from one mine/section to an adjacent mine/section, due to a difference in hydraulic pressure. Flow can also be induced where flooding compartments decant into surrounding compartments due to a roll in the coal seam floor.	4	1	1	2	0	2	1	11	C3	Possible	Level 5 Risk
Depletion of external users' groundwater resources and fountains due to bord and pillar mining activities of the No's 2 and 4 coal seams.	Bord and pillar mining activities can intersect external user's boreholes directly and can lead to a reduction/complete depletion of external user's borehole yields.	1	0	0	2	1	3	2	9	C2	Unforeseen	Level 6 Risk
Depletion of external users' groundwater resources and fountains due to pillar extraction mining activities of the No. 4 coal seam.	Pillar extraction mining activities can lead to sub-surface subsidence, that in turn will lead to a reduction/complete depletion of external user's borehole yields.	2	0	1	2	1	3	2	11	C3	Low	Level 5 Risk
Depletion of stream base flow due to sub-surface subsidence of the No.4 coal seam.	Pillar extraction mining activities can lead to sub-surface subsidence, that in turn will lead to a reduction/complete depletion of ground water base flow to rivers and non-perennial streams.	4	0	2	2	1	3	2	14	C4	Low	Level 3 Risk
Deterioration in groundwater quality in all underground sections, and migration into the receiving environment.	Ground water recharge to underground mining units that remains in reservoirs will come in contact with coal pillars, mine floors and roofs. A gradual deterioration in ground water quality will take place over time, depending amongst other things, residence times, natural buffer capacity and mixing ratios of ground water from different sources.	4	2	1	3	1	3	1	15	C4	Almost Certain	Level 3 Risk
Groundwater pollution originating from the ROM coal stock pile at the Shondoni Shaft Complex.	The operation of a 15 000t ROM coal stockpile area at Shondoni Shaft. Seepage from the stockpile area can lead to ground water pollution, if not managed correctly.	2	2	0	2	1	3	1	11	C3	Almost Certain	Level 4 Risk
Groundwater pollution originating from the Storm Water Pollution Control Dam (SWPCD).	The operation of a Storm Water Pollution Control Dam (SWPCD) that can lead to a deterioration in ground water quality directly beneath the facility.	4	2	1	2	1	3	2	15	C4	Almost Certain	Level 4 Risk
СС	ONVEYOR BELT ROUTE					I	CONVEYOR	BELT ROUT	E	1		
Operation of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area).	The Life of Mine operation of a coal conveyor belt will not intersect/impact ground water resources, so no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
					Criteria for De	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation



OPERATIONAL PHASE ACTIVITIES					Criteria for Det	ermining Severit	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Surface Water						Surfa	ce Water				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LI	STED ACTIVIT	IES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): GN	N 386 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of	Impact         on         catchment         yield:           Dirty areas will be isolated by means of clean water diversions and containment canals draining to PCDs. Infrastructure on surface totals less than 30ha in extent, and impact on yield is considered negligible.         State         Sta	0	0	0	2	1	0	0	3	C1	Almost Certain	Level 6 Risk
more than 250 tons but less than 100 000 tons - Activity 1 (c).	Impact     on     water     quality:       - Contamination of runoff water that contacts with carbonaceous material on surface     -     Seepage     from     the     PCDs       - Risk of spill from the PCDs     -     -     -     -     -     -	4	2	3	1	1	3	2	16	C4	Almost Certain	Level 3 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10	Impact on water quality: Potential impact due to spillage of coal from overloaded conveyors and at transfer stations	0	2	1	1	1	1	1	7	C2	Likely	Level 6 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres	Impact on catchment with statistic statistics of the statistics	0	0	0	2	1	0	0	3	Cl	Almost Certain	Level 6 Risk
or more - Activity 1 (n).	Impact     on     water     quality:       - Contamination of runoff water that contacts with carbonaceous material on surface     -     Seepage     from     the     PCDs       - Risk of spill from the PCDs     -     -     -     -     -     -	4	2	3	1	1	3	2	16	C4	Almost Certain	Level 3 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Construction phase impact	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Impact on water quality: At an average water make of 5Ml/day (average over life of mine), but increasing to 10Ml/day just before closure and sulphate concentration conservatively estimated at 2500mg/l, the mine could generate an average of 25 tons of sulphate per day, impacting on surface water users, in stream aquatic life and the salt loading on dam systems. TDS would be expected to be around double this, with a total loading of around 50 tons per day.	4	2	3	3	1	3	3	19	C6	Almost Certain	Level 1 Risk
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road P547 Activity 15	Construction phase impact	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LI	STED ACTIVIT	IES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): GI	N 387 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Impact on water quality: Potential impact due to spillage of coal from overloaded conveyors and at transfer stations.	0	2	1	1	1	1	1	7	C2	Likely	Level 6 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity	Impact on catchment yield: Dirty areas will be isolated by means of clean water diversions and containment canals draining to PCDs. Infrastructure on surface totals less than 30ha in extent, and impact on yield is considered negligible.	0	0	0	2	1	0	0	3	Cl	Almost Certain	Level 6 Risk
2.	- Contamination of runoff water that contacts with carbonaceous material on surface - Seepage from the PCDs - Risk of spill from the PCDs	4	2	3	1	1	3	2	16	C4	Almost Certain	Level 3 Risk
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL	WATER ACT (	ACT 36 OF 19	98): SECTION 40			
Taking water from a water resource - Section 21 (a).         Storing of water - Section 21 (b).	Impact on groundwater yield, not a surface water impact. Impact on catchment yield: Dirty areas will be isolated by means of clean water diversions and containment canals draining to PCDs. Infrastructure on surface totals less than 30ha in extent, and impact on yield is considered negligible.	0	0	0	2	1	0	0	3	Cl	Almost Certain	Level 6 Risk
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Impact on water quality: Potential impact due to spillage of coal from overloaded conveyors and at transfer stations. Applicable to conveyor crossings.	0	2	1	1	1	1	1	7	C2	Likely	Level 6 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Impact         on         water         quality:           - Contamination of runoff water that contacts with carbonaceous material on surface         -         Seepage         from         the         PCDs           - Risk of spill from the PCDs         -	4	2	3	1	1	3	2	16	C4	Almost Certain	Level 3 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Impact         on         water         quality:           Potential impact due to spillage of coal from overloaded conveyors and at transfer stations.         Applicable to conveyor crossings.	0	2	1	1	1	1	1	7	C2	Likely	Level 6 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Impact on water quality: At an average water make of 5MI/day (average over life of mine), but increasing to 10MI/day just before closure and sulphate concentration conservatively estimated at 2500mg/l, the mine could generate an average of 25 tons of sulphate per day, impacting on surface water users, in stream aquatic life and the salt loading on dam systems. TDS would	4	2	3	3	1	3	3	19	C6	Almost Certain	Level 1 Risk



OPERATIONAL PHASE ACTIVITIES		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	be expected to be around double this, with a total loading of around 50 tons per day.						L					
	Exemptions from GNR 704		г	r	T	1	Exemptions	from GNR 704	1	F		1
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Impact on catchment yield: Loss of catchment yield due to subsidence in areas of high extraction mining. Expected loss in catchment yield of 0.3% (worst case) at the Vaal Dam.	2	0	3	3	1	0	2	11	C3	Likely	Level 5 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008		1		NATIONAL	ENVIRONMEN	TAL MANAGEN	MENT ACT: W	VASTE ACT, ACT N	O. 59 OF 2008		
NEMWA Section 19(3) and GN 718.	Not Applicable.	~	~	~	~	~	~ MINE SH	~	~	~	~	~
	Impact on catchment vield:						WINE SI	AFI AKLAS				
	Dirty areas will be isolated by means of clean water diversions and containment canals draining to PCDs. Infrastructure on surface totals less than 30ha in extent, and impact on yield is considered negligible.	0	0	0	2	1	0	0	3	C1	Almost Certain	Level 6 Risk
Coal handling infrastructure (shaft, bunker workshops, offices and stockpiles)	Impact         on         water         quality:           - Contamination of runoff water that contacts with carbonaceous material on surface         -         surface           -         Seepage         from         the         PCDs           - Risk of spill from the PCDs         -	4	2	3	1	1	3	2	16	C4	Almost Certain	Level 3 Risk
	Impact on/of extreme flooding events: Offices, workshops and stockyard and shaft areas have been located outside the 1:100 year flood line.	0	0	0	1	1	2	1	5	C2	Highly unlikely	Level 6 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	Impact on catchment yield: Dirty areas will be isolated by means of clean water diversions and containment canals draining to PCDs. Infrastructure on surface totals less than 30ha in extent, and impact on vield is considered negligible.	0	0	0	2	1	0	0	3	C1	Almost Certain	Level 6 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDE	RGROUND MI	NING ACTIVIT	IES OF THE N	IO.S 2 AND 4 COAL	SEAM		
Underground mining	Impact         on         catchment         yield:           Loss of catchment yield due to subsidence in areas of high extraction mining.         Expected           loss in catchment yield of 0.3% (worst case) at the Vaal Dam.         Expected	2	0	3	3	1	0	2	11	C3	Likely	Level 5 Risk
Potential mine water discharge	Impact on water quality: At an average water make of 5Ml/day (average over life of mine), but increasing to 10Ml/day just before closure and sulphate concentration conservatively estimated at 2500mg/l, the mine could generate an average of 25 tons of sulphate per day, impacting on surface water users, in stream aquatic life and the salt loading on dam systems. TDS would be expected to be around double this, with a total loading of around 50 tons per day.	4	2	3	3	1	3	3	19	C6	Almost Certain	Level 1 Risk
C	ONVEYOR BELT ROUTE		T		T	L	CONVEYOR	BELT ROUT	Έ			
Transport of coal via conveyor to the stockyard at Sasol Synfuels	Impact on water quality: Potential impact due to spillage of coal from overloaded conveyors and at transfer stations	0	2	1	1	1	1	1	7	C2	Likely	Level 6 Risk
OPERATIONAL PHASE ACTIVITIES	Totental impact due to springe of coal non-overloaded conveyors and a damser stations				Criteria for Det	termining Severi	ty		I			
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Plant Life						Pla	nt Life				
LICTED A OTIVITIES AT SHONDON' DUTEDNG OF STOCK	(A CT 107 DE 1000), CN 292 A CTIVITIES				STED ACTIVIT	TEC AT CHONT		OF NEMA (	OT 107 OF 1000	N 202 A CONVENIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of	(ACT 107 OF 1996): GN 300 ACTIVITIES Continuous alien plant invasions habitat deterioration change in physical abiotic			L.	ISTED ACTIVIT	IES AT SHOND	ONTIN TERMS	OF NEMA (A	CI 107 OF 1998): G	N 380 ACTIVITIES		
more than 250 tons but less than 100 000 tons - Activity 1 (c).	conditions, potential spillages.	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m). Service Water Dams and Storm Water Pollution Control Dam at	Continuous alien plant invasions, habitat deterioration, change in physical abiotic conditions, potential spillages.	2	0	1	2	1	1	2	9	C2	Likely	Level 6 Risk
Scholor Match Dails and conin which Fondon Conin Dail at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Spillages from the dam leading to a change in the physical abiotic conditions.	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4Risk
combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Spillages from diesel tanks leading to a change in the physical abiotic conditions.	2	0	1	2	1	1	2	9	C2	Possible	Level 6 Risk
Site Clearance for Construction of Shondoni Shaft Complex and	Alien plant invasions during the operation of the site.	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk



OPERATIONAL PHASE ACTIVITIES					Criteria for Det	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
related Infrastructure - Activity 12.												
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Alien plant invasions during the operation of the site.	1	0	1	2	1	1	2	8	C2	Highly unlikely	Level 6 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Spillages along the access roads leading to a change in the physical abiotic conditions.	2	0	1	2	1	1	3	10	C3	Possible	Level 5 Risk
LISTED ACTIVITIES AT SHONDONI IN TERMS OF NEMA	(ACT 107 OF 1998): GN 387 ACTIVITIES			L	ISTED ACTIVIT	TES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): GI	N 387 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1)	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	3	0	2	1	1	1	2	10	C3	Likely	Level 5 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a reta of more than 50 while meters are day. Activity 1 (i)	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	3	0	2	1	1	1	2	10	C3	Likely	Level 5 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	3	0	2	1	1	1	2	10	C3	Likely	Level 5 Risk
2. NATIONAL WATED ACT (ACT 26 OF 1008), SECTION 40						NATIONAL	WATED ACT (	A CT 26 OF 10	08), SECTION 40			
Taking water from a water resource - Section 21 (a)	Change in physical abjotic conditions	2	0	1	2	1	$\frac{2}{2}$	2	10	C3	Possible	Level 5 Risk
Impeding or diverting the flow of water in a watercourse - Section		2	0	1	2	1	2	2	10	63	10351516	Lever 5 Risk
21 (c). Disposing of waste in a manner which may detrimentally impact	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	2	0	1	2	1	2	2	10	C3	Almost Certain	Level 4R1sk
on a water resource - Section 21 (g). Altering the bed, banks, course or characteristics of a watercourse	Change in physical abiotic conditions.	2	1	1	2	1	2	2	11	C3	Possible	Level 5 Risk
- Section 21 (i).	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	2	0	1	2	1	2	2	10	C3	Almost Certain	Level 4Risk
Exemptions from GNR 704				-	-		Exemptions	from GNR 704	1			
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	1	0	1	2	1	1	2	8	C2	Almost Certain	Level 5 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	1	0	1	2	1	1	2	8	C2	Almost Certain	Level 5 Risk
NATIONAL ENVIRONMENTAL MANAGEMENT ACT: WA	STE ACT, ACT NO. 59 OF 2008				NATIONAL 1	ENVIRONMEN'	TAL MANAGEN	MENT ACT: W	VASTE ACT, ACT N	O. 59 OF 2008		
NEMWA Section 19(3) and GN 718.	Habitat deterioration, change in physical abiotic conditions	2	1	1	1	1	1 MINE CI		9	C2	Likely	Level 6 Risk
MINE SHAFT AKEAS	Alian plant invesions	1	0	1	2	1		AFI AKEAS	8	C2	Likely	Level 6 Dick
All other remaining operational shafts (Main Shaft, West Shaft and Ithermalethu Shaft) and decommissioned shafts (North Shaft	Alien plant invasions	1	0	1	2	1	1	2	8	C2	Likely	Level 6 Risk
and North-West Shaft). UNDERGROUND MINING ACTIVITIES OF THE NO S 2 AN	D 4 COAL SEAM				UNDF	RGROUND MU	NING ACTIVIT	IES OF THE N	O.S 2 AND 4 COAL	SEAM		
None.	None.								0			
CONVEYOR BELT ROUTE							CONVEYOR	<b>BELT ROUT</b>	E			
Operation of the conveyor	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	4	0	1	2	1	1	3	12	C3	Likely	Level 5 Risk
					Criteria for Det	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Animal Life						Anii	nal Life				
LISTED ACTIVITIES AT SHONDONL	IN TERMS OF NEMA (ACT 107 OF 1998). CN 386 ACTIVITIES			T	ISTED ACTIVIT	TES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998). CI	N 386 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental	2	0	1	2	1		3	10	C3	Likely	Level 5 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	loss of Red Data List fauna. Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental	2	0	1	2	1	1	3	10	C3	Likely	Level 5 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	IOSS OF RED Data List fauna. Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	4	0	1	2	1	1	3	12	C3	Likely	Level 5 Risk



OPERATIONAL PHASE ACTIVITIES					Criteria for De	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	2	0	1	2	1	1	3	10	C3	Likely	Level 5 Risk
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	2	0	1	2	1	1	3	10	C3	Likely	Level 5 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	4	0	1	2	1	1	3	12	C3	Likely	Level 5 Risk
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	None	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	2	0	1	2	1	1	3	10	C3	Likely	Level 5 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	4	0	1	2	1	1	3	12	C3	Likely	Level 5 Risk
LISTED ACTIVITIES AT SHONDONI I	N TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			L	ISTED ACTIVIT	TIES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): G	N 387 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	4	0	2	2	1	1	3	13	C3	Likely	Level 5 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	4	0	2	2	1	1	3	13	C3	Likely	Level 5 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	4	0	1	2	1	1	3	12	C3	Likely	Level 5 Risk
NATIONAL WAT	ER ACT (ACT 36 OF 1998): SECTION 40		<u> </u>	<u> </u>	<u> </u>	NATIONAL	WATER ACT (	ACT 36 OF 19	98): SECTION 40			
Taking water from a water resource - Section 21 (a).	Habitat Deterioration: Removing water from the water resource could affect the habitat quality for fauna causing them to move to more suitable habitat	2	0	2	2	1	2	2	11	C3	Low	Level 5 Risk
21 (c).	Habitat Deterioration	3	0	1	2	1	1	2	10	C3	Possible	Level 5 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Habitat Deterioration: Discharging of polluted water into the water resource could affect the habitat quality for fauna causing them to move to more suitable habitat	2	1	2	2	1	2	2	12	C3	Possible	Level 5 Risk
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Habitat Deterioration: Discharging of polluted or contaminated substances into the water resource could affect the habitat quality and pose a health risk for fauna causing them to move to more suitable habitat	2	1	2	2	1	2	2	12	C3	Possible	Level 5 Risk
Altering the bed, banks, course or characteristics of a watercourse Section 21 (i)	Habitat Deterioration	3	0	1	2	1	1	2	10	C3	Possible	Level 5 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the setting for the Setting 21 (i)	Habitat Deterioration: Discharging of polluted or contaminated water into the water resource could affect the habitat quality and pose a health risk for fauna causing them to move to more suitable habitat	2	1	2	2	1	2	2	12	C3	Possible	Level 5 Risk
the safety of people - Section 21 (j).	vemptions from CNR 704		1	1	1		Exemptions	from GNR 704	1			
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated	xemptions from GAX 704						Exemptions	IFOM GNK 704	•			
structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	4	0	1	2	1	1	3	12	C3	Likely	Level 5 Risk
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	4	0	1	2	1	1	3	12	С3	Likely	Level 5 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	4	0	1	2	1	1	3	12	C3	Likely	Level 5 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5. NATIONAL ENVIRONMENTAL	Habitat Deterioration and Loss of Red Data List Fauna: Activities during the operational phase may lead to a deterioration of habitat at the edges of the built-up areas and accidental loss of Red Data List fauna.	4	0	1		1 ENVIRONMEN'	1	3	12	C3	Likely	Level 5 Risk
NEMWA Section 19(3) and GN 718.	Habitat Deterioration	2	2	2	2	1	2	3	14	C4	Likelv	Level 3 Risk
	MINE SHAFT AREAS		<u> </u>				MINE SH	AFT AREAS			Likery	Level 5 Risk
Construction and commission of the Shondoni Shaft Complex and all associated infrastructure	Loss of Red Data List Fauna: Operational activities may lead to the accidental or deliberate death of fauna and avifauna. Habitat Deterioration: Activities during the operational phase, discharge of polluted water into, and abstraction of water from, the water resource could affect the habitat quality for fauna causing them to move to more suitable habitat.	4	0	2	2	1	1	3	13	C3	Likely	Level 5 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft	Loss of Red Data List Fauna: Operational activities may lead to the accidental or deliberate death of fauna and avifauna. Habitat Deterioration: Activities during the operational phase,	4	0	2	2	1	1	3	13	C3	Likely	Level 5 Risk



AnampAnampAnampAnampAnampAnampAnampAnampAnampAnampAnampAnampAnampAnampAnampAnampINDER AND	OPERATIONAL PHASE ACTIVITIES					Criteria for De	termining Severi	ty					
main contraction of the set	Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Ubstands of the bar and the field of the bar and the b	and North-West Shaft).	discharge of polluted water into, and abstraction of water from, the water resource could affect the hebitat quality for found aquaing them to more quickle hebitat											
	UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDE	RGROUND MI	NING ACTIVIT	IES OF THE N	O.S 2 AND 4 COAL	SEAM		
Constrained and approximate of the state of the		None											
Number of the large o	Operation of the Conveyer Belt and presence of the fenced servitude between the Shondoni Shaft Complex and the	DNVEYOR BELT ROUTE Loss of Red Data List Fauna: Operational activities may lead to the accidental or deliberate death of fauna and avifauna	4	0	1	2	1	CONVEYOR 1	BELT ROUT	Е 12	C3	Possible	Level 5 Risk
Mathematical data data data data data data data da	Middelbult Main Shaft Conveyer Operation of the Conveyer Belt and presence of the fenced servitude between the Shondoni Shaft Complex and the	Habitat Deterioration: Activities during the operational phase, discharge of polluted water into, and abstraction of water from, the water resource could affect the habitat quality for	4	0	2	2	1	1	3	13	C3	Likely	Level 5 Risk
Arrow barry man         Image and and the function of the func	Middelbult Main Shaft Conveyer	fauna causing them to move to more suitable habitat				Criteria for De	termining Severi	ity					
AutonAutonAutonNoneJoinJoinJoinJoinMarceWatterJoin<td></td><td></td><td></td><td></td><td></td><td></td><td>0</td><td>-</td><td></td><td></td><td>SEVERITY C-</td><td>Degree Of</td><td>Risk Level Before</td>							0	-			SEVERITY C-	Degree Of	Risk Level Before
Under         Under <th< td=""><td>Activity Description</td><td>Impact Identification/Description</td><td>Quantity</td><td>Toxicity</td><td>Extent</td><td>Duration</td><td>Status</td><td>Legislation</td><td>I &amp; AP's</td><td>SEVERITY TOTAL</td><td>NUMBER</td><td>Likelihood</td><td>Mitigation</td></th<>	Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	NUMBER	Likelihood	Mitigation
Initial activity of Subacovity - United of Subacovity of and		Wetlands			1	I	I	We	etlands				<u> </u>
Mathematical and any product of an and mathematical and any product of an and mathematical and any product of an an	LISTED ACTIVITIES AT SHONDONI I	N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES		T	LI	STED ACTIVIT	TES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): G	N 386 ACTIVITIES		
Calculation of the constraint of constrain	Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Operation of the coal throw out stockpile area could result in the deterioration of water quality of adjacent wetlands through run-off from the stockpile and from dust.	2	2	1	2	1	2	3	13	C3	Likely	Level 4 Risk
No.v. Stype Than of Base Name Than and equip for the stores were all areas start projection of Markins and equip for the stores were all areas start projection of Markins and equip for the stores were all areas start projection of Markins and equip for the stores were all areas start projection of Markins and Ma	Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	However, if the pedestal leads to concentration of flows, this could result in erosion through the operational phase. Coal dust blown off the conveyor could result in deterioration of water quality.	2	1	2	2	1	2	2	12	C3	Likely	Level 4 Risk
Second on C OB (anyor M Suble for carry B) Mail         All accretions will be place thing in a for accretion in lines, the accession of lines	Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Leakage and seepage from the service water and storm water pollution control dams could lead to deterioration in water quality of adjacent wetlands.	2	2	1	2	1	2	3	13	C3	Likely	Level 4 Risk
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	All excavation will take place during the construction phase. No excavation will take place during the operational phase, thus no impacts are expected.	~	~	~	~	~	~	~	~	~	~	~
Here by Magning Weighting of Justice of the Gauge Strate of the constraint plane. No segment and large strate dual large	Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Deterioration in water quality due to leakages and spillages during operation.	2	2	1	2	1	2	3	13	C3	Likely	Level 4 Risk
$\frac{1}{10000000000000000000000000000000000$	Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	This impact is limited to the construction phase. No vegetation clearing will take place during the operational phase.	~	~	~	~	~	~	~	~	~	~	~
Image: Description of a Ten Back System where ground of the Ten Back System where migrage of the weak system, where system where many the back is some water many thank is the back is some water many the back is	Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Dewatering of the underground workings should not impact on the wetlands on site, as these are mostly maintained by surface water. However, discharge of this water into wetlands could result in deterioration of water quality and altered flows within the receiving wetland.	2	1	2	2	1	2	2	12	C3	Almost Certain	Level 4 Risk
Control of a Acces Note (with 10a - 100 Show) by Balter (Sole of With 15a)Construction of a Acces and out arread of mine the determation of warding show may arread filter (sole of With 15a)Construction of a Acces and out arread Show may arread filter (sole of With 15a)Construction of a Acces and out arread Show may arread filter (sole of With 15a)Construction of a Acces and out arread Show may arread filter (sole of With 15a)Construction of a Acces and out arread Show may arread filter (sole of With 15a)Construction of a Acces and out arread Show Mith 15a)Construction of Acces and Out arread Show Mith 15a)Construction Acces and Mith 25a)Construction Acces and Mit	Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Operation of the Tetra Radio Station is not expected to have any impact on the wetlands on site. The radio station will be located within the shaft complex and all storm water associated with the radio station will be captured in the shaft's storm water management system.	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI IN TERMS OF NEMA (ACT 107 OF 1998); GX 387 ACTIVITIESLISTED ACTIVITIES AT SHONDONI IN TERMS OF NEMA (ACT 107 OF 1998); GX 387 ACTIVITIESConstruction of a Double Crossin 128 Vo Orched Dreve lineMain subscited with the portaines are appecied during the construction phase.LISTED ACTIVITIES AT SHONDONI IN TERMS OF NEMA (ACT 107 OF 1998); GX 387 ACTIVITIESTotal Double Crossin 128 Vo Orched Dreve lineMain subscite divide line in the construction phase are fully implemented, no significantTotal SolutionMain SolutionMain SolutionMain SolutionMain SolutionMain SolutionConstruction of a Coal Conveyor from Shondoni Shaft toMain SolutionMain Solution<	Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Operation of the access road could result in the deterioration of water quality due to spillages from vehicles as well as storm water run-off from the road surface. Storm water run off could also result in agricing within the water course and at agricin discharge point.	2	2	1	2	1	1	2	11	C3	Likely	Level 5 Risk
$ \frac{1}{1000 \text{ k} \text{ k} \text{ m} \text{ k} \text{ m} \text{ m} \text{ k} \text{ m} \text{ m}$	LISTED ACTIVITIES AT SHONDONI	N TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		I	LI	STED ACTIVIT	TES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): G	N 387 ACTIVITIES		
$\frac{1}{10000000000000000000000000000000000$	Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL P) to Shondoni Mino	Most impacts associated with the power lines are expected during the construction phase. If											
$\frac{Middebut Main Shaft (no the covarial Saud Coal Sapely (main) a latter quality due to spillages.$ $\frac{2}{2}$ $\frac{1}{2}$ $\frac{2}{2}$ $\frac{1}{2}$ $\frac{2}{2}$ $\frac{1}{1}$ $\frac{2}{2}$ $\frac{1}{2}$ $\frac{1}$	Transmission Feeder Bays - Activity 1 (l).	impacts are expected during the operational phase.											
$\frac{1}{2} = \frac{1}{2} = \frac{1}$	Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Deterioration of water quality due to spillages.	2	1	2	2	1	1	2	11	C3	Likely	Level 5 Risk
Image: Contract of the second sec	Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	The impact of the surface disturbance associated with the shaft area are dealt with under the construction table. Operation of the shaft area will result in generation of storm water, the discharge of which could result in erosion and water quality deterioration in receiving	2	1	2	2	1	2	2	12	C3	Likely	Level 4 Risk
Interview water water water water is taken from a groundwate source on site, no significant impact is expected to the wetlands. Where water is taken from a wetland, decreased flows within the affected wetland. Could result in a change in species composition of the biodiversity associated with that wetland. $3$ $0$ $1$ $0$ $1$ $2$ $2$ $9$ $C_2$ Almost CertainLevel 5 RiskImpeding or diverting the flow of water in a water could e sult in changes to species composition. $21$ (c).Any activities that impede or impound flows within the wetlands on site could result in changes to the wetland hydrology, resulting in increased erosion risk where flow could result in changes to species composition. $2$ $1$ $1$ $2$ $1$ $3$ $3$ $13$ $C_3$ Almost CertainLevel 4 RiskDiscording a pipe, canal, sewer, sea outfall or other conduit - Section $21$ (c).Nate decreased encortaining waste, resource conding waste is a manner which may detrimentally impact aquati fauna as sensitive tax are lost, as well as increased sediment transport and erosion $4$ and activity altering the bed, banks, course or characteristics of a water conduit a hander and hydrology are likely to result from the display activity altering the bed, banks, course or characteristics of a water containing waste, resource $-$ Section 21 (g). $1$ $2$ $1$ $1$ $2$ $1$ $1$ $3$ $3$ $13$ $C_3$ Almost Certain $-$ Level 4 RiskDisposing of waste in a manner which may detrimentally impact $-$ a certain $1$ (g). $2$ $1$ $2$ $1$ $1$ $3$ $3$ $13$ $C_3$ Almost Certain $-$ Level 4 Risk	NATIONAL WAT	Wetlands. ER ACT (ACT 36 OF 1998): SECTION 40		1	I		NATIONAL	WATER ACT (	ACT 36 OF 19	98): SECTION 40			
Taking water from a water resource - Section 21 (a).to the wetlands. Where water is taken from a wetland, decreased flows within the affected what wetland.30101229C2Almost CertainLevel 5 RiskImpeding or diverting the flow of water in a watercourse - Section 21 (c).Any activities that impede or impound flows within the wetlands on site could result in changes to the wetland hydrology, resulting in increased erosing risk where weter occentration has taken place, while extended saturation due to impoundment of flows concentration has taken place, while extended saturation due to impoundment of flows concentration has taken place, while extended saturation due to impoundment of flows could result in changes to species composition.211213313C3Almost CertainLevel 4 RiskDischarging waste or water containing waste into a water resource (flow, concentration has taken place, while extended saturation due to impoundment of flows could result in changes to the species composition of wate an anner which may detrimentally impact (flow, concentration has taken place, while extended saturation due to result in a change in species composition of water resource - Section 21 (g).212113313C3Almost CertainLevel 4 RiskDischarging waste or water resource (flow, concentration has taken place, while extended saturation of water quality.212113313C3Almost CertainLevel 4 RiskDisposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).Nast Certain a		Where water is taken from a groundwater source on site, no significant impact is expected								so). Sherror to			
Impeding or diverting the flow of water in a watercourse - SectionAny activities that impedie or impound flows within the wetlands on site could result in concentration has taken place, while extended saturation due to impoundment of flows concentration has taken place, while extended saturation due to impoundment of flows concentration has taken place, while extended saturation due to impoundment of flows concentration has taken place, while extended saturation due to impoundment of flows concentration has taken place, while extended saturation due to impoundment of flows concentration has taken place, while extended saturation due to impoundment of flows 	Taking water from a water resource - Section 21 (a).	to the wetlands. Where water is taken from a wetland, decreased flows within the affected wetland could result in a change in species composition of the biodiversity associated with that wetland.	3	0	1	0	1	2	2	9	C2	Almost Certain	Level 5 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sever, sea outfall or other conduit - Section 21 (f).Deterioration in water quality as well as altered hydrology are likely to result from the discharge of water containing waste, resulting in changes to the species composition of aquater transport and erosion 21 (f).12113313C3Almost CertainLevel 4 RiskDisposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).Waste disposal could result in a deterioration of water quality.212113313C3Almost CertainLevel 4 RiskAltering the bed, banks, course or characteristics of a water course - Section 21 (i).Any activity altering the bed, banks or characteristics of a water resource could result in a duetrioration (increase in suspended solids and turbidity) and an increase in alien vegetation211213313C3Almost CertainLevel 4 Risk	Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Any activities that impede or impound flows within the wetlands on site could result in changes to the wetland hydrology, resulting in increased erosion risk where flow concentration has taken place, while extended saturation due to impoundment of flows could result in changes to species composition.	2	1	1	2	1	3	3	13	C3	Almost Certain	Level 4 Risk
Disposing of waste in a manner which may detrimentally impact       Waste disposal could result in a deterioration of water quality.       2       1       2       1       3       3       13       C3       Almost Certain         Altering the bed, banks, course or characteristics of a water resource - Section 21 (g).       Any activity altering the bed, banks or characteristics of a water resource could result in a deterioration (increase in suspended solids and turbidity) and an increase in alien vegetation       2       1       1       2       1       3       3       13       C3       Almost Certain       Level 4 Risk	Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Deterioration in water quality as well as altered hydrology are likely to result from the discharge of water containing waste, resulting in changes to the species composition of aquatic fauna as sensitive taxa are lost, as well as increased sediment transport and erosion due to increased flows.	2	1	2	1	1	3	3	13	C3	Almost Certain	Level 4 Risk
Altering the bed, banks, course or characteristics of a water resource could result in loss of wetland habitat, increased erosion risk and sediment transport, water quality and an increase in alien vegetation of the erost of a set of the erost of the e	Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Waste disposal could result in a deterioration of water quality.	2	1	2	1	1	3	3	13	C3	Almost Certain	Level 4 Risk
	Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Any activity altering the bed, banks or characteristics of a water resource could result in loss of wetland habitat, increased erosion risk and sediment transport, water quality deterioration (increase in suspended solids and turbidity) and an increase in alien vegetation	2	1	1	2	1	3	3	13	C3	Almost Certain	Level 4 Risk



OPERATIONAL PHASE ACTIVITIES					Criteria for De	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	due to disturbance. Removal of water from the underground workings per se is not expected to have any impact on the wetlands of the area, as these wetlands are considered to be supported by surface water. However, release of this water into any water resource is likely to result in changes to the hydrology (flow volumes and velocities) of the receiving water resource, a change in water quality as well as an increased erosion risk.	2	1	2	2	1	2	2	12	C3	Almost Certain	Level 4 Risk
No parson in control of a mine or activity may locate or place any	Exemptions from GNR 704		[	1	1	1	Exemptions	from GNR 704			[	
residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	These activities could result in the deterioration of water quality during the operational phase.	2	1	2	2	1	2	2	12	C3	Likely	Level 4 Risk
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Undermining of wetlands could result in wetland loss and degradation where surface subsidence occurs. Fractures in the strata underlying the wetlands could result in loss of surface water to groundwater, leading to desiccation of wetlands and changes in species composition.	2	0	3	3	1	2	2	13	C3	Likely	Level 4 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	These activities could result in the deterioration of water quality during the operational phase.	2	1	2	2	1	2	2	12	C3	Likely	Level 4 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	These activities could result in the deterioration of water quality during the operational phase.	2	1	2	2	1	2	2	12	C3	Likely	Level 4 Risk
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL	ENVIRONMEN	TAL MANAGEN	MENT ACT: W	ASTE ACT, ACT N	O. 59 OF 2008	<b>X 11 1</b>	
NEMWA Section 19(3) and GN 718.	Operation of a sewage treatment plant could result in the deterioration of water quality.	1	1	2	2	1	2 MINE SH	2 AFT AREAS	11	C3	Likely	Level 4 Risk
Operation of Shondoni shaft complex	Water quality deterioration due to discharge of storm water. Erosion due to discharge of storm water. Disturbance to wetlands located adjacent to the shaft area.	2	1	1	2	1	2	2	11	C3	Almost Certain	Level 4 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	Water quality deterioration due to discharge of storm water. Erosion due to discharge of storm water. Disturbance to wetlands located adjacent to the shaft area.	2	1	1	2	1	2	2	11	C3	Almost Certain	Level 4 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDE	ERGROUND MI	NING ACTIVIT	IES OF THE N	O.S 2 AND 4 COAL	SEAM		
Underground mining.	Undermining of wetlands could result in wetland loss and degradation where surface subsidence occurs. Fractures in the strata underlying the wetlands could result in loss of surface water to groundwater, leading to desiccation of wetlands and changes in species composition.	2	0	1	2	1	3	3	12	C3	Possible	Level 4 Risk
С	ONVEYOR BELT ROUTE						CONVEYOR	BELT ROUT	E			
Operation of conveyor	Spillages and coal dust from the conveyor could result in water quality deterioration	1	1	2	2	1	1	2	10	C3	Likely	Level 5 Risk
					Criteria for De	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Before Mitigation
	Aquatic Ecosystems						Aquatic	Ecosystems				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			L	STED ACTIVIT	TIES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): G	N 386 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of	Contamination of surface water or groundwater as a result of seepage/runoff/dust from	2	1	3	1	1	2	3	13	3	6	Level 5 Risk
more than 250 tons but less than 100 000 tons - Activity 1 (c). Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	stockpiles Acidification of surface water as a result of leaks/ spills of pumped mine water en route to treatment facility or of coal/coal dust from the conveyor. Erosion may also occur where flows are constricted	2	3	2	1	1	2	2	13	3	7	Level 4 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Contamination of surface water or groundwater as a result of overspill, seepage or structural failure of pollution dams	2	3	2	1	1	2	2	13	3	6	Level 4 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Construction phase only	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Contamination of surface water as a result of spills or leaks	3	3	2	0	1	1	3	13	3	6	Level 5 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Construction phase only	~	~	~	~	~	~	~	~	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13. Installation of a Tates Padio System characterized at the Shafe	Acidification, salinisation and increased sulphates and iron in surface water; Loss of sensitive taxa and biodiversity	3	1	3	1	1	2	2	13	3	7	Level 4 Risk
Complex Area - Activity 14.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~



OPERATIONAL PHASE ACTIVITIES					Criteria for De	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Operation of the access road could result in the deterioration of water quality due to spillages from vehicles as well as storm water run-off from the road surface. Storm water run-off could also result in erosion within the water course and at erosion discharge points.	3	2	1	2	1	1	2	12	C3	P6	Level 5 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LI	STED ACTIVIT	TES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): G	N 387 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Pollution of surface water due to spillages/dust	2	2	3	1	1	2	2	13	C3	7	Level 4 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	The impact of the surface disturbance associated with the shaft area are dealt with under the construction table. Operation of the shaft area will result in generation of storm water, the discharge of which could result in erosion and water quality deterioration in receiving wetlands.	2	2	2	2	1	2	2	13	C4	P6	Level 5 Risk
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL	WATER ACT (	ACT 36 OF 199	08): SECTION 40		-	
Taking water from a water resource - Section 21 (a).	Decreased base flows in watercourses, resulting in increased channelization and associated	0	0	1	2	1	2	3	9	2	7	Level 5 Risk
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Stream and wetland crossings will impede flows and cause erosion. Impounded flows will result in a change in species composition while erosion will result in water quality deterioration.	2	0	1	1	1	0	2	7	2	7	Level 5 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Contamination of surface water (salinisation, acidification) through leaks	1	1	1	1	1	3	3	11	C3	7	Level 4 Risk
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 ( $\alpha$ )	Contamination of surface water and ground water	0	1	2	1	1	3	3	11	C3	5	Level 5 Risk 5
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Any activity altering the bed, banks or characteristics of a water resource could result in loss of wetland habitat, increased erosion risk and sediment transport, water quality deterioration (increase in suspended solids and turbidity) and an increase in alien vegetation due to disturbance.	4	1	1	2	1	3	3	15	C4	Р7	Level 3 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Acidification and salinisation (especially by sulphates) of surface water; decreased base flows in watercourses resulting in loss of floodplain habitats	4	1	2	1	1	2	2	13	C3	7	Level 4 Risk
I	Exemptions from GNR 704						Exemptions	from GNR 704			-	
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, wadershoed and a compared uncethel or greaded. Becaution 4(a)	These activities could result in the deterioration of water quality during the operational phase.	1	1	2	2	1	2	2	11	C3	P6	Level 5 Risk
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Subsidence or decant resulting in contamination (acidification, salinisation) of surface water with mine water, resulting in the loss of aquatic species and biodiversity	1	1	2	3	1	2	2	12	C3	5	Level 5 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	These activities could result in the deterioration of water quality during the operational phase.	1	1	2	2	1	2	2	11	C3	Р6	Level 5 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Pollution of surface water	1	1	3	1	1	2	2	11	C3	7	Level 4 Risk
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008	1	2	2	NATIONAL	ENVIRONMEN'	TAL MANAGEN	AENT ACT: W	ASTE ACT, ACT N	O. 59 OF 2008	D4	Lovel 5 Dist
	MINE SHAFT AREAS	1	<u> </u>	<u> </u>		1	MINE SH	AFT AREAS	12	0.5	10	Level J Kisk
channelization of storm water (cut-off trench)	Erosion at storm water outlets	2	0	0	1	1	0	0	4	1	6	Level 6 Risk
Shatt complex: water management system (i.e. dams and pipelines)	Contamination of surface water or groundwater as a result of overspill or seepage from pollution dams and stockpiles	2	1	2	1	1	2	2	11	3	6	Level 5 Risk
Construction and commissioning of the shaft complex at Shondoni Shaft complex: water management system (i.e. dams and	Contamination of surface water as a result of spills (e.g. hydrocarbons, sewage)	1	1	2	0	1	1	3	9	3	6	Level 6 Risk
pipelines) UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM	1	1	3	3		1	5	13	3	6	Level 5 Kisk
Dewatering - leaks/spills/discharge	Acidification and salinisation (especially by sulphates) of surface water	2	2	2	1	1	3	2	13	3	7	Level 4 Risk
Underground mining	Acid Mine Drainage: increasing acidification and salinisation of surface and ground water	2	2	2	2	1	2	2	13	3	7	Level 4 Risk
Subsidence	Undermining of wetlands could result in wetland loss and degradation where surface subsidence occurs. Fractures in the strata underlying the wetlands could result in loss of surface water to groundwater, leading to desiccation of wetlands and changes in species composition.	2	0	1	3	1	3	2	12	3	Р5	Level 5 Risk
Decreased base flows and increased channelization of watercourses	Loss of habitats and wetland function	2	0	2	2	1	2	2	11	3	7	Level 4 Risk
Contamination by mining water (spills/subsidence/seepage)	Loss of sensitive taxa and biodiversity	2	2	2	2	1	2 CONVEVOE	2 BELT ROUT	13 E	3	7	Level 4 Risk
Coal spills/coal dust	Pollution of surface water	1	2	2	1	1	3	2	12	3	7	Level 4 Risk



OPERATIONAL PHASE ACTIVITIES					Criteria for Det	ermining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Coal spills/coal dust	Loss of sensitive taxa and biodiversity	1	2	2	3	1	2	2	13	3	6	Level 5 Risk
Stream Crossings	Erosion and sedimentation Acidification of surface water as a result of leaks/ spills of pumped mine water en route to	1	0	1	1	1	0	2	6	2	7	Level 5 Risk
Pipeline leaks/spills	treatment facility	1	2	2	1	1	3	2	12	3	7	Level 4 Risk
conveyor route		1	0	2	3	1		2	10	3	/	Level 4 Kisk
			1	1	Criteria for Det	termining Severi	ty	1				
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Air Quality						Air	Quality				
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			L	ISTED ACTIVIT	IES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): G	N 386 ACTIVITIES		
more than 250 tons but less than 100 000 tons - Activity 1 (c).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road P547 Activity 15	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			L	ISTED ACTIVIT	IES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): G	N 387 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT Taking water from a water resource - Section 21 (a).	YER ACT (ACT 36 OF 1998): SECTION 40 Not Applicable	~	~	~	~	NATIONAL ~	WATER ACT (	ACT 36 OF 19 ~	98): SECTION 40 ~	~	~	~
Impeding or diverting the flow of water in a watercourse - Section	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
E	Exemptions from GNR 704						Exemptions	from GNR 704	4			1
residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL N	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008		1		NATIONAL	ENVIRONMEN	TAL MANAGEN	MENT ACT: V	VASTE ACT, ACT N	O. 59 OF 2008		
INEANI W A Section 19(5) and GIN /18.	MINE SHAFT AREAS	~	~	~	~	~	~ MINE SH	~ AFT AREAS	~	~	~	- ~



OPERATIONAL PHASE ACTIVITIES					Criteria for Det	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
UNDERCROUND MINING	Not Applicable	~	~	~	~ UNDF	~	~ NING ACTIVIT	~ IFS OF THE N	~ IO \$ 2 AND 4 COAL	~ SFAM	~	~
Increased extraction of the No. 4 Coal seam.	Not Applicable	~	~	~	~	~	~	~	~	~ ~	~	~
COnception of the conveyor	ONVEYOR BELT ROUTE Small volumes of secondary dust can be created by the conveyance of coal	1	0	1	1	0	CONVEYOR	BELT ROUT	E 5	C2	LOW	Level 6 Risk
operation of the conveyor	Small volumes of secondary dast can be created by the conveyance of coar	1	Ū	1	Critoria for Dat	tormining Soveri	1	1	5	62	LOW	
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Noise		•	•		•	ľ	loise				•
LISTED ACTIVITIES AT SHONDONI I	N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES		1	L	ISTED ACTIVIT	IES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): G	N 386 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Localized Noise caused by operational activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m)	Localized Noise caused by operational activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Localized Noise caused by operational activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Localized Noise caused by operational activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Localized Noise caused by operational activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Localized Noise caused by operational activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Localized Noise caused by operational activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Localized Noise caused by operational activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shoft Complex from Tex good B547 Activity 15	Localized Noise caused by operational activities.	1	1	0	0	0	1	2	5	C2	Likely	Level 6 Risk
LISTED ACTIVITIES AT SHONDONI I	N TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		l	L	ISTED ACTIVIT	TES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): G	N 387 ACTIVITIES	-	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT	ER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL	WATER ACT (	ACT 36 OF 19	98): SECTION 40			
Impeding or diverting the flow of water in a watercourse - Section	Not Applicable	~	~	~	~	~	~	~	~ ~	~	~	~
21 (c). Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
21 (t). Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (c).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse Section 21 (i)	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (i)	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
E	xemptions from GNR 704		I			I	Exemptions	from GNR 704	•	·		I
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged,	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
undermined, unstable or cracked - Regulation 4(a). No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b). No person in control of a mine or activity may use any area or	Not Applicable Not Applicable	~	~	~	~	~	~	~	~	~	~	~



OPERATIONAL PHASE ACTIVITIES					Criteria for Det	ermining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).												
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource. Pearulation 5	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL I	ENVIRONMEN	TAL MANAGEN	IENT ACT: W	VASTE ACT, ACT N	O. 59 OF 2008		
NEMWA Section 19(3) and GN 718.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Surface Ventilation Fans	MINE SHAFT AREAS Fan noise disturbance at night - Chicken Farm only	2	0	1	1	1	2	AFT AKEAS 2	9	C2	P7	Level 5 Risk
UNDERGROUND MINING	G ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM		Ů	•	UNDE	RGROUND MI	NING ACTIVIT	ES OF THE N	IO.S 2 AND 4 COAL	SEAM	• •	Lover 5 Hask
N/A	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Conveyor operation	ONVEYOR BELT ROUTE	2	0	2	1	1	CONVEYOR	2 BELT ROUT	E10	C3	P7	Level /Rick
		2	0	2			2	2	10	05	17	Level 4Risk
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Criteria for Det Duration	Status	ty Legislation	I & AP's	SEVERITY	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Vienals						Vi	enale				
	THEORY OF NEWA (A CT 107 OF 1000), CN 207 A CTRUTTER					IFC AT CHOND			CT 107 OF 1009\. C			
Coal throw out stockpile area at Shondoni Shaft with a storage of	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES		[		SIED ACTIVIT	IES AT SHOND	UNI IN TERMS	OF NEMA (A	CT 107 OF 1998): GF	N 386 ACTIVITIES		[
more than 250 tons but less than 100 000 tons - Activity 1 (c). Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
year flood line) - Activity 1 (m). Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
or more - Activity 1 (n). Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit removing more than 5 cubic meters of material - Activity	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
4. Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined canacity of more than 30 cubic metres but less than 1	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
000 cubic metres - Activity 7. Removal of Indigenous Vegetation of 3 hectares or more during												
site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12. Removal of water found in the underground workings on the No.4		~	~	~	~	~	~	~	~	~	~	~
Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13. Installation of a Tetra Radio System above ground at the Shaft	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Complex Area - Activity 14.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LI	STED ACTIVIT	IES AT SHOND	ONI IN TERMS	OF NEMA (A	CT 107 OF 1998): GN	N 387 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (i).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WA	FER ACT (ACT 36 OF 1998): SECTION 40		ı		ı	NATIONAL	WATER ACT (A	ACT 36 OF 19	98): SECTION 40	L		
Taking water from a water resource - Section 21 (a).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Impeding or diverting the flow of water in a watercourse - Section 21 (c). Discharging waste or water containing waste into a water resource	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
- Section 21 (i). Removing, discharging or disposing of water found underground	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may locate or place any	Exemptions from GNK 704			I			Exemptions	irom GNR 704	•			
residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course	Not Applicable	~	~	~	~	~	~	~	~	~	~	~



OPERATIONAL PHASE ACTIVITIES					Criteria for Det	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).												
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of alway, and ther impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008			_	NATIONAL 1	ENVIRONMEN'	TAL MANAGE	MENT ACT: V	VASTE ACT, ACT N	O. 59 OF 2008	-	-
	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
	MINE SHAFT AREAS				T	I	MINE SH	IAFT AREAS	l.			
Shondoni Shaft Operation	Highly visible from R547; has impact on short to medium range views on road users			1	1	1	0	1	4	C1	Certain	Level 6 Risk
	Visibility impact for long range views from east			1	1	0	0	2	4	C1	Certain	Level 6 Risk
	Alterations to Landscape and Visual Character (Morphology & Topography)			1	1	0	0	2	4	C1	Certain	Level 6 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM		-	T	UNDE	RGROUND MI	NING ACTIVIT	TIES OF THE N	NO.S 2 AND 4 COAL	SEAM	r	1
None.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
C	ONVEYOR BELT ROUTE					1	CONVEYOR	R BELT ROUT	Ъ.			
Operation of Conveyor Belt	Highly visible from R547 and Brendan Village; has impact on short to medium range views on road users and residents	0	0	1	1	1	0	2	5	C2	Certain	Level 5 Risk
	Visibility impact for long range views	0	0	1	0	0	0	2	3	C1	Certain	Level 6 Risk
	Visibility and Visual Exposure Impact on road users at road-crossings	0	0	1	1	1	0	1	4	C1	Certain	Level 6 Risk
	Visual Exposure impact for road users of R547 as well as Brendan Village residents	0	0	1	1	1	0	2	5	C2	Certain	Level 5 Risk
				1	Criteria for Det	termining Severi	ty		1	_		
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Heritage	Heritage										
Heritage Impac	ts only applicable for Construction Phase	Heritage Impacts only applicable for Construction Phase										
					Criteria for Det	termining Severi	ty					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Socio-Economic						Socio-	Economic				
Please refer to	Sasol Shondoni Social and Labour Plan					Please re	fer to Sasol Shor	ndoni Social an	d Labour Plan			



## 6.5.3 Decommissioning and Closure Phase Impact Significance Tables

Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Topography						Торо	graphy				
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES		1	LIS	STED ACTIVITI	ES AT SHOND	ONI IN TERMS	OF NEMA (AG	CT 107 OF 1998): GN 3	86 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c)	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removal of water tound in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		1	LIS	STED ACTIVITI	ES AT SHOND	ONI IN TERMS	OF NEMA (AC	CT 107 OF 1998): GN 3	87 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40				1	NATIONAL	WATER ACT (A	ACT 36 OF 199	8): SECTION 40			
Taking water from a water resource - Section 21 (a).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
21 (c).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
E	Exemptions from GNR 704		-	-		-	Exemptions f	from GNR 704		-		
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water	Not Applicable	~	~	~	~	~	~	~	~	~	~	~



					Criteria for De	etermining Sever	rity					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely the mean of the purpose which												
NATIONAL ENVIRONMENTAL N	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL E	NVIRONMENT	'AL MANAGEM	IENT ACT: W	ASTE ACT, ACT NO. 5	59 OF 2008		
NEMWA Section 19(3) and GN 718.	Not Applicable	~	~	~	~	~	~ MINE SHA	~	~	~	~	~
Decommissioning of Shondoni shaft area	MINE SHAFT AKEAS						WIINE SHA	AF I AKEAS				
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North West Shaft)	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDER	GROUND MIN	ING ACTIVITI	ES OF THE N	O.S 2 AND 4 COAL SE	AM		
Areas of the mine where surface subsidence can still take place after mining activities have stopped.	Residual pillar collapse that can lead to further surface subsidence.	1	0	1	2	1	2	2	9	C2	Possible	Level 6
С	ONVEYOR BELT ROUTE			-	1		CONVEYOR	BELT ROUTE	3			
None	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
					Criteria for De	etermining Sever	rity			SEVERITY C-	Degree Of	Risk Level Before
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	NUMBER	Likelihood	Mitigation
5	Soils and Land Capability						Soils and La	nd Capability				
LISTED ACTIVITIES AT SHONDONI	N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES		1	LIS	TED ACTIVITI	ES AT SHONDO	ONI IN TERMS	OF NEMA (AG	CT 107 OF 1998): GN 38	86 ACTIVITIES	1	
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LIS	TED ACTIVITI	ES AT SHONDO	ONI IN TERMS	OF NEMA (AC	CT 107 OF 1998): GN 38	87 ACTIVITIES		
from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT	ER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL V	WATER ACT (A	CT 36 OF 199	8): SECTION 40			
I aking water from a water resource - Section 21 (a). Impeding or diverting the flow of water in a watercourse - Section	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
21 (c). Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
21 (f). Disposing of waste in a manner which may detrimentally impact	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
on a water resource - Section 21 (g). Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i)	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of neonle - Section 21 (i)	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
не мену от реорге - эсенон 21 (j). F	Exemptions from GNR 704		I	I	I		Exemptions f	rom GNR 704				
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~



								Disk Land				
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Before Mitigation
specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).												
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008		T		NATIONAL E	NVIRONMENT	AL MANAGEM	ENT ACT: W	ASTE ACT, ACT NO.	59 OF 2008		
NEMWA Section 19(3) and GN 718.	Not Applicable. MINE SHAFT AREAS	~	~	~	~	~	~ MINE SHA	~ FT AREAS	~	~	~	~
Loss of soils nutrient while in storage	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Contamination by dirty water used for watering re-vegetation	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Hydrocarbon spills from rehab vehicles	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Reduction in area	Not Applicable.	~	~	~	~		~	~	~	~	~	~
	Depletion in the ground water availability as a result of ground water abstraction during the			1	UNDER	GROUND MIN	ING ACTIVITI	LS OF THE N	0.5 2 AND 4 COAL SE			1
Loss of soils nutrient while in storage	construction of the shaft complex.	~	~	~	~	~	~	~	~	~	~	~
Contamination by dirty water used for watering re-vegetation	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Hydrocarbon spills from rehab vehicles	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Reduction in area	ONVEYOR BELT ROUTE	~	~	~	~	~	CONVEYOR	RELT ROUTE	~ ~	~	~	~
Loss of soils nutrient while in storage	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Contamination by dirty water used for watering re-vegetation	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Hydrocarbon spills from rehab vehicles	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Reduction in area	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
					Criteria for D	etermining Sever	ity			SEVERITY C-	Degree Of	Risk Level Before
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	NUMBER	Likelihood	Mitigation
	Ground Water					FC AT SHOND	Groun	d Water	TT 107 OF 1009\. CN 2	97 A CTIMPIEC		
Coal throw out stockpile area at Shondoni Shaft with a storage of	The decommissioning of a 15 000t ROM coal stockpile area at Shondoni Shaft Residual					ES AT SHUNDU	INT IN TERMS	OF NEMA (AC	51 107 OF 1998): GN 3	ou ACHIVIIIES		
more than 250 tons but less than 100 000 tons - Activity 1 (c).	seepage from the stockpile footprint area can lead to further ground water pollution.	1	1	0	0	1	1	0	4	C1	Possible	Level 6 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10	The Conveyor Pedestal will not intersect ground water, so no impact will take place during	~	~	~	~	~	~	~	0	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more Activity 1 (n)	The decommissioning of the Storm Water Pollution Control Dam (SWPCD) footprint.	2	2	1	0	1	1	0	7	C2	Almost Certain	Level 5 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	The Conveyor Pedestal will not intersect ground water, so no impact will take place during decommissioning of the infrastructure.	~	~	~	~	~	~	~	0	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	The decommissioning of diesel fuel storage tanks can lead to residual ground water pollution.	1	3	0	0	1	1	0	6	C2	Very Unlikely	Level 6 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Shatt Complex from Tar road R547 - Activity 15.	IN TERMS OF NEMA (ACT 107 OF 1998). CN 387 ACTIVITIES				TED ACTIVITI	ES AT SHONDO	)NI IN TERMS	OF NEMA (A4	T 107 OF 1998)+ GN 3	87 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line								OF REMA (AU	1107 OF 1990); GN 3	, ACHVIIES		
from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	I ne decommissioning of the Overhead Power line will not intersect ground water, so no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	The decommissioning of a coal conveyor belt will not intersect ground water, so no impact will take place.	~	~	~	~	~	~	~	0	~	~	~



		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	This activity only refers to surface disturbance. Since no ground water is intersected, no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40			1		NATIONAL	WATER ACT (A	CT 36 OF 199	8): SECTION 40		I	
Taking water from a water resource - Section 21 (a).	Not Applicable, since no water will be pumped to surface during the decommissioning phase.	~	~	~	~	~	~	~	0	~	~	~
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f)	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable, since no water will be captured from any ROM stock piles (decommissioned).	~	~	~	~	~	~	~	0	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i)	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Not Applicable, since no water will be moved around for decommissioning purposes.	~	~	~	~	~	~	~	0	~	~	~
H	Exemptions from GNR 704						Exemptions f	rom GNR 704			1	1
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Resulation 4(a).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL E	NVIRONMENT	AL MANAGEM	ENT ACT: W	ASTE ACT, ACT NO.	59 OF 2008		
NEMWA Section 19(3) and GN 718.	Not Applicable. MINE SHAFT AREAS	~	~	~	~	~	- MINE SHA	~ FT AREAS	0	~	~	~
Closing the shaft complex at Shondoni.	Localized depletion of ground water (if it occurred during the operational phase) will be reversed, and ground water levels will start to return to pre-mining ground water levels.	2	0	0	1	0	0	0	3	C1	Almost Certain	Level 6 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft	Localized depletion of ground water (if it occurred during the operational phase) will be reversed, and ground water levels will start to return to pre-mining ground water levels.	2	0	0	1	0	0	0	3	C1	Almost Certain	Level 6 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM		L	I	UNDER	RGROUND MIN	ING ACTIVITI	ES OF THE N	O.S 2 AND 4 COAL SE	AM	1	
The continuous influx of groundwater recharge into mine workings due to bord and pillar mining of the No's 2 and 4 coal seam, during the decommissioning phase.	Ground water recharge due to operational phase mining activities will continue during the decommissioning phase. The impact will persist well beyond the post-closure phase and will be addressed in that section.	4	1	1	0	1	0	1	8	C2	Almost Certain	Level 5 Risk
The increased influx of groundwater into mine workings due to pillar extraction activities of the No.4 coal seam, during the decommissioning phase.	Ground water recharge due to operational phase mining activities will continue during the decommissioning phase. The impact will persist well beyond the post-closure phase and will be addressed in that section.	4	1	1	0	1	0	1	8	C2	Almost Certain	Level 5 Risk
	ONVEYOR BELT ROUTE			Ī		Ī	CONVEYOR	BELT ROUTI	E			
Decommissioning of the Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area).	The decommissioning of the coal conveyor belt will not intersect/impact ground water resources, so no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
					Criteria for De	etermining Sever	rity			(DV)	D 00	Risk Level
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Before Mitigation
	Surface Water						Surfac	e Water				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LIS	STED ACTIVITI	ES AT SHONDO	ONI IN TERMS (	OF NEMA (A)	CT 107 OF 1998): GN 3	86 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Removal of surface infrastructure, with potential increase in suspended solids in runoff from the site. In most instances, removal of infrastructure will have positive impact in terms of storm water management.	1	0	1	0	1	1	0	4	C1	Possible	Level 6 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Impact on water quality: Removal of surface infrastructure, with potential increase in suspended solids in runoff	1	0	1	0	1	1	0	4	C1	Possible	Level 6 Risk



		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	from the site. In most instances, removal of infrastructure will have positive impact in terms of storm water management.											
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Impact on water quality: The PCD will remain in place post closure and will therefore contain any impacts on runoff water resulting from the decommissioning and removal of infrastructure during this phase. No impact expected.	0	0	0	0	0	0	0	0	C1	Unforeseen	Level 6 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Construction phase impact	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Operational phase impact	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LIS	STED ACTIVITI	ES AT SHOND	ONI IN TERMS	OF NEMA (AC	CT 107 OF 1998): GN 3	87 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Removal of surface infrastructure, with potential increase in suspended solids in runoff from the site. In most instances, removal of infrastructure will have positive impact in terms of storm water management.	1	0	1	0	1	1	0	4	C1	Possible	Level 6 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Impact on water quality: Removal of surface infrastructure, with potential increase in suspended solids in runoff from the site. In most instances, removal of infrastructure will have positive impact in terms of storm water management.	1	0	1	0	1	1	0	4	Cl	Possible	Level 6 Risk
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL	WATER ACT (A	CT 36 OF 199	8): SECTION 40			
Taking water from a water resource - Section 21 (a).	Impact on groundwater yield, not a surface water impact.								0			
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Removal of surface infrastructure, with potential increase in suspended solids in runoff from the site. In most instances, removal of infrastructure will have positive impact in terms of storm water management.	1	0	1	0	1	1	0	4	Cl	Possible	Level 6 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Impact on water quality: The PCD will remain in place post closure and will therefore contain any impacts on runoff water resulting from the decommissioning and removal of infrastructure during this phase. No impact expected.	0	0	0	0	0	0	0	0	Cl	Unforeseen	Level 6 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Impact on water quality: Removal of surface infrastructure, with potential increase in suspended solids in runoff from the site. In most instances, removal of infrastructure will have positive impact in terms of storm water management.	1	0	1	0	1	1	0	4	Cl	Possible	Level 6 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the opficient of negref. Section 21 (d)	Operational phase impact	~	~	~	~	~	~	~	~	~	~	~
ис засту от реоріс - весной 21 (j).	Exemptions from GNR 704		I	1	1		Exemptions f	from GNR 704				
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Impact on catchment yield: Decommissioning will not significantly change the operational loss in yield.	2	0	3	3	1	0	2	11	C3	Likely	Level 5 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or	Not Applicable	~	~	~	~	~	~	~	~	~	~	~



		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.												
NATIONAL ENVIRONMENTAL N NEMWA Section 19(3) and GN 718	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008		Τ		NATIONAL E	NVIRONMEN	TAL MANAGEM	IENT ACT: W	ASTE ACT, ACT NO. 5	59 OF 2008		
	MINE SHAFT AREAS						MINE SHA	AFT AREAS				I
Coal handling infrastructure (shaft, bunker workshops, offices and stockpiles)	Impact on water quality: Removal of surface infrastructure, with potential increase in suspended solids in runoff from the site. In most instances, removal of infrastructure will have positive impact in terms of storm water management.	1	0	1	0	1	1	0	4	Cl	Possible	Level 6 Risk
Water management infrastructure	Impact on water quality: The PCD will remain in place post closure and will therefore contain any impacts on runoff water resulting from the decommissioning and removal of infrastructure during this phase. No impact expected.	0	0	0	0	0	0	0	0	C1	Unforeseen	Level 6 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDEF	RGROUND MI	NING ACTIVITI	ES OF THE N	O.S 2 AND 4 COAL SE	AM		
Underground mining	Impact on catchment yield: Decommissioning will not significantly change the operational loss in yield.	2	0	3	3	1	0	2	11	C3	Likely	Level 5 Risk
Potential mine water discharge	Impact on water quality: Once mining and related dewatering ceases, water levels will begin to recover. Levels not expected to reach decant levels until 80 to 100 years after mining ceases, well after decommissioning. Unlikely that water from the mining area will affect the environment during decommissioning	4	2	3	3	1	3	3	19	C6	Almost Certain	Level 1 Risk
C	ONVEYOR BELT ROUTE				1		CONVEYOR	BELT ROUTH	2		1	
Decommissioning and dismantling of conveyor	Impact on water quality: Removal of surface infrastructure, with potential increase in suspended solids in runoff from the site. In most instances, removal of infrastructure will have positive impact in terms of storm water management.	1	0	1	0	1	1	0	4	C1	Possible	Level 6 Risk
OPERATIONAL PHASE ACTIVITIES			_		Criteria for De	etermining Seve	erity		-			
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Plant Life						Plan	ıt Life	L		•	I
LISTED ACTIVITIES AT SHONDONI IN TERMS OF NEMA	(ACT 107 OF 1998): GN 386 ACTIVITIES			LIS	STED ACTIVITI	ES AT SHOND	ONI IN TERMS	OF NEMA (AG	CT 107 OF 1998): GN 38	86 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of	Continuous alien plant invasions, habitat deterioration, change in physical abiotic	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
more than 250 tons but less than 100 000 tons - Activity 1 (c). Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10	conditions, potential spillages. Continuous alien plant invasions, habitat deterioration, change in physical abiotic	2	0	1	2	1	1	2	9	C2	Likely	Level 6 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres	Spillages from the dam leading to a change in the physical abiotic conditions.	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4Risk
Disel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres. Activity 7	Spillages from diesel tanks leading to a change in the physical abiotic conditions.	2	0	1	2	1	1	2	9	C2	Possible	Level 6 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Alien plant invasions during the operation of the site.	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Alien plant invasions during the operation of the site.	1	0	1	2	1	1	2	8	C2	Highly unlikely	Level 6 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Spillages along the access roads leading to a change in the physical abiotic conditions.	2	0	1	2	1	1	3	10	C3	Possible	Level 5 Risk
LISTED ACTIVITIES AT SHONDONI IN TERMS OF NEMA	(ACT 107 OF 1998): GN 387 ACTIVITIES		1	LIS	STED ACTIVITI	ES AT SHOND	ONI IN TERMS	OF NEMA (AG	CT 107 OF 1998): GN 38	87 ACTIVITIES	н 1	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	3	0	2	1	1	1	2	10	C3	Likely	Level 5 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	3	0	2	1	1	1	2	10	C3	Likely	Level 5 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	3	0	2	1	1	1	2	10	C3	Likely	Level 5 Risk
NATIONAL WATER ACT (ACT 36 OF 1998): SECTION 40 Taking water from a water resource - Section 21 (a)	Change in physical abiotic conditions	2	0	1	2	NATIONAL 1	WATER ACT (A	2 2	8): SECTION 40 10	C3	Possible	Level 5 Risk
Impeding or diverting the flow of water in a watercourse - Section	Alien plant invasions, habitat deterioration, change in physical abiotic conditions	2	0	1	2	1	2	2	10	C3	Almost Certain	Level 4Risk
21 (c). Disposing of waste in a manner which may detrimentally impact	Change in physical abiotic conditions	2	1	1	2	1	2	2	10	C3	Possible	Level 5 Risk
on a water resource - Section 21 (g). Altering the bed, banks, course or characteristics of a watercourse	Alien plant invasions, habitat deterioration, change in physical abiotic conditions	2	0	1	2	1	2	2	10	C3	Almost Certain	Level 4Risk
- Section 21 (i). Exemptions from GNP 704	Fine in casions, month developments, energy in physical ability containings.						Exemptions	from GNP 704	10		- most certain	Letter Heisk
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged,	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk



					Criteria for De	etermining Sever	rity					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
undermined, unstable or cracked - Regulation 4(a). No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	2	0	1	2	1	1	2	9	C2	Almost Certain	Level 5 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	1	0	1	2	1	1	2	8	C2	Almost Certain	Level 5 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	1	0	1	2	1	1	2	8	C2	Almost Certain	Level 5 Risk
NATIONAL ENVIRONMENTAL MANAGEMENT ACT: WA	STE ACT, ACT NO. 59 OF 2008	-			NATIONAL E	NVIRONMENT	AL MANAGEM	ENT ACT: WA	STE ACT, ACT NO. 5	59 OF 2008		
INEIVIWA Section 19(3) and GN /18.	Habitat deterioration, change in physical abiotic conditions	2				1	I I	2 FT ADEAS	9	C2	Likely	Level 6 Risk
Operation of the shaft complex at Shondoni	Alien plant invasions	1	0	1	2	1	1	2	8	C2	Likely	Level 6 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	Alien plant invasions	1	0	1	2	1	1	2	8	C2	Likely	Level 6 Risk
UNDERGROUND MINING ACTIVITIES OF THE NO.S 2 AN	D 4 COAL SEAM				UNDER	GROUND MIN	ING ACTIVITI	ES OF THE NO	S 2 AND 4 COAL SE	AM		
None.	None.								0			<u> </u>
CONVEYOR BELT ROUTE	Alian plant invasions, habitat datarianation, abango in physical abiatic conditions	4	0	1	2	1	CONVEYOR	BELT ROUTE	12	C2	Likoly	Lovel 5 Dick
Operation of the conveyor	Anen plant invasions, nabitat deterioration, enange in physical abiotic conditions.	4	0		Critaria for De	1	1	3	12	0	Likely	Level 5 Kisk
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
									IOTAL			
	Activity Description Impact Identification/Description											
	Animal Life						Anim	al Life				
LISTED ACTIVITIES AT SHONDONI	Animal Life N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LIS	TED ACTIVITI	ES AT SHONDO	Anim	al Life OF NEMA (AC	Г 107 OF 1998): GN 38	86 ACTIVITIES		
LISTED ACTIVITIES AT SHONDONI 1 Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Animal Life N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna	4	0	1	2	ES AT SHONDO	Anim ONI IN TERMS	al Life OF NEMA (AC 2	<mark>Г 107 ОF 1998): GN 3</mark> 11	66 ACTIVITIES C3	Almost Certain	Level 4Risk
LISTED ACTIVITIES AT SHONDONI I Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c). Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Animal Life           N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES           Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.	4	0	1 1	2 2 2	ES AT SHONDO	Anim ONI IN TERMS ( 1 1 1 1	al Life OF NEMA (ACC 2 2 2	<mark>Г 107 ОГ 1998): GN 33</mark> 11 9	C3 C2	Almost Certain Almost Certain	Level 4Risk Level 5 Risk
LISTED ACTIVITIES AT SHONDONI           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Animal Life         N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.	4	0	1 1 1	2 2 2 2	ES AT SHONDO	Anim DNI IN TERMS ( 1 1 1	al Life OF NEMA (ACC 2 2 2 2 2	<mark>Г 107 ОГ 1998): GN 33</mark> 11 9 11	C3 C2 C3 C2	Almost Certain Almost Certain Almost Certain	Level 4Risk Level 5 Risk Level 4Risk
LISTED ACTIVITIES AT SHONDONI           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Animal Life         N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-esta	4 2 4 2 2 2	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	LIS	2 2 2 2 2 2	ES AT SHONDO	Anim ONI IN TERMS ( 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	al Life DF NEMA (ACC 2 2 2 2 2 2 2 2	F 107 OF 1998): GN 33 11 9 11 11 9	C3 C2 C3 C2 C2 C2 C2 C2	Almost Certain Almost Certain Almost Certain Almost Certain	Level 4Risk Level 5 Risk Level 5 Risk Level 5 Risk
LISTED ACTIVITIES AT SHONDONI           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Animal Life         N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-esta	4 2 4 2 2 2	0 0 0 0 0	LIS	2 2 2 2 2 2 2 2 2	ES AT SHONDO 1 1 1 1 1 1	Anim ONI IN TERMS ( 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	al Life OF NEMA (ACC 2 2 2 2 2 2 2 2 2 2 2 2 2	<u>г 107 OF 1998): GN 33</u> 11 9 11 9 9 9 9 9	C3 C2 C3 C2 C2 C2 C2 C2 C2 C2	Almost Certain Almost Certain Almost Certain Almost Certain Almost Certain	Level 4Risk       Level 5 Risk       Level 5 Risk       Level 5 Risk
LISTED ACTIVITIES AT SHONDONI           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Animal Life         N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITES         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-estab	4 2 4 2 2 2 4			2       2	ES AT SHONDO 1  1  1  1  1  1  1  1  1  1  1  1  1	Anim ONI IN TERMS ( 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	al Life OF NEMA (AC 2 2 2 2 2 2 2 2 2 2 2 2 2	<mark>Г 107 ОГ 1998): GN 33</mark> 11 9 11 9 9 9 9 9 11	S6 ACTIVITIES         C3         C2         C3         C2         C3         C2         C3         C2         C3	Almost Certain	Level 4Risk Level 5 Risk Level 5 Risk Level 5 Risk Level 5 Risk
LISTED ACTIVITIES AT SHONDONI 1           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.           Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Animal Life         N TERMS OF NEMA (ACT 107 OF 1998); CN 386 ACTIVITES         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-estab	4 2 4 2 2 2 4 4 ~	0 0 0 0 0 0 0 0		2       2 <t< td=""><td>ES AT SHONDO 1  1  1  1  1  1  1  1  1  1  1  1  1</td><td>Anim ONI IN TERMS (  1  1  1  1  1  1  1  1  1  1  1  1  1</td><td>al Life DF NEMA (AC 2 2 2 2 2 2 2 2 2 2 2 2 2</td><td>F 107 OF 1998): GN 33         11         9         11         9         11         9         11         9         11         9         11         9         11         11         9         11         7</td><td>86 ACTIVITIES         C3         C2         C3         C2         C3         C2         C3         C2         C3         C2         C3         C3    </td><td>Almost Certain Almost Certain Almost Certain Almost Certain Almost Certain Almost Certain</td><td>Level 4Risk Level 5 Risk Level 5 Risk Level 5 Risk Level 5 Risk Level 4 Risk Level 7 Risk</td></t<>	ES AT SHONDO 1  1  1  1  1  1  1  1  1  1  1  1  1	Anim ONI IN TERMS (  1  1  1  1  1  1  1  1  1  1  1  1  1	al Life DF NEMA (AC 2 2 2 2 2 2 2 2 2 2 2 2 2	F 107 OF 1998): GN 33         11         9         11         9         11         9         11         9         11         9         11         9         11         11         9         11         7	86 ACTIVITIES         C3         C2         C3         C2         C3         C2         C3         C2         C3         C2         C3         C3	Almost Certain Almost Certain Almost Certain Almost Certain Almost Certain Almost Certain	Level 4Risk Level 5 Risk Level 5 Risk Level 5 Risk Level 5 Risk Level 4 Risk Level 7 Risk
LISTED ACTIVITIES AT SHONDONI           Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).           Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).           Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).           Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.           Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.           Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.           Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.           Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Animal Life         N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.         Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-esta	4 2 4 2 2 2 4 2 4 2 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0		2       2	ES AT SHONDO 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Anim INI IN TERMS ( 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	al Life OF NEMA (ACC 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	I 107 OF 1998): GN 33         11         9         11         9         11         9         11         9         11         9         11         9         11         9         11         2         9         11         2         9         3         11         2         3 <td>S6 ACTIVITIES         C3         C2         C3         ~         C2</td> <td>Almost Certain Almost Certain</td> <td>Level 4Risk Level 5 Risk Level 5 Risk Level 5 Risk Level 5 Risk Level 4 Risk Level 5 Risk Level 4 Risk</td>	S6 ACTIVITIES         C3         C2         C3         ~         C2	Almost Certain	Level 4Risk Level 5 Risk Level 5 Risk Level 5 Risk Level 5 Risk Level 4 Risk Level 5 Risk Level 4 Risk



		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and											
LISTED ACTIVITIES AT SHONDONI I	nabitat for fauna. IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LIS	TED ACTIVITI	ES AT SHONDO	ONI IN TERMS	OF NEMA (AC	CT 107 OF 1998): GN 38	87 ACTIVITIES		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (l).	Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4Risk
NATIONAL WAT	ER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL	WATER ACT (A	ACT 36 OF 199	8): SECTION 40			
Impeding or diverting the flow of water in a watercourse - Section 21 (a).	Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna	3	0	2	2		1	2		~ C3	~ Almost Certain	~ Level 4Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.	3	0	2	2	1	1	2	11	C3	Almost Certain	Level 4Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
E No person in control of a mina or activity may locate or place any	Exemptions from GNR 704			1			Exemptions f	from GNR 704			[	
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.	4	0	2	2	1	2	2	13	C3	Almost Certain	Level 4Risk
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.	4	0	2	2	1	2	2	13	C3	Almost Certain	Level 4Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.	4	0	2	2	1	2	2	13	C3	Almost Certain	Level 4Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Habitat Loss, Habitat Disturbance and Loss of Red Data List fauna: The clearing/removal/demolition of infrastructure will cause habitat loss, accidental death Red data List fauna, and will leave cleared areas which may become populated with exotic, pioneer plant species, thereby preventing the re-establishment of the natural vegetation and habitat for fauna.	4	0	2	2	1	2	2	13	C3	Almost Certain	Level 4Risk
NATIONAL ENVIRONMENTAL N NEMWA Section 19(3) and GN 718.	NANAGEMENT AUT: WASTE ACT, ACT NO. 59 OF 2008 Not Applicable	~	~	~	NATIONAL E	NVIKONMENT ~	AL MANAGEM	ENT ACT: WA	ASTE ACT, ACT NO. 5 ~	~ ~	~	~
	MINE SHAFT AREAS		ı	ı		ı	MINE SHA	AFT AREAS				
Decommissioning of the Shaft Area Infrastructure	Habitat Disturbance	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4Risk
Decommissioning of the Shaft Area Infrastructure	Loss of Red Data List fauna	4	0	2	2	1	1	2	12	C3	Almost Certain	Level 4Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM		·	·	UNDER	RGROUND MIN	ING ACTIVITI	ES OF THE NO	D.S 2 AND 4 COAL SE	AM		
	Not Applicable	~	~	~	~	~	CONVEYOP	~ BELT ROUTE	~	~	~	~
Decommissioning of the Conveyer Belt and the fenced servitude between the Shondoni Shaft Complex and the Middelbult Main Shaft Conveyer	Habitat Disturbance	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4Risk
Decommissioning of the Conveyer Belt and the fenced servitude	Habitat Loss	4	0	1	2	1	1	2	11	C3	Almost Certain	Level 4Risk



		Criteria for Determining Severity										Disk Land
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Before Mitigation
between the Shondoni Shaft Complex and the Middelbult Main Shaft Conveyer												
Decommissioning of the Conveyer Belt and the fenced servitude between the Shondoni Shaft Complex and the Middelbult Main Shaft Conveyer	Loss of Red Data List fauna	4	0	2	2	1	1	2	12	C3	Almost Certain	Level 4Risk
					Criteria for De	etermining Sever	rity					Pick I ovol
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Before Mitigation
	Wetlands						Wet	lands				
LISTED ACTIVITIES AT SHONDONI I	N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES		T	LIS	STED ACTIVITI	ES AT SHONDO	ONI IN TERMS	OF NEMA (AC	T 107 OF 1998): GN 3	86 ACTIVITIES	1	
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Decommissioning of the stockpile will involve the removal of all infrastructure associated with the stockpile as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	2	1	1	1	1	1	2	9	C2	Almost Certain	Level 5 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Removal of the conveyor pedestal will result in similar impacts to its construction, namely increased sediment inputs to the Trichardtspruit, increased erosion risk, disturbance to the vegetation and an increase in alien vegetation.	2	1	1	1	1	1	2	9	C2	Almost Certain	Level 5 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Decommissioning of the dams will involve the removal of all infrastructure associated with the dams as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	2	1	1	1	1	1	2	9	C2	Almost Certain	Level 5 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Removal of the conveyor pedestal will result in similar impacts to its construction, namely increased sediment inputs to the Trichardtspruit, increased erosion risk, disturbance to the vegetation and an increase in alien vegetation.	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Decommissioning of the tanks will involve the removal of all infrastructure associated with the tanks as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	2	1	1	1	1	1	2	9	C2	Almost Certain	Level 5 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	No natural vegetation will be removed as part of the decommissioning process. Only vegetation within the footprint of the shaft area might be impacted. This impact is dealt with under the appropriate sections above and below.	~	~	~	~	~	~	~	~	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Dewatering will cease during decommissioning. No impact	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Decommissioning of the station will involve the removal of all infrastructure associated with the station as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	2	1	1	1	1	1	2	9	C2	Almost Certain	Level 5 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Decommissioning of the road will involve the removal of the road and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	2	1	1	1	1	1	2	9	C2	Almost Certain	Level 5 Risk
LISTED ACTIVITIES AT SHONDONI I	N TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		l	LIS	STED ACTIVITI	ES AT SHONDO	ONI IN TERMS	OF NEMA (AC	T 107 OF 1998): GN 3	87 ACTIVITIES	I	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (l).	Decommissioning of the power line will involve the removal of all infrastructure associated with the power line and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	1	1	1	1	1	2	2	9	C2	Almost Certain	Level 5 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Decommissioning of the conveyor will involve the removal of all infrastructure associated with the conveyor and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run- off.	1	1	1	1	1	2	2	9	C2	Almost Certain	Level 5 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Decommissioning of the shaft area will involve the removal of all infrastructure associated with the shaft area as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	1	1	1	1	1	2	2	9	C2	Almost Certain	Level 5 Risk
NATIONAL WAT	ER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL	WATER ACT (A	CT 36 OF 1998	S): SECTION 40			
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	During decommissioning impeding structures will be removed. This will result in increased sediment inputs to the wetlands increased erosion risk, disturbance to the vegetation and an increase in alien vegetation.	2	1	1	- 1	- 1	2	2	~ 10	~ C2	~ Almost Certain	~ Level 5 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Discharge of waste water will cease at the end of the operational phase.	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Disposal of waste will cease at the end of the operational phase. However, disposed waste could still contribute to water quality deterioration through leaching of pollutants.	2	1	1	1	1	2	2	10	C2	Likely	Level 5 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	This impact will occur mostly during the construction phase. However, removal of infrastructure located within water courses could results in increased sediment inputs to the wetlands increased erosion risk, disturbance to the vegetation and an increase in alien vegetation.	2	1	1	1	1	2	2	10	C2	Almost Certain	Level 5 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Water abstraction and discharge will cease upon the end of the operational stage.	~	~	~	~	~	~	~	~	~	~	~
E	xemptions from GNR 704						Exemptions f	rom GNR 704	4.0			
No person in control of a mine or activity may locate or place any	Decommissioning of the mine will involve the removal of all infrastructure associated with	2	1	1	1	1	2	2	10	C3	Almost Certain	Level 5 Risk



		Criteria for Determining Severity										Disk I and
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Before Mitigation
residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	the mine as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.											
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Undermining of wetlands could result in wetland loss and degradation where surface subsidence occurs. Fractures in the strata underlying the wetlands could result in loss of surface water to groundwater, leading to desiccation of wetlands and changes in species composition.	2	0	1	3	1	3	2	12	C3	Likely	Level 5 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Decommissioning of the mine will involve the removal of all infrastructure associated with the mine as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	2	1	1	1	1	2	2	10	C3	Almost Certain	Level 5 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Decommissioning of the mine will involve the removal of all infrastructure associated with the mine as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	2	1	1	1	1	2	2	10	C3	Almost Certain	Level 5 Risk
NATIONAL ENVIRONMENTAL N	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008		[	[	NATIONAL E	NVIRONMENT	AL MANAGEM	ENT ACT: WA	ASTE ACT, ACT NO. 5	59 OF 2008		
NEMWA Section 19(3) and GN 718.	associated with the sewage plant as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	2	1	1	1	1	2		9	C2	Almost Certain	Level 5 Risk
	MINE SHAFT AKEAS		[	[			MINE SHA	FT AKEAS				
Decommissioning the Shondoni shaft area	with the shaft area as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	2	1	1	1	1	2	1	9	C2	Almost Certain	Level 5 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	Decommissioning of the shaft area will involve the removal of all infrastructure associated with the shaft area as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	2	1	1	1	1	2	1	9	C2	Almost Certain	Level 5 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM			1	UNDER	GROUND MIN	ING ACTIVITI	ES OF THE NO	D.S 2 AND 4 COAL SE	AM		
Underground mining.	Undermining of wetlands could result in wetland loss and degradation where surface subsidence occurs. Fractures in the strata underlying the wetlands could result in loss of surface water to groundwater, leading to desiccation of wetlands and changes in species composition.	2	0	3	3	1	3	1	13	C3	Likely	Level 4 Risk
CO	ONVEYOR BELT ROUTE		0	T	1	-	CONVEYOR	BELT ROUTE		1		
Decommissioning the conveyor	Decommissioning of the conveyor will involve the removal of all infrastructure associated with the conveyor as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	2	1	1	1	1	2	1	9	C2	Almost Certain	Level 5 Risk
				_	Criteria for De	etermining Sever	ity					Risk Level
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Before Mitigation
	Aquatic Ecosystems						Aquatic E	Cosystems				
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LIS	TED ACTIVITI	ES AT SHONDO	NI IN TERMS	OF NEMA (AC	CT 107 OF 1998): GN 3	86 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Decommissioning of the stockpile will involve the removal of all infrastructure associated with the stockpile as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off. Surface water may be contaminated with coal dust.	4	1	1	1	1	2	3	13	C3	Almost Certain	Level 4 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Mobilisation of sediments, increased suspended solids and turbidity in receiving watercourses, invasion by alien vegetation	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Contamination of surface water or groundwater as a result of sediment mobilisation, spills or seepage	4	1	1	1	1	2	2	12	3	Possible	Level 5 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Mobilisation of sediments, increased suspended solids and turbidity in receiving watercourse, invasion by alien vegetation	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Mobilisation of sediments, increased sediment loads in drainage lines	1	0	1	0	1	0	0	3	1	Likely	Level 6 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Mobilisation of sediments, increased sediment loads in drainage lines	1	0	1	0	1	0	0	3	1	Likely	Level 6 Risk
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient	No dewatering during decommissioning	~	~	~	~	~	~	~	~	~	~	~



Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
continuation of mining and for the safety of people - Activity 13. Installation of a Tetra Radio System above ground at the Shaft												
Complex Area - Activity 14.	Mobilisation of sediments, increased sediment loads and storm water runoff in drainage	~	~	~	~	~	~	~	~	~	~	~
Shaft Complex from Tar road R547 - Activity 15.	lines	1	0	1	0	1	0	0	3	1	Likely	Level 6 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES				STED ACTIVITI	ES AT SHONDO	ONI IN TERMS	OF NEMA (AC	CT 107 OF 1998): GN 38	87 ACTIVITIES		
from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (l).	Mobilisation of sediments, increased suspended solids and turbidity in receiving watercourses, invasion by alien vegetation	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Mobilisation of sediments, increased suspended solids and turbidity in receiving watercourses, invasion by alien vegetation	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Mobilisation of sediments, increased suspended solids and turbidity in receiving watercourses, erosion and invasion by alien vegetation	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40			-		NATIONAL	WATER ACT (A	CT 36 OF 199	8): SECTION 40			
Taking water from a water resource - Section 21 (a).           Impeding or diverting the flow of water in a watercourse - Section 21 (c).	During decommissioning impeding structures will be removed. This will result in increased sediment inputs to the wetlands increased erosion risk, disturbance to the vegetation and an increase in alien vegetation	4	- 1	- 1	- 1	~ 1	2	3	- 13	~ C3	~ Almost Certain	~ Level 4 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f)	No dewatering during decommissioning	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource $\sim$ Section 21 (g)	Disposal of waste will cease at the end of the operational phase. However, disposed waste could still contribute to water quality deterioration through leaching of pollutants	4	1	1	1	1	2	3	13	C3	Likely	Level 5 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i)	Mobilisation of sediments, increased suspended solids and turbidity and erosion at stream crossings	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (i)	No dewatering during decommissioning	~	~	~	~	~	~	~	~	~	~	~
He salety of people - Section 21 ().	Exemptions from GNR 704					1	Exemptions f	from GNR 704			<b>I</b>	<b>I</b>
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-	Mobilisation of sediments, increased suspended solids and turbidity in receiving watercourses, erosion and invasion by alien vegetation	2	0	2	0	1	2	3	10	3		Level 4 Risk
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 4(a). No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Undermining of wetlands could result in wetland loss and degradation where surface subsidence occurs. Fractures in the strata underlying the wetlands could result in loss of surface water to groundwater, leading to desiccation of wetlands and changes in species composition.	1	0	2	3	1	3	3	13	3	Almost Certain Likely	Level 5 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Mobilisation of sediments, increased suspended solids and turbidity in receiving watercourses, erosion and invasion by alien vegetation	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Mobilisation of sediments, increased suspended solids and turbidity in receiving watercourses, erosion and invasion by alien vegetation	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL E	NVIRONMENT	TAL MANAGEM	ENT ACT: WA	ASTE ACT, ACT NO. 5	59 OF 2008		
NEMWA Section 19(3) and GN 718.	associated with the sewage plant as well as the removal of contaminated soil (if any), and the landscaping of the footprint to the surrounding landscape profile. This will result in increased sediment transport into the wetlands and increased surface run-off.	4	1	1	1	1	2 MINE SH	3	13	C3	Almost Certain	Level 4 Risk
	Acidification of surface and groundwater as a result of seepage from stockpiles or overspill	2	2	2		1			12	2	Y 11	Land C.D. 1
Decommissioning of the shaft complex at Shondoni	from pollution dams Mobilisation of sediments and increased surface runoff	2	0	3 1	0	1	1	2	7	2	Almost Certain	Level 5 Risk
Decommissioning of the shaft complex at Shondoni	Erosion caused by stomacher	2	0	0	0	1	1	2	6	2	Likely	Level 6 Risk
Decommissioning of the shaft complex at Shondoni Shaft Complex	Solid Waste Invasion by alien vegetation	2	2	2	0	1	2	2	11	3	Almost Certain	Level 4 Risk
Coal spills/coal dust	Pollution of surface water	1	2	3	1	1	3	2	13	3	Almost Certain	Level 4 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM		-	-			-	-				
Underground mining and slimes dam	Acid Mine Drainage: increasing acidification and salinisation of surface and ground water	1	2	2	2	1	2	3	13	3	Almost Certain	Level 4 Risk
Subsidence	subsidence occurs. Fractures in the strata underlying the wetlands could result in loss of surface water to groundwater, leading to desiccation of wetlands and changes in species composition.	1	0	1	2	1	2	3	10	3	Likely	Level 5 Risk
Contamination by mine water (spills/subsidence/seepage)	Loss of sensitive taxa and biodiversity	1	2	2	2	1	2 CONVEXOP	3 BELT ROUTE	13	3	Almost Certain	Level 4 Risk
Deconstruction of pedicels and conveyor tunnels/road crossings	Mobilisation of sediments, increased suspended solids and turbidity in streams and	2	0	2	0	1	2	3	10	3	Almost Certain	Level 4 Risk



Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Air Onality					<u> </u>	Air C	)uality				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LI	STED ACTIVITI	ES AT SHONDO	ONI IN TERMS	OF NEMA (AC	CT 107 OF 1998): GN 3	386 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 vear flood line) - Activity 1 (m).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Shaft Complex from Tar road R547 - Activity 15.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI I Construction of a Double Circuit 132 kV Overhead Poweline from	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES				STED ACTIVITI	ES AT SHONDO	ONI IN TERMS	OF NEMA (AC	CT 107 OF 1998): GN 3	387 ACTIVITIES		T
Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40	~	~	~	~	NATIONAL	WATER ACT (A	CT 36 OF 1998	8): SECTION 40	~	~	~
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging of disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may locate or place any	Exemptions from GNR 704						Exemptions f	rom GNR 704				
residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008				NATIONAL E	NVIRONMENT	AL MANAGEM	ENT ACT: WA	ASTE ACT, ACT NO.	59 OF 2008		



		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
NEMWA Section 19(3) and GN 718.	Not Applicable MINE SHAFT AREAS	~	~	~	~	~	~ MINE SHA	~ FT AREAS	~	~	~	~
Decommissioning of Shondoni shaft area	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft)	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDER	RGROUND MIN	ING ACTIVITI	ES OF THE NO	D.S 2 AND 4 COAL SE	AM		
	Not Applicable	~	~	~	~	~		~	~	~	~	~
	Deconstruction vehicles will create localised secondary fugitive dust and gaseous particles	-					CONVEYOR	BELT KOUTE	-	~		
Decommissioning of the conveyor belt.	due to construction activities at the conveyour belt.	1	0	1	1	0	1	1	5	C2	LOW	Level 6 Risk
				1	Criteria for D	etermining Seve	rity			SEVERITY C-	Degree Of	Risk Level
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	NUMBER	Likelihood	Before Mitigation
	Noise						No	oise				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LI	STED ACTIVITI	ES AT SHOND	ONI IN TERMS	OF NEMA (AC	CT 107 OF 1998): GN 38	86 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 toos but less than 100,000 toos. Activity 1 (c)	N/A	~	~	~	~	~	~	~	~	~	~	~
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity I (m).	N/A	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	N/A	~	~	~	~	~	~	~	~	~	~	~
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	N/A	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	N/A	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	N/A	~	~	~	~	~	~	~	~	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	N/A	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	N/A	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15	N/A	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LI	STED ACTIVITI	ES AT SHOND	ONI IN TERMS	OF NEMA (AC	CT 107 OF 1998): GN 38	<b>37 ACTIVITIES</b>		
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	N/A	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a	N/A	~	~	~	~	~	~	~	~	~	~	~
rate of more than 50 cubic meters per day - Activity 1 (j). Development of an area including shaft surface infrastructure and	N/A											
2.		~	~	~	~	-	~		-	~	~	~
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40		T	Г	T	NATIONAL	WATER ACT (A	CT 36 OF 1998	8): SECTION 40			1
Impeding or diverting the flow of water in a watercourse - Section	N/A	~	~	~	~	~	~	~	~	~	~	~
<ul> <li>21 (c).</li> <li>Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section</li> </ul>	N/A	~	~	~	~	~	~	~	~	~	~	~
21 (f). Disposing of waste in a manner which may detrimentally impact	N/A	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse	N/A	~	~	~	~	~	~	~	~	~	~	~
<ul> <li>Section 21 (i).</li> <li>Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for</li> </ul>	N/A	~	~	~	~	~	~	~	~	~	~	~
the safety of people - Section 21 (j).												
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or	exemptions from GNR 704						Exemptions f	rom GNR 704				
within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined untethe or greated. Regulations (i.e., 40)	N/A	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation	N/A	~	~	~	~	~	~	~	~	~	~	~
						-					-	



Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).												
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	N/A	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	N/A	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL N	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008			1	NATIONAL E	NVIRONMENT	AL MANAGEM	ENT ACT: WA	ASTE ACT, ACT NO. 5	9 OF 2008		
NEMWA Section 19(3) and GN 718.	MINE SHAFT AREAS	~	~	~	~	~	~ MINE SHA	~ FT AREAS	~	~	~	~
Dismantling and vehicles on access road	Dismantling construction noise	0	0	0	0	0		0	0	C1	Likely	Level 6 Risk
UNDERGROUND MINING	AUTIVITIES OF THE NUS 2 AND 4 COAL SEAM N/A	~	~	~	UNDER ~	GKOUND MIN ~	ING ACTIVITII ~	ES OF THE NO	D.5 Z AND 4 COAL SEA ~	~	~	~
CO	ONVEYOR BELT ROUTE	-	-	-	-	-	CONVEYOR	BELT ROUTE	-		<b>.</b>	
Dismantling and vehicles on service road	Dismantling construction noise	0	0	0	0	0	0	0	0	C1	Likely	Level 6 Risk
					Criteria for De	etermining Sever	rity					Dick Lovel
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Before Mitigation
	Visuals						Vis	uals				
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES		1	LIS	TED ACTIVITI	ES AT SHONDO	ONI IN TERMS	OF NEMA (AC	CT 107 OF 1998): GN 38	6 ACTIVITIES		
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Decommissioning of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Complex Area - Activity 14.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Decommissioning of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI I Decommissioning of a Double Circuit 132 kV Querhead Power	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LIS	TED ACTIVITI	ES AT SHONDO	ONI IN TERMS (	OF NEMA (AC	CT 107 OF 1998): GN 38	7 ACTIVITIES		
line from Eskon Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Decommissioning of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT	ER ACT (ACT 36 OF 1998): SECTION 40	~	~	~	~	NATIONAL	WATER ACT (A	CT 36 OF 1998	8): SECTION 40	~	~	~
Impeding or diverting the flow of water in a watercourse - Section	Not Applicable											
21 (c). Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
21 (f). Disposing of waste in a manner which may detrimentally impact	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
on a water resource - Section 21 (g). Altering the bed, banks, course or characteristics of a watercourse	Not Applicable											
- Section 21 (i).	not Applicable	~	~	~	~	~	~	~	~	~	~	~



		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
F	Exemptions from GNR 704		1	1	T	1	Exemptions f	rom GNR 704		T		
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the Decommissioning of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008		•	-	NATIONAL E	NVIRONMENT	TAL MANAGEM	ENT ACT: WA	ASTE ACT, ACT NO. 5	59 OF 2008		
	Not Applicable	~	~	~	~	~	~	~	~	~	~	~
Demolition Activities and removal of infrastructure	Highly visible from R547: has impact on short to medium range views on road users	0	0	0	1	1		1 AREAS	4	Cl	Almost Certain	Level 6 Rick
2 calonición recevines una removar or initastructure	Visibility impact for long range views from east	0	0	0	1	0	0	2	3	Cl	Likelv	Level 6 Risk
	Alterations to Landscape and Visual Character (Morphology & Topography)	0	0	1	1	-1	0	2	3	C1	Almost Certain	Level 6 Risk
Re-establishing of Vegetation	Highly visible from R547; has impact on short to medium range views on road users	0	0	1	0	-1	0	1	1	C1	Almost Certain	Level 6 Risk
	Alterations to Landscape and Visual Character (Vegetation & Land cover)	0	0	1	0	-1	0	1	1	C1	Almost Certain	Level 6 Risk
	Alterations to Landscape and Visual Character (Hydrology)	0	0	1	0	-1	0	1	1	C1	Likely	Level 6 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM		T	T	UNDEF	RGROUND MIN	NING ACTIVITI	ES OF THE NO	D.S 2 AND 4 COAL SE	AM	-	
None.	NOT Applicable	~	~	~	~	~	~ CONVEVOR	~ BELT POLITE	~	~	~	~
	Highly visible from R547 and Brendan Village: has impact on short to medium range views		1	1		1	CONVETOR	BELT KOUTE	1			
Removal of Conveyor Belt	on road users and residents	0	0	1	0	0	0	2	3	C1	Almost Certain	Level 6 Risk
	Visibility impact for long range views	0	0	1	0	0	0	2	3	C1	Almost Certain	Level 6 Risk
	Alterations to Landscape and Visual Character (Morphology & Topography)	0	0	1	0	0	0	2	3	C1	Almost Certain	Level 6 Risk
	Visual Exposure impact for road users of R547 as well as Brendan Village residents	0	0	1	0	1	0	2	4	CI	Almost Certain	Level 6 Risk
Re-establishing of Vegetation	Village residents	0	0	1	0	-1	0	2	2	C1	Almost Certain	Level 6 Risk
	Alterations to Landscape and Visual Character (Vegetation & Landcover)	0	0	1	0	-1	0	1	1	C1	Almost Certain	Level 6 Risk
	Alterations to Landscape and Visual Character (Hydrology)	0	0	1	0	-1	0	1	1	C1	Likely	Level 6 Risk
					Criteria for D	etermining Seve	rity					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Heritage						Her	itage				
Heritage Impac	ts only applicable for Construction Phase					Heritage In	npacts only appli	cable for Const	ruction Phase			
					Criteria for D	etermining Seve	rity					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Socio-Economic						Socio-E	conomic				
Please refer to	Sasol Shondoni Social and Labour Plan	Socio-Economic Please refer to Sasol Shondoni Social and Labour Plan										



## 6.5.4 Post Closure Phase Impact Significance Table

POST CLOSURE PHASE ACTIVITIES				C	riteria for Deter	mining Severity						
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Topography						Topogra	aphy				
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LISTE	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	F NEMA (ACT	C 107 OF 1998): O	GN 386 ACTIVITIE	8	
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		r	LISTH	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	F NEMA (ACT	107 OF 1998): G	SN 387 ACTIVITIE	S	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
NATIONAL WAT	ER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL W	ATER ACT (AC	T 36 OF 1998)	: SECTION 40	1		
Taking water from a water resource - Section 21 (a).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
21 (c).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Discharging waste of water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
E	Exemptions from GNR 704						Exemptions fro	m GNR 704	1	,		
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	~	~	~	~	~	~	~	~	~	~	~



POST CLOSURE PHASE ACTIVITIES				(	Criteria for Deter	mining Severity						
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
or estuary - Regulation 4(d).												
No person in control of a mine or activity may use any residue or												
substance which causes or is likely to cause pollution of a water	Habitat destruction, loss of populations of threatened plant species, loss of populations of											
resource for the construction of any dam or other impoundment or any embandment road or railway or for any other purpose which	medicinal plant species, habitat fragmentation.	~	~	~	~	~	~	~	~	~	~	~
is likely to cause pollution of a water resource - Regulation 5.												
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008			]	NATIONAL ENV	VIRONMENTA	L MANAGEME	NT ACT: WAS	STE ACT, ACT N	NO. 59 OF 2008		
NEMWA Section 19(3) and GN 718.	None.	~	~	~	~	~	~	~	~	~	~	~
Rehabilitation & closure	MINE SHAFT AKEAS	~	~	~	~	~	MINE SHAF	T AREAS	~	~	~	~
All other remaining operational shafts (Main Shaft, West Shaft		~	~	~	~	-	~	~	~	~		
and Ithembalethu Shaft) and decommissioned shafts (North Shaft	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
and North-West Shaft).					LINE DO			OF THE NO.				
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDERG	ROUND MININ	NG ACTIVITIES	OF THE NO.3	S 2 AND 4 COAL	L SEAM	[	
after mining activities have stopped.	Residual pillar collapse that can lead to further surface subsidence.	1	0	1	2	1	2	2	9	C2	Possible	Level 6 Risk
C	ONVEYOR BELT ROUTE		•			•	CONVEYOR BI	ELT ROUTE			•	
	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
			1	(	Criteria for Deter	mining Severity				SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL			
:	Soils and Land Capability						Soils and Land	Capability				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LIST	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	F NEMA (ACT	107 OF 1998): C	GN 386 ACTIVITIE	S	
Coal throw out stockpile area at Shondoni Shaft with a storage of	Not Applicable	~	~	~	~	~	~		~	~	~	~
more than 250 tons but less than 100 000 tons - Activity 1 (c).		~	~	~	~	-	~	~	~	~	~	
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m)	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at												
Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
000 cubic metres - Activity 7. Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
related Infrastructure - Activity 12. Removal of water found in the underground workings on the No.4												
Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13. Installations of a Tatte Dealine Sustaw above around at the Sheft	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Complex Area - Activity 14.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Shaft Complex from Tar road R547 - Activity 15.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LIST	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	F NEMA (ACT	T 107 OF 1998): 0	GN 387 ACTIVITIE	S	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 ouble meters are dow. Activity 1 (i)	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
2. NATIONAL WAT	PER ACT (ACT 36 OF 1998): SECTION 40				1	NATIONAL W	ATER ACT (AC	T 36 OF 1009	· SECTION 40	l		I
Taking water from a water resource - Section 21 (a).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
H	Exemptions from GNR 704						Exemptions fro	m GNR 704				
No person in control of a mine or activity may locate or place any	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
residue deposit, dani, reservon togenter with any associated	1	I	I		1	I	1	1	i	1	1	1



POST CLOSURE PHASE ACTIVITIES				(	Criteria for Deter	nining Severity	,					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged, undermined unstalle or gracked. Regulation 4(a)												
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008		1	]	NATIONAL ENV	IRONMENTA	L MANAGEMEN	NT ACT: WAS	STE ACT, ACT N	NO. 59 OF 2008		T
NEMWA Section 19(3) and GN 718.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
	MINE SHAFT AREAS		1	r	1		MINE SHAF	T AREAS	r	1 1		г
	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM			[	UNDERG.	ROUND MINIP	NG ACTIVITIES	OF THE NO.	S 2 AND 4 COAL	L SEAM		T
Construction and commissioning of the shaft complex at Shondoni	Depletion in the ground water availability as a result of ground water abstraction during the	~	~	~	~	~	~	~	~	~	~	~
	construction of the shaft complex.											
C	ONVEYOR BELT ROUTE		T	r			CONVEYOR BE	ELT ROUTE	T	T		1
	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
				(	Criteria for Deter	mining Severity	,			SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL			
	Ground Water						Ground V	Water				
LISTED ACTIVITIES AT SHONDONL	IN TERMS OF NEMA (ACT 107 OF 1009), CN 286 ACTIVITIES			LICT		AT SHONDON	II IN TEDMS OF	ENTEMA (ACT	107 OF 1009). C	N 206 A CTIVITIE	7	
Cool throw out stocknile area at Shondoni Shoft with a storage of	The final algorithm of a 15 000t DOM and stacknike area at Shardoni Shaft. Desidual		1		ED ACTIVITIES	AI SHUNDUP	NI IN TERMS OF		10/ OF 1998): G	51N 300 ACTIVITIE	•	
more then 250 tone but less then 100 000 tone. Activity 1 (a)	The final closure of a 15 0001 KOM coal stockpile area at Shohdoni Shah. Residual	1	1	0	0	1	1	0	4	C1	Possible	Level 6 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10	The Conveyor Pedestal will not intersect ground water, so no impact will take place during								0			
year flood line) - Activity 1 (m).	final closure.	~	~	~	~	~	~	~	0	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	The closure and final rehabilitation of the Storm Water Pollution Control Dam (SWPCD) footprint.	0	1	1	0	1	1	0	4	C2	Almost Certain	Level 6 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	The Conveyor Pedestal will not intersect ground water, so no impact will take place during final closure of the infrastructure.	~	~	~	~	~	~	~	0	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	The removal of diesel fuel storage tanks.	1	0	0	0	1	1	0	3	C2	Very Unlikely	Level 6 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LIST	ED ACTIVITIES	AT SHONDON	NI IN TERMS OF	F NEMA (ACT	<sup>•</sup> 107 OF 1998): 6	GN 387 ACTIVITIES	S	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	The removal of the Overhead Power line will not intersect ground water, so no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	The final removal of the coal conveyor belt will not intersect ground water, so no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	This activity only refers to surface disturbance. Since no ground water is intersected, no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40		1			NATIONAL W	ATER ACT (AC	Г 36 OF 1998):	: SECTION 40			
Taking water from a water resource - Section 21 (a).	After final flooding of mining sections, water will be stored in underground mining sections. IF surface treatment of ground water is required, the appropriate amendment to the	4	2	1	3	1	2	2	15	C4	Almost Certain	Level 3 Risk



POST CLOSURE PHASE ACTIVITIES		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	WULA will be made to register this water use.											
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f)	Not Applicable.	~	~	~	~	~	~	~	0	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable, since no water will be captured from any ROM stock piles removed during closure phase).	~	~	~	~	~	~	~	0	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i)	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of neonle - Section 21 (i)	Not Applicable, since no water will be moved around for closure purposes.	~	~	~	~	~	~	~	0	~	~	~
E Suicty of people Section 21 (j).	Exemptions from GNR 704						Exemptions fro	m GNR 704				
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008			1	NATIONAL ENV	VIRONMENTA	L MANAGEMEN	NT ACT: WAS	STE ACT, ACT	NO. 59 OF 2008		I
NEMWA Section 19(3) and GN 718.	Not Applicable. MINE SHAFT AREAS	~	~	~	~	~	MINE SHAF	~ T AREAS	0	~	~	~
Final closure of the shaft complex at Shondoni.	Localized depletion of ground water (if it occurred during the operational phase) will be reversed, and ground water levels will finally return to pre-mining ground water levels.	0	0	0	1	0	0	0	1	C1	Almost Certain	Level 6 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North West Shaft)	Localized depletion of ground water (if it occurred during the operational phase) will be reversed, and ground water levels will finally return to pre-mining ground water levels.	0	0	0	1	0	0	0	1	C1	Almost Certain	Level 6 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDERG	ROUND MININ	NG ACTIVITIES	OF THE NO.	S 2 AND 4 COAL	L SEAM		
The continuous influx of groundwater recharge into mine	Ground water recharge from surface will enter areas of bord and pillar and high extraction	4	1	1	2	1	3	2	14	C4	Almost Certain	Level 3 Risk
The decant of underground mine water to surface, after total flooding of mining units	After final flooding of mining sections, ground water can seep to surface due to conduit flow from high attraction subsidance mass	4	1	0	2	1	2	2	12	C3	Low	Level 5 Risk
Inter-mine and inter-section flow of ground water during the post closure phase.	Ground water resources stored in Shondoni underground mining units can migrate from one mine/section to an adjacent mine/section, due to a difference in hydraulic pressure. Flow can also be induced where flooding compartments decant into surrounding compartments due to a roll in the coal seam floor.	4	1	2	3	1	3	3	17	C5	Possible	Level 2 Risk
Continuous depletion of external users' groundwater resources and fountains due to pillar extraction mining activities of the No. 4 coal seam.	Pillar extraction mining activities can lead to sub-surface subsidence, that in turn will lead to a reduction/complete depletion of external user's borehole yields, for indefinite time frames.	2	0	1	3	1	2	2	11	C3	Low	Level 5 Risk
Depletion of stream base flow due to sub-surface subsidence of the No.4 coal seam, post-closure.	Pillar extraction mining activities can lead to sub-surface subsidence, that in turn will lead to a reduction/complete depletion of ground water base flow to rivers and non-perennial streams., for indefinite periods of time.	4	0	1	2	1	3	2	13	C3	Very Unlikely	Level 6 Risk
Deterioration in groundwater quality in all underground sections, and migration into the receiving environment, after mining activities have stopped.	Ground water recharge to underground mining units that remains in reservoirs will come in contact with coal pillars, mine floors and roofs. A gradual deterioration in ground water quality will take place over time, eventually leading to total acidification of underground mine water.	4	2	1	3	1	3	2	16	C4	Almost Certain	Level 3 Risk
Groundwater pollution originating from the ROM coal stock pile footprint at the Shondoni Shaft Complex after closure.	Seepage from the stockpile area footprint can lead to ground water pollution, if not rehabilitated correctly.	2	1	0	1	1	1	1	7	C2	Very Unlikely	Level 6 Risk
Groundwater pollution originating from the Storm Water Pollution Control Dam (SWPCD) footprint after closure	Seepage from the SWPCD footprint can lead to ground water pollution, if not rehabilitated correctly.	2	1	0	1	1	1	1	7	C2	Very Unlikely	Level 6 Risk
C(	ONVEYOR BELT ROUTE				ı 		CONVEYOR BE	ELT ROUTE	l	• •		
Final removal of the Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area)	The removal of the coal conveyor belt will not intersect/impact ground water resources, so no impact will take place.	~	~	~	~	~	~	~	0	~	~	~
				C	Criteria for Deter		SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation			



POST CLOSURE PHASE ACTIVITIES				C	riteria for Deter	mining Severity						
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL			
	Surface Water						Surface V	Vater				
LISTED ACTIVITIES AT SHONDONI I	N TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LISTI	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	NEMA (ACT	107 OF 1998): 0	N 386 ACTIVITIES	8	
Coal throw out stockpile area at Shondoni Shaft with a storage of	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 vear flood line) - Activity 1 (m).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Impact on water quality: The PCD will remain in place post closure .	0	0	0	0	0	0	0	0	C1	Unforeseen	Level 6 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
related Infrastructure - Activity 12. Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
continuation of mining and for the safety of people - Activity 13. Installation of a Tetra Radio System above ground at the Shaft	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI I	N TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LISTI	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	F NEMA (ACT	107 OF 1998): 0	N 387 ACTIVITIES	5	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (i).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT	ER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL WA	ATER ACT (AC	Г 36 ОF 1998):	SECTION 40			
Taking water from a water resource - Section 21 (a).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Impeding or diverting the flow of water in a watercourse - Section 21 (c).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
- Section 21 (i).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (i).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
E	xemptions from GNR 704						Exemptions from	m GNR 704		<b>_</b>		
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Impact on catchment yield: Decommissioning will not significantly change the operational loss in yield.	2	0	3	3	1	0	2	11	C3	Likely	Level 5 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~


POST CLOSURE PHASE ACTIVITIES				(	Criteria for Deter	mining Severity						
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
is likely to cause pollution of a water resource - Regulation 5.	AANA CEMENTE A CT. WACTE A CT. A CT. NO. 20 OF 2000									NO 50 OF 2009		
NATIONAL ENVIRONMENTAL I NEMWA Section 19(3) and GN 718.	Not Applicable.	~	~	~	~	~	L MANAGEMEI ~	~ ~	~~~	~	~	~
	MINE SHAFT AREAS				l		MINE SHAF	Γ AREAS	l	T		
Water management infrastructure at all shaft areas.	Impact on water quality: The PCD will remain in place post closure	0	0	0	0	0	0	0	0	C1	Unforeseen	Level 6 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDERG	ROUND MININ	IG ACTIVITIES	OF THE NO.	S 2 AND 4 COAI	L SEAM		
Underground mining	Impact on catchment yield:	2	0	3	3	1	0	2	11	C3	Likely	Level 5 Risk
	Impact on water quality:											
Potential mine water discharge	Time to decant expected to be 80 to 100 years after mining ceases. Expected water qualities, at recharge rate of 8.7 Ml/day:         - pH 7.5 (bord & pillar areas); 2.5 (total extraction areas)         - EC 1100 mS/m (bord & pillar areas); 800 mS/m (total extraction areas)         - SO4 <50 mg/l (bord & pillar areas); 3200 mg/l (total extraction areas)	4	2	3	3	1	3	3	19	C6	Almost Certain	Level 1 Risk
	ONVEYOR BELT ROUTE						CONVEYOR BE	ELT ROUTE				
										CEVEDITY C	Dames Of	Risk Level
POST CLOSURE PHASE ACTIVITIES				(	Criteria for Deter	mining Severity				NUMBER	Likelihood	Before
							T		T			Miligation
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL			
	Plant Life						Plant I	life				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LIST	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	NEMA (ACT	T 107 OF 1998): G	GN 386 ACTIVITIE	S	
Coal throw out stockpile area at Shondoni Shaft with a storage of	Habitat destruction, loss of populations of threatened plant species, loss of populations of	0	1	0	1	0	1	1	4	C1	Very unlikely	Level 6 Risk
more than 250 tons but less than 100 000 tons - Activity 1 (c). Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	medicinal plant species, habitat fragmentation. Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	0	0	0	0	0	1	0	1	C1	Very unlikely	Level 6 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	0	0	0	0	0	1	0	1	C1	Very unlikely	Level 6 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	0	0	0	0	0	1	0	1	C1	Very unlikely	Level 6 Risk
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	0	0	0	0	0	1	0	1	C1	Very unlikely	Level 6 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	0	0	0	0	0	1	0	1	C1	Very unlikely	Level 6 Risk
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	0	0	0	0	0	1	0	1	C1	Very unlikely	Level 6 Risk
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation	0	0	0	0	0	1	0	1	C1	Very unlikely	Level 6 Risk
Construction of an Access Road (wider than 4m) to Shondoni	Habitat destruction, loss of populations of threatened plant species, loss of populations of	0	0	0	0	0	1	0	1	C1	Very unlikely	Level 6 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998); GN 387 ACTIVITIES			LIST	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	NEMA (ACT	T 107 OF 1998); O	N 387 ACTIVITIE	s s	
Construction of a Double Circuit 132 kV Overhead Power line										~	**	
from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	0	0	1	0	0	1	0	2	Cl	Very unlikely	Level 6 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	0	0	1	0	0	1	0	2	C1	Very unlikely	Level 6 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	0	0	1	0	0	1	0	2	C1	Very unlikely	Level 6 Risk
NATIONAL WAT	YER ACT (ACT 36 OF 1998): SECTION 40	0	Ο	0	0	NATIONAL WA	ATER ACT (AC	<b>G</b> 36 OF 1998)	: SECTION 40	Cl	Vorumlitala	Level 6 Disk
Impeding or diverting the flow of water in a watercourse - Section	Alian alant invasione habitat datasionation, akana in alantiat histis anditi	0	0	0	0	0	0	0	0	Cl	Very unikely	Level C D' de
21 (c).	Anen piant invasions, naditat deterioration, change in physical abiotic conditions.	U	U	U	U	U	0	U	0	CI	very unlikely	Level 6 Risk
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Change in physical abiotic conditions.	0	0	0	0	0	0	0	0	C1	Very unlikely	Level 6 Risk
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Change in physical abiotic conditions.	0	0	0	0	0	0	0	0	C1	Very unlikely	Level 6 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Alien plant invasions, habitat deterioration, change in physical abiotic conditions.	0	0	0	0	0	0	0	0	C1	Possible	Level 6 Risk
Kemoving, discharging or disposing of water tound underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Change in physical abiotic conditions.	3	1	1	2	1	1	2	11	C3	Very unlikely	Level 6 Risk
H	Exemptions from GNR 704						Exemptions fro	m GNR 704				
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	0	0	1	0	0	1	2	4	C1	Very unlikely	Level 6 Risk



POST CLOSURE PHASE ACTIVITIES		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water- logged ground, or on ground likely to become water-logged,												
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	0	0	1	0	0	1	2	4	C1	Very unlikely	Level 6 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	0	0	1	0	0	1	2	4	C1	Very unlikely	Level 6 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation.	0	0	1	0	0	1	2	4	Cl	Very unlikely	Level 6 Risk
NATIONAL ENVIRONMENTAL	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008			]	NATIONAL ENV	<b>IRONMENTA</b>	L MANAGEME	NT ACT: WAS	STE ACT, ACT N	NO. 59 OF 2008		1
NEMWA Section 19(3) and GN 718.	None. MINE SHAFT ADFAS						MINE SHAF	TADEAS	0			
Rehabilitation & closure	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, babitat fragmentation, change in physical abiotic conditions	1	0	0	0	0	1	2	4	C1	Very unlikely	Level 6 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft	Habitat destruction, loss of populations of threatened plant species, loss of populations of medicinal plant species, habitat fragmentation, change in physical abiotic conditions.	1	0	0	0	0	1	2	4	C1	Very unlikely	Level 6 Risk
and North-West Shart).	ACTIVITIES OF THE NO S 2 AND 4 COAL SEAM				UNDERG	ROUND MININ	NG ACTIVITIES	OF THE NO	S 2 AND 4 COAL	SEAM		
	None.				CIDERO				0	DEAN		1
С	ONVEYOR BELT ROUTE				1		CONVEYOR BI	ELT ROUTE	I	1		
Rehabilitation & closure	Habitat destruction	0	0	1	1	0	1	1	4	C1	Very unlikely	Level 6 Risk
				(	Criteria for Deter	mining Severity		-		SEVERITY C- NUMBER	Degree Of Likelihood	Before Mitigation
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL			
	Animal Life						Animal	Life				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LISTI	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	F NEMA (ACT	T 107 OF 1998): O	GN 386 ACTIVITIE	S	
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c)	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat	4	0	1	2	1	1	2	11	C3	Low	Level 5 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m)	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat	2	0	1	2	1	1	2	9	C2	Low	Level 6 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	4	0	1	2	1	1	2	11	C3	Low	Level 5 Risk
or more - Activity 1 (n). Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	2	0	1	2	1	1	2	9	C2	Low	Level 6 Risk
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	2	0	1	2	1	1	2	9	C2	Low	Level 6 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	4	0	1	2	1	1	2	11	C3	Low	Level 5 Risk
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	1	0	1	2	1	1	2	8	C2	Low	Level 6 Risk
Shaft Complex from Tar road R547 - Activity 15.	closure for use in other activities, it would result in the continued loss of habitat.	4	0	1	2	1	1	2	11	C3	Low	Level 5 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		1	LISTI	ED ACTIVITIES	AT SHONDON	II IN TERMS OF	F NEMA (ACT	T 107 OF 1998): O	GN 387 ACTIVITIE	S	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine				2	1	1	3	12	C3	Low	Level 5 Risk
	closure for use in other activities, it would result in the continued loss of habitat.	4	0	1	2	-	_	_				
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	closure for use in other activities, it would result in the continued loss of habitat.         Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	4	0	1	2	1	1	3	12	C3	Low	Level 5 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j). Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	closure for use in other activities, it would result in the continued loss of habitat.         Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.         Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	4	0	1	2 2 2	1	1	3	12	C3 C3	Low	Level 5 Risk Level 5 Risk



POST CLOSURE PHASE ACTIVITIES		Criteria for Determining Severity										
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Taking water from a water resource - Section 21 (a).	None	~	~	~	~	~	~	~	~	~	~	~
1 mpeding or diverting the flow of water in a watercourse - Section 21 (c).	None	~	~	~	~	~	~	~	~	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	None	~	~	~	~	~	~	۲	~	~	۲	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 ( $\alpha$ )	None	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	None	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for	Habitat Deterioration: Discharging of polluted or contaminated water from the underground workings into the water resource could affect the habitat quality and pose a	4	1	2	2	1	1	3	14	C4	Highly unlikely	Level 5 Risk
the safety of people - Section 21 (j).	health risk for fauna causing them to move to more suitable habitat						Examptions from	m CNP 704				
No person in control of a mine or activity may locate or place any			T				Exemptions if of	II GIAK 704		1		
residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	4	0	1	2	1	2	2	12	C3	Low	Level 5 Risk
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	4	0	1	2	1	2	2	12	C3	Low	Level 5 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	4	0	1	2	1	2	2	12	C3	Low	Level 5 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	None	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL N NEMWA Section 19(3) and GN 718	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008			]	NATIONAL EN	VIRONMENTA	L MANAGEMEN	NT ACT: WAS	STE ACT, ACT N	NO. 59 OF 2008	l l	
NEWWA Section 19(5) and ON /16.	MINE SHAFT AREAS						MINE SHAF	Γ AREAS	0			
The continued presence of infrastructure.	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	4	0	1	2	1	1	2	11	C3	Low	Level 5 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine closure for use in other activities, it would result in the continued loss of habitat.	4	0	1	2	1	1	2	11	C3	Low	Level 5 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM			1	UNDERG	ROUND MININ	NG ACTIVITIES	OF THE NO.S	S 2 AND 4 COAI	L SEAM		
Complete extraction mining leading to surface subsidence	Habitat Alteration: Should subsidence occur it could lead to a change in the drainage of water within the landscape, resulting in either an increase or decrease in the water present at the surface. If such a change in hydrology causes a change in the vegetation communities present it would result in an increase in habitat for certain species and a loss of habitat for other faunal species.	4	0	2	2	1	3	3	15	C4	Highly unlikely	Level 5 Risk
Pumping of water from the underground workings	Habitat Deterioration: Discharging of polluted or contaminated water into the water resource could affect the habitat quality and pose a health risk for fauna causing them to move to more suitable habitat	4	1	2	2	1	2	3	15	C4	Highly unlikely	Level 5 Risk
СС	ONVEYOR BELT ROUTE Habitat Loss: Should it be decided that certain buildings or infrastructure remain after mine						CONVEYOR BE	LT ROUTE				
The continued presence of infrastructure	closure for use in other activities, it would result in the continued loss of habitat.	4	0	2	2	1	1	3	13	C3	Low	Level 5 Risk
			1	Criteria for Determining Severity SEVERITY C- NUMBER Lik							Degree Of Likelihood	Risk Level Before Mitigation
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL			
	Wetlands						Wetlan	ıds				
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES		T	LISTI	ED ACTIVITIES	S AT SHONDON	NI IN TERMS OF	NEMA (ACT	107 OF 1998): (	GN 386 ACTIVITIE	S	
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	2	9	C2	Likely	Level 6 Risk
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	2	9	C2	Likely	Level 6 Risk
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	2	9	C2	Likely	Level 6 Risk
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	2	9	C2	Likely	Level 6 Risk



POST CLOSURE PHASE ACTIVITIES				С	Criteria for Deter	mining Severity						
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	2	9	C2	Likely	Level 6 Risk
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	2	9	C2	Likely	Level 6 Risk
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Not applicable to the post-closure phase	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	2	9	C2	Likely	Level 6 Risk
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	2	9	C2	Likely	Level 6 Risk
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES		[	LISTE	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	NEMA (ACT	T 107 OF 1998): (	GN 387 ACTIVITIE	S	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (1).	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	1	8	C2	Likely	Level 6 Risk
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	1	8	C2	Likely	Level 6 Risk
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	1	8	C2	Likely	Level 6 Risk
NATIONAL WAT	TER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL W	ATER ACT (AC	Г 36 OF 1998):	: SECTION 40	1		1
Taking water from a water resource - Section 21 (a). Impeding or diverting the flow of water in a watercourse - Section	Not applicable to the post-closure phase								0			
21 (c). Discharging waste or water containing waste into a water resource	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	1	8	C2	Likely	Level 6 Risk
through a pipe, canal, sewer, sea outfail or other conduit - Section 21 (f). Disposing of waste in a manner which may detrimentally impact	Not applicable to the post-closure phase	~	~	~	~	~	~	~	~	~	~	~
on a water resource - Section 21 (g).	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	1	8	C2	Likely	Level 6 Risk
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i). Removing discharging or disposing of water found underground	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	1	8	C2	Likely	Level 6 Risk
if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Not applicable to the post-closure phase	~	~	~	~	~	~	~	~	~	~	~
I I I I I I I I I I I I I I I I I I I	Exemptions from GNR 704		r		[	[	Exemptions from	m GNR 704	T	1		
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	1	1	2	1	7	C2	Likely	Level 6 Risk
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Undermining of wetlands could result in wetland loss and degradation where surface subsidence occurs. Fractures in the strata underlying the wetlands could result in loss of surface water to groundwater, leading to desiccation of wetlands and changes in species composition.	1	0	3	1	1	1	1	8	C2	Likely	Level 6 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	1	1	2	1	7	C2	Likely	Level 6 Risk
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	1	1	2	1	7	C2	Likely	Level 6 Risk
NATIONAL ENVIRONMENTAL 1 NEMWA Section 19(3) and CN 719	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008		I	Ν	NATIONAL ENV	VIRONMENTAI	L MANAGEMEN	NT ACT: WAS	STE ACT, ACT 1	NO. 59 OF 2008		
111241 W A SCUOII 17(3) and ON /18.	MINE SHAFT AREAS	~	~	~	~		MINE SHAF	- Γ AREAS	~	~	~	~
Shaft area	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	1	8	C2	Likely	Level 6 Risk
All other remaining operational shafts (Main Shaft, West Shaft and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	1	0	1	2	1	2	1	8	C2	Likely	Level 6 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM				UNDERG	ROUND MININ	G ACTIVITIES	OF THE NO.S	S 2 AND 4 COAL	L SEAM		
Underground mining.	becanting of polluted mine water expected to have a high salt load and to potentially be acidic	0	2	1	2	1	1	2	9	C2	Highly Unlikely	Level 6 Risk
C	ONVEYOR BELT ROUTE		I			•	CONVEYOR BE	LT ROUTE	.			
Conveyor route	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	2	0	1	2	1	2	1	9	C2	Likely	Level 6 Risk
				С	Criteria for Deter	mining Severity				NUMBER	Likelihood	Mitigation



POST CLOSURE PHASE ACTIVITIES				С	riteria for Deter	mining Severity						
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL			
	Aquatic Ecosystems						Aquatic Eco	systems				
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LISTE	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	NEMA (ACT	107 OF 1998): 0	GN 386 ACTIVITIE	S	-
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tone but less than 100,000 tone. Activity 1 (c)	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres - Activity 7.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Construction of Shondoni Shaft Complex and related Infrastructure - Activity 12.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13.	Contaminated mine water that is pumped to the water treatment facility, may contaminate surface water, causing acidification and salinisation (especially by sulphates)	2	2	2	3	1	2	2	14	4	5	Level 3 Risk
Installation of a Tetra Radio System above ground at the Shaft Complex Area - Activity 14.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Construction of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI I	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LISTE	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	NEMA (ACT	107 OF 1998): (	GN 387 ACTIVITIE	S	
Construction of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine Transmission Feeder Bays - Activity 1 (l).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Construction of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT	ER ACT (ACT 36 OF 1998): SECTION 40				-	NATIONAL WA	ATER ACT (AC	Г 36 OF 1998):	SECTION 40			
Taking water from a water resource - Section 21 (a).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
21 (c).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Contaminated mine water that is pumped to the water treatment facility, may contaminate surface water, causing acidification and salinisation (especially by sulphates)	2	2	2	3	1	2	3	15	4	7	Level 3 Risk
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people - Section 21 (j).	Contaminated mine water that is pumped to the water treatment facility, may contaminate surface water, causing acidification and salinisation (especially by sulphates)	2	2	2	3	1	2	3	15	4	7	Level 3 Risk
E	exemptions from GNR 704						Exemptions fro	m GNR 704	ſ	1		
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked - Regulation 4(a).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Subsidence can result in fissures forming above the mined area, leading to loss of surface water to groundwater or decant of contaminated mine water to surface water, causing acidification or salinisation.	4	2	2	3	1	2	2	16	4	7	Level 3 Risk
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~



POST CLOSURE PHASE ACTIVITIES				(	Criteria for Deter	mining Severity						
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
is likely to cause pollution of a water resource - Regulation 5.												
NATIONAL ENVIRONMENTAL N NEMWA Section 19(3) and GN 718.	NANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008 Not Applicable.	~	~	~	NATIONAL ENV ~	/IRONMENTAI ~	L MANAGEMEN	NT ACT: WAS ~	STE ACT, ACT N ~	NO. 59 OF 2008 ~	~	~
	MINE SHAFT AREAS			-		-	MINE SHAF	T AREAS				
All other remaining operational shafts (Main Shaft, West Shaft	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	4	0	1	2	1	2	2	12	C3	P6	Level 5 Risk
and Ithembalethu Shaft) and decommissioned shafts (North Shaft and North-West Shaft).	The disturbed area might be colonised by alien vegetation and be exposed to erosion.	4	0	1	2	1	2	2	12	C3	P6	Level 5 Risk
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM Subsidence can result in fissures forming above the mined area, leading to loss of surface			[	UNDERG	ROUND MININ	G ACTIVITIES	OF THE NO.	S 2 AND 4 COAI	L SEAM	[	
Subsidence/decant/leaks/spills	water to groundwater or decant of contaminated mine water to surface water, causing	4	1	2	2	1	2	3	15	7	7	Level 3 Risk
Contamination by mining water (spills/subsidence/seepage)	Loss of sensitive taxa and biodiversity	2	3	2	2	1	2	2	14	6	7	Level 3 Risk
Decreased base flows and increased channelization of	Loss of habitats and wetland function	4	0	2	2	1	2	3	14	4	7	Level 3 Risk
watercourses	ONVEYOR BELT ROUTE						CONVEYOR BE	ELT ROUTE				
Pipeline leaks/spills	Acidification of surface water as a result of leaks/ spills of pumped mine water en route to	2	1	2	1	1	3	3	13	3	7	Level 4 Risk
Conveyor Route	treatment facility The disturbed area might be colonised by alien vegetation and be exposed to erosion	2	0		2	1	2	2	10	C3	P6	Level 5 Risk
	The distanced area might be coronised by anen vegetation and be exposed to erosion.	2     0     1     2     1     2     2     10       Criteria for Determining Severity								SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL			
	Air Quality						Air Qua	ality				
No Air Quality Impa	acts were identified for the Post-Closure phase				No	o Air Quality Im	pacts were identi	ified for the Po	ost-Closure phase			
				(	Criteria for Deter	mining Severity				SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL			
	Noise						Noise	e				
No Noise Impacts	were identified for the Post-Closure phase					No Noise Impac	rts were identifie	d for the Post-(	Closure phase			
				(	Criteria for Deter	mining Severity				SEVERITY C-	Degree Of	Risk Level Before
										NUMBER	Likelihood	Mitigation
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL			
	Visuals						Visua	ls				
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 386 ACTIVITIES			LISTI	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	F NEMA (ACT	107 OF 1998): C	GN 386 ACTIVITIE	S	
Coal throw out stockpile area at Shondoni Shaft with a storage of more than 250 tons but less than 100 000 tons - Activity 1 (c).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Conveyor Pedestal for crossing of Trichardt Spruit ( in the 1:10 year flood line) - Activity 1 (m).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Service Water Dams and Storm Water Pollution Control Dam at Shondoni Shaft Complex with a capacity of 50 000 cubic metres or more - Activity 1 (n).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Excavation for Coal Conveyor Pedestal for crossing of Trichardt Spruit, removing more than 5 cubic meters of material - Activity 4.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Diesel Fuel Storage Tanks at Shondoni Shaft Complex with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres. Activity 7	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removal of Indigenous Vegetation of 3 hectares or more during Site Clearance for Post-Closure phase of Shondoni Shaft Complex and related Infrastructure - Activity 12	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removal of water found in the underground workings on the No.4 Seam and the No.2 Seam workings to facilitate the efficient continuation of mining and for the safety of people - Activity 13	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Installation of a Tetra Radio System above ground at the Shaft	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Complex Area - ACUVITY 14. Post-Closure phase of an Access Road (wider than 4m) to Shondoni Shaft Complex from Tar road R547 - Activity 15.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
LISTED ACTIVITIES AT SHONDONI	IN TERMS OF NEMA (ACT 107 OF 1998): GN 387 ACTIVITIES			LISTI	ED ACTIVITIES	AT SHONDON	I IN TERMS OF	F NEMA (ACT	T 107 OF 1998): C	N 387 ACTIVITIE	S	
Post-Closure phase of a Double Circuit 132 kV Overhead Power line from Eskom Supply Point (SOL B) to Shondoni Mine	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~



POST CLOSURE PHASE ACTIVITIES				C	riteria for Deter	mining Severity						Digle Lowel
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
Transmission Feeder Bays - Activity 1 (1).												
Post-Closure phase of a Coal Conveyor from Shondoni Shaft to Middelbult Main Shaft (to the central Sasol Coal Supply area) at a rate of more than 50 cubic meters per day - Activity 1 (j).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Development of an area including shaft surface infrastructure and conveyor route where more than 20 hectares is disturbed - Activity 2	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL WAT	ER ACT (ACT 36 OF 1998): SECTION 40					NATIONAL WA	ATER ACT (AC	Г 36 OF 1998)	: SECTION 40			
Taking water from a water resource - Section 21 (a).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Impeding or diverting the now of water in a watercourse - Section 21 (c).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit - Section 21 (f).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Disposing of waste in a manner which may detrimentally impact on a water resource - Section 21 (g).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Altering the bed, banks, course or characteristics of a watercourse - Section 21 (i).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
the safety of people - Section 21 (j).							F 6					
No person in control of a mine or activity may locate or place any residue deposit, dam, reservoir together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 metres from any water course or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, understand, paged and a data and and a data and and and and and and and and and an	Not Applicable.	~	~	~	~	~	~	~ ~	~	~	~	~
No person in control of a mine or activity may, except in relation to a matter contemplated in Regulation 10 (winning sand and alluvial minerals), carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood line or within a horizontal distance of 100 metres from any water course or estuary, whichever is the greatest - Regulation 4(b).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any water course or estuary - Regulation 4(d).	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the Post-Closure phase of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource - Regulation 5.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
NATIONAL ENVIRONMENTAL N	MANAGEMENT ACT: WASTE ACT, ACT NO. 59 OF 2008			1	NATIONAL ENV	VIRONMENTAI	L MANAGEMEN	NT ACT: WAS	STE ACT, ACT N	NO. 59 OF 2008		
Rehabilitated Shondoni Shaft area	MINE SHAFT AREAS Visible from R547: has impact on short to medium range views on road users	0	0	1	2	-1	MINE SHAF	1 AREAS	3	C1	Almost Certain	Level 6 Risk
	Visibility impact for long range views from east	0	0	1	1	-1	0	2	3	C1	Almost Certain	Level 6 Risk
	Alterations to Landscape and Visual Character (Morphology & Topography) – Landscape back to previous character	0	0	1	1	1	0	2	3	CI	Almost Cartain	Level 6 Dick
UNDERGROUND MINING	ACTIVITIES OF THE NO.S 2 AND 4 COAL SEAM	0	0	1	UNDERG	ROUND MININ	G ACTIVITIES	OF THE NO.	S 2 AND 4 COAL	L SEAM	Annosi Certalli	Level 0 Kisk
None.	Not Applicable.	~	~	~	~	~	~	~	~	~	~	~
Rehabilitated Conveyor Belt route	UNVEYOR BELT ROUTE Visible from R547 and Brendan Village: has impact on short to medium range views on						CONVEYOR BE	LT ROUTE				
Kenabilitated conveyor ben foute	road users and residents	0	0	1	1	-1	0	2	3	C1	Almost Certain	Level 6 Risk
	Visionity impact for road users of R547 as well as Brendan Village residents	0	0	1	1	-1	0	2	3	Cl	Almost Certain	Level 6 Risk
		Ū		(	riteria for Deter	mining Severity	. ,					
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	SEVERITY C- NUMBER	Degree Of Likelihood	Risk Level Before Mitigation
	Heritage						Herita	ge				
Heritage Impact	s only applicable for Construction Phase	Heritage Impacts only applicable for Construction Phase										
				C	riteria for Deter	mining Severity				SEVERITY C-	Degree Of	Risk Level
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERITY TOTAL	NUMBER	Likelihood	Before Mitigation



POST CLOSURE PHASE ACTIVITIES				(	Criteria for Deter	mining Severity			
Activity Description	Impact Identification/Description	Quantity	Toxicity	Extent	Duration	Status	Legislation	I & AP's	SEVERIT TOTAL
	Socio-Economic						Socio-Eco	nomic	
Please refer to Sasol Shondoni Social and Labour Plan						Please refer	to Sasol Shondor	ni Social and La	abour Plan



## 6.6 CUMULATIVE IMPACTS

In areas where extensive mining and associated industrial activities occur, as is the case for the greater Secunda area, impacts experienced at individual mines and/or plants may combine, and whereas they may be of acceptable magnitude and significance on individual mine/plant scale, could after they have accumulated, be fully un-acceptable on a regional scale.

Most of the identified biophysical and socio-economic impacts related to coal mining have the potential to accumulate and therefore have to be considered. In this regard, however, it is important to separate those that would accumulate linearly and those that would accumulate exponentially.

Linear accumulation is defined for impacts for which the aerial extent and zone of influence is directly related to the extent of the surface area where the impact is generated and occurs, or impacts for which the time duration is short. Examples of environmental attributes for which this is the case are:

- o Topography
- o Soils
- Land Use and Land Capability
- o Geology
- o Heritage

Exponential accumulation is defined for impacts for which the aerial extent and zone of influence exist beyond the extent of the surface area where the impact is generated and which could therefore increase in significance as it combines with the manifestations of other external impacts generated by neighbouring or down-gradient/down-stream sources.

Examples of environmental attributes for which this is the case are:

- o Ground Water
- o Surface Water
- o Plant Life
- Animal Life
- o Aquatic Ecosystems
- o Air Quality
- o Noise
- o Visual Aspects
- Socio-economic Aspects

The specialist impact assessment reports commissioned for this Sasol Mining: Middelbult – Block 8 – Shondoni EIA/EMP project, addressed the cumulative impacts related to the exponential accumulation attributes listed above.



### 6.6.1 Ground Water

The cumulative impacts associated with ground water relates to the progressive mine water make resulting form aquifer dewatering, which increases linearly as the underground workings expand. Under normal bord and pillar mining conditions, the overlying aquifers remain structurally intact, but if overlying strata collapse should occur as a result of high extraction mining, the water make increases exponentially.

This phenomenon invariably results in the situation that the mine water make for an individual mine becomes greater than the underground storage capacity in the mine, resulting in the requirement to store excess mine water on surface. This situation is a reality at Sasol Mining in Secunda, where an integrated surface water management system for excess mine water has been developed – discussed in Chapter 4 of VOLUME I of this submission.

The magnitude of the excess mine water make can be limited if only bord and pillar mining, supplemented with limited high extraction is conducted. It is essentially for this reason that the proposed extensions to underground mining at Middelbult – Block 8 – Shondoni will employ only bord and pillar, with selective high extraction.

### 6.6.2 Surface Water

Sasol Mining is the only coal mining operation that potentially impacts on the Waterval River catchment. This includes all of Sasol's Secunda mining complexes, with the exception of Syferfontein Colliery and TCTS.

At present all mining in the catchment is underground, with no current plans for opencast mining. Of the underground, the vast majority is bord & pillar, with some 25% to 30% of the mined out areas being high extraction.

The cumulative impact on catchment yield is therefore expected to be relatively low. In addition, with dirty water contained in underground workings, the impact on water quality is also expected to be relatively low.

Other industrial and mining activities that potentially impact on the Waterval River catchment include the Sasol Secunda Industrial Complex, as well as some gold mines in the vicinity.

# 6.6.3 Plant Life

The proposed project is within a relatively disturbed landscape. From a vegetation and flora point of view, there has been a large amount of change within vegetation in this region. This has led to vegetation types within the study area being classified according to the Draft National List of Threatened Ecosystems (GN1477 of 2009), published under the National Environmental Management: Biodiversity Act (Act No. 10, 2004) as Vulnerable. Additional loss of vegetation in the study area may further reduce the extent of vegetation, but will be a relatively small change compared to existing change due primarily to cultivation, urban expansion and other mining.



The current project proposes underground mining with a small proportion of above-ground infrastructure. There will therefore be a small cumulative impact by this project, when taken in combination with existing changes in the area.

## 6.6.4 Animal Life

A cumulative impact can arise due to the combination of impacts from the project being evaluated with related impacts from other projects. These cumulative impacts occur when the project impacts compound the effects of other past, present and (expected) future projects, causing an increase in environmental degradation which is greater than that expected from the project being evaluated alone.

Cumulative impacts which are likely to occur are a loss of vegetation and habitat, habitat fragmentation and possibly a decrease in water quality, which will negatively impact the quality of remaining habitat. Urban expansion occurring in the surrounding towns and increased cultivation will cause an additional decrease in natural habitat and will lead to increasing fragmentation of the remaining habitat. Pollution originating from urban areas, roads, farming practices and other mining activities in the catchments are all expected to negatively impact the water resource, thereby further reducing the quality of available habitat, especially for those species utilizing wetland or riparian habitats.

Therefore the Shondoni Project can potentially contribute to accumulation of negative impacts on the environment and the terrestrial fauna, and for this reason, those mining activities contributing to the above mentioned cumulative impacts need to be carefully considered and every effort must be made to prevent the impacts from occurring, and if unavoidable, suitable mitigation measures should be carried out to minimize the impact.

# 6.6.5 Aquatic Ecosystems

Potentially the most significant cumulative impact that could be associated with the proposed Shondoni Project, is that of deteriorating water quality within the Waterval River and the Vaal River further downstream. The cumulative impact that coal mining could have on water quality is illustrated by current conditions in the Upper Olifants River, where the salinity loads already exceed the Resource Water Quality Objectives for the Upper Olifants River.

In general the southern coalfields are charaterised by higher sodium concentrations, indicating a serious risk of deteriorating water quality due to increased salinities within the rivers draining this area, namely the Vaal River and its tributaries, once the coal mines in the area start decanting. Decanting of acidic water must also be considered. While numerous new coal mines and shafts have in the recent past been commissioned in the Secunda region, it is important to recognise the time lag between commissioning of the mine and decanting of polluted water. The life of mine of the Middelbult Reserve will be extended to 2041 by the Shondoni Shaft, where after it could take several years before the mine starts decanting polluted water.



While polluted decant from one or two of these mines might be within the assimilative capacity of the receiving water resources, the combined impact of polluted decant from all of the collieries within the Vaal River will need to be considered to accurately assess the significance of this impact. Given the reliance of South African industry on water obtained from the Vaal River, the maintenance of water quality within this river should be of utmost importance.

The construction and operation of the surface infrastructure will aloso contribute to the cumulative loss of natural habitats and biodiversity within the Secunda area.

## 6.6.6 Air Quality

Due to the inherent dispersion of air pollution through the atmosphere, any atmospheric emission originating from a primary or secondary source is bound to accumulate and manifest in the ambient air quality for any specific site or area. For the Sasol Mining: Middelbult – Block 8 – Shondoni EIA/EMP project, air quality impacts will be secondary in nature and will be related to dust pollution and gaseous emissions due to construction activities. These activities, and therefore their associated air quality impacts, will be very limited in extent and duration and is not expected to contribute significantly to a cumulative air quality impact in the region.

#### 6.6.7 Noise

The ambient noise profile for any region or site, is determined by the ongoing noise propagated from existing sources in the area. The Middelbult – Block 8 – Shondoni operations do contribute to the ambient noise profile through noise propagated from overland coal conveyor belts, ventilation upcast shafts, and general road traffic on surface. As such the new expansions proposed, will no doubt contribute cumulatively to the ambient noise profile of the area, especially as the first two noise sources mentioned will be operated on a 24 hour/day basis.

### 6.6.8 Visual

Accumulation of visual impacts within a larger geographic area, essentially defines the "sense of place" of a site. Being located regionally within an overall mining and industrial region, the limited extent, isolated occurrence and mining/industrial nature of visual impacts caused by Sasol Mining: Middelbult – Block 8 – Shondoni activities, is not deemed to alter the "sense of place" of the area in which it is located.

### 6.6.9 Socio-Economic

Cumulative impacts associated with socio-economic aspects are termed the "multiplier effect". The multiplier effect of socio-economic impacts and benefits of the Sasol Mining: Middelbult – Block 8 – Shondoni project within the greater Secunda Area, and to a lesser degree also further and beyond the local area itself, is significant. In view of the Development Goals for South Africa, job creation is certainly assessed to be one of the most important drivers for socio-economic upliftment, aimed at providing a better life for all. In this regard alone, Sasol Mining contributes a vast number of employment opportunities, the multiplier effect of which is far beyond significant.

