

# KOLOMELA MINE ATMOSPHERIC EMISSIONS LICENCE AUDIT

**Kolomela Mine**

Prepared for: Sishen Iron Ore Company (Pty) Ltd

Authority References:

Licence No: C/AEL/SIY/KOL1/2012



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## REPORT SIGN OFF AND APPROVALS



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(Project Manager)



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**Ed Perry**  
(Reviewer)

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## ACRONYMS AND ABBREVIATIONS

Acronym / Abbreviation	Definition
AEL	Atmospheric Emissions Licence
EIA	Environmental Impact Assessment
DMR	Department of Mineral Resources
DMRE	Department of Mineral Resources and Energy
EA	Environmental Authorisation
EMPr	Environmental Management Programme
SIOC	Sishen Iron Ore Company (Pty) Ltd
Kolomela	Kolomela Iron Ore Mine
MPRDA	Mineral and Petroleum Resources Development Act (No. 28 of 2002)
MR	Mining right
NEMA	National Environmental Management Act (No. 107 of 1998)
NEMA: QA	National Environment Management: Air Quality Act 39 of 2004
SLR	SLR Consulting (South Africa) (Pty) Ltd

## Kolomela Atmospheric Emissions Licence Audit

### 1. INTRODUCTION

Sishen Iron Ore Company (Pty) Ltd (SIOC) appointed SLR Consulting (Pty) Ltd (SLR) as an independent environmental consultant to undertake an external compliance audit against its Kolomela Mine. In this regard, Kolomela was issued an Atmospheric Emissions Licence (AEL) on the 18th of March 2019 (reference number: NC/AEL/SIY/KOL1/2012) in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEMAQA) and is valid until the 18th of March 2024.

This report presents the findings of the external compliance audit against the conditions of the AEL held by SIOC for the period between December 2020 and November 2021.

### 2. BACKGROUND

SIOC operates the Kolomela Iron Ore Mine (Kolomela) located approximately 8 km southwest of the town of Postmasburg in the Northern Cape Province. The mine operates as a conventional open cast iron ore mine, whereby ore is extracted from three operational pits, by means of drilling, blasting, loading, and hauling. Ore extracted from the pits is transported to an ore plant which involves the crushing and screening of recovered ore material. The processed iron ore is loaded onto an internal railway line which is connected to a direct rail link to Transnet's Sishen-Saldanha railway line from where the iron ore is transported to the Port of Saldanha for export. Kolomela Mine also utilises a Modular Dense Media Separation Processing Plant for the processing of low-grade ore not suitable for processing at the plant.

The AEL for the Kolomela Mine that was issued in terms of NEM:AQA caters for various fuel storage facilities as listed in the tabulated below. Refer to Figure 1 below for the location of Mine.

**Table 1: AEL activities associated with the Kolomela Mine**

Category	Sub-category	Details
Category 2: Petroleum Industry, the production of gaseous and liquid fuels as well as petrochemicals from crude oil, coal, gas or biomass subcategory	Sub-category 2.4: Storage and Handling of Petroleum Products	<ul style="list-style-type: none"> <li>The diesel fuel storage facility.</li> <li>A temporary diesel bay (includes diesel and oil).</li> <li>Underground diesel and petrol storage.</li> <li>The locomotive storage yard.</li> <li>The emergency diesel power generation tanks.</li> </ul>

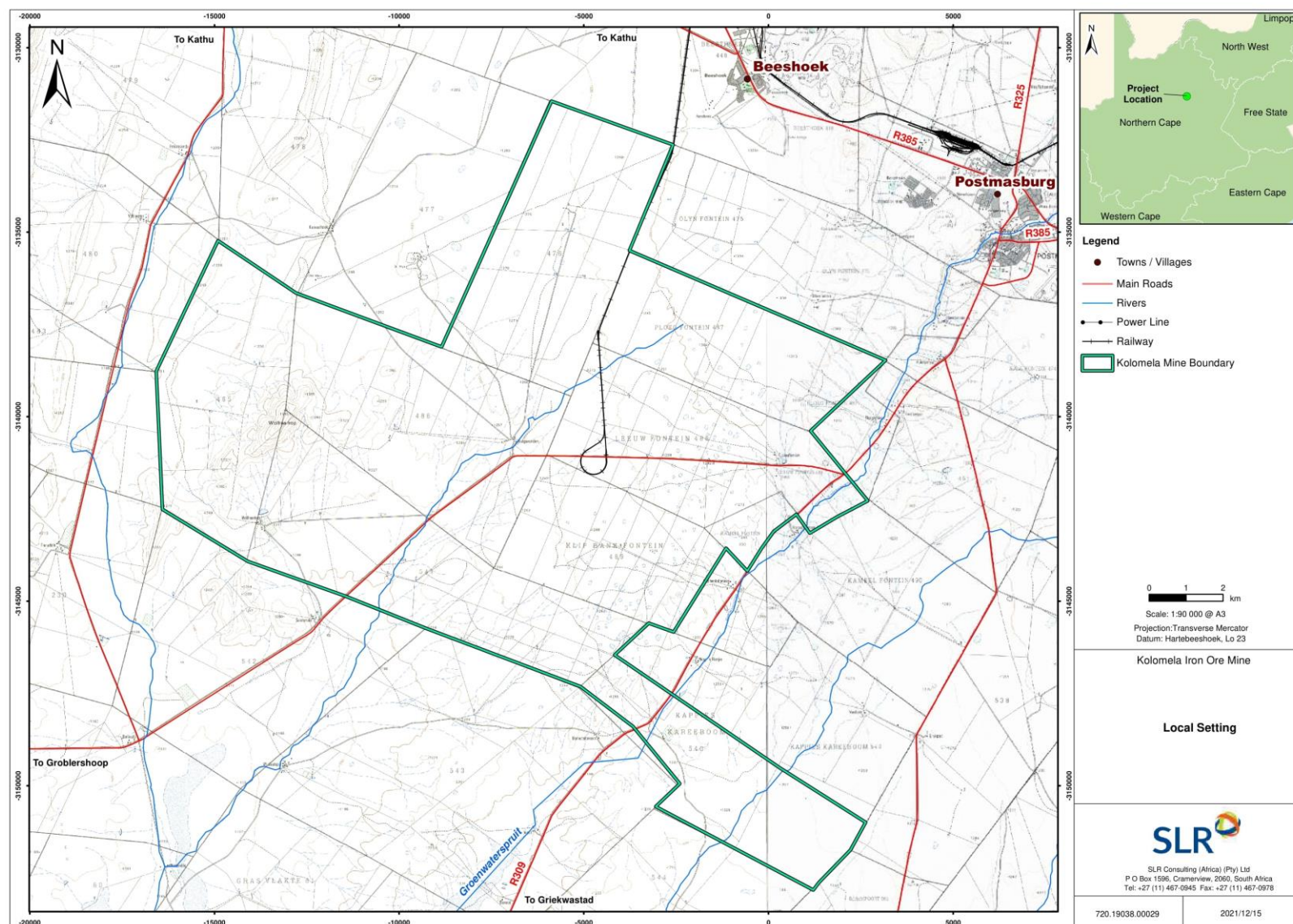


Figure 1: Local Setting



### 3. OBJECTIVES OF THE ENVIRONMENTAL AUDIT REPORT

The AEL audit objectives include:

- Assessing the level of compliance with the conditions of the AEL and including measures and recommendations to be implemented to attend to any non-compliances;
- Identifying and assessing any new impacts and risks as a result of undertaking the activity; and
- Evaluating the continued appropriateness and effectiveness of the AEL, including identifying shortcomings or the need to change conditions contained in the AEL.

### 4. DETAILS OF THE AUDITOR(S)

#### 4.1 DETAILS OF THE AUDITORS THAT PREPARED THE REPORT

This AEL Audit Report was prepared by an independent person with relevant environmental auditing experience. The details of the auditors that were involved in the preparation of this Environmental Audit Report are included in Table 2 below.

SLR does not have any interest in the project other than fair payment for consulting services rendered as part of the environmental audit process and has declared its independence.

**Table 2: Details of the auditors (for the full Kolomela audit)**

Name	Role	Contact details
Edward Perry	Overall review	<a href="mailto:eperry@slrconsulting.com">eperry@slrconsulting.com</a>
Michele Kilbourn Louw	Project manager and Auditor – EMPs and AEL	<a href="mailto:mkilbournlouw@slrconsulting.com">mkilbournlouw@slrconsulting.com</a>
Edwynn Louw	Auditor – WUL & WML	011 – 467 0945
Alice Moropa	Auditor – EAs	

#### 4.2 EXPERTISE OF THE AUDIT TEAM

##### **Project Director: Edward Perry**

Edward Perry has worked in environmental consultancy for over 20 years for a wide range of public and private sector clients and has been involved with Environmental and Social Impact Assessments and EAs throughout Africa. He has been Project Director of ESIA's for a wide range of facilities including renewable energy facilities; metal extractive industries; large water storage schemes; new mines, and extensions to mines. Ed has also undertaken a wide range of environmental audits including due diligence audits, EMPs audits, and over 20 international cyanide code audits of mines throughout Africa. These audits include assessing ESIA's and associated documentation against the requirements of the International Finance Corporation Performance Standards. Edward is a registered Environmental Assessment Practitioner with the Environmental Assessment Practitioners Association of South Africa, and a registered auditor with the Institute of Environmental Management and Assessment.



**Project Manager: Michele Kilbourn Louw**

Michele Kilbourn Louw has more than 23 years' as an environmental consultant and environmental project manager mainly in exploration, feasibility studies and the development of large multifaceted green- and brownfields mine construction projects, and their related linear infrastructure (power, water, roads), much of which has been in Namibia. Michele has experience in the development, implementation, and auditing of environmental monitoring and management systems. She has also led, or managed, EIAs and EMPs to Equator Principles and World Bank standards.

**Auditor: Edwynn Louw**

Edwynn Louw has more than 10 years of experience in environmental authorisation and management processes within the South African mining industry. He has worked on many authorisation processes with a focus on water management and has drafted water use licences for various mining related companies including West Wits, Tshipi E Ntle, Black Mountain Mining and various associated projects for water service providers, namely the Gert Sibande District Municipality and Sedibeng: Vaal Gamagara. Edwynn has been involved in several mine audits, specialising on water use license commitments. He was involved in the Kolomela Mine basic assessments to consolidate all existing EMPs and WULs to consolidate all existing water uses and include additional water uses in 2013.

**Auditor: Alice Moropa**

Alice Moropa has over 6 years of experience as an Environmental Consultant undertaking various tasks including Environmental Impact Assessments and Basic Assessments, Environmental Compliance Audits and Environmental Risk Assessments. Alice has extensive experience in the mining, industrial and construction sectors, providing environmental authorisation, environmental compliance, and advisory services. Alice has undertaken several mine compliance audits for various mines including coal, gold, vanadium and platinum mines.

## 5. APPROACH AND METHODOLOGY

### 5.1 AUDIT SCOPE AND LEGISLATIVE REQUIREMENTS

This Audit is undertaken in accordance with Condition 7.6 of the Kolomela Mine AEL (NC/AEL/SIY/KOL1/2012): "The licence holder must complete and submit to the licensing authority an annual report. The report must include information for the year under review (i.e. annual year end of the company). The report must be submitted to the licensing authority not later than 60 (sixty) days after the end of each reporting period. The annual report must include, amongst others, the following items: (a) pollutant emissions trend; (b) compliance audit report(s); (c) major upgrades projects (i.e. abatement equipment or process equipment); and (d) greenhouse gas emissions. The holder of the licence must keep a copy of the annual report for a period of at least 5 (five) years."

The scope of this audit only addresses compliance with the Kolomela Mine AEL and does not constitute the required annual report as indicated above.

### 5.2 ASSESSMENT PERIOD

This report presents the findings of the compliance audit completed for the AEL held by SIOC for the period December 2020 and November 2021.

### 5.3 DOCUMENTS REVIEWED

A comprehensive set of documentation was provided by SIOC for the audit review together with the AEL. Additional documents included, amongst others:

- Internal compliance reports;
- Emissions inventory;
- Various air quality monitoring records;
- Procedures; and
- Proof of submission of records to authorities.

### 5.4 ASSESSMENT METHODOLOGY

The report is based on the findings of an assessment conducted by the SLR audit team which included the review of the documentation requested from and provided by SIOC. An assessment checklist was compiled using the conditions of the AEL commitments for the Kolomela Mine.

A site visit took place between the 7th – 9th November 2021 by three SLR personnel who undertook the physical audit (Alice Moopa, Edwynn Louw and Michelle Kilbourn Louw).

Discussions were also held with the mine personnel from the Kolomela Mine Environmental Management Department, namely Mashau Fatuwani and Izak Gous for the clarification of observations and findings. This report documents the auditor findings in terms of SIOC's compliance with the terms and conditions contained in the AEL. Recommendations have been included for any non-compliances that were identified.

### 5.5 EVALUATION CRITERIA

A simple scoring system was used to quantify compliance against the conditions of the AEL commitments (see Table 3). This method allows for the compliance to be quantified and an overall percentage of compliance to be calculated. The completed checklists in the attached appendices show the compliance category allocated to each of the AEL conditions (Appendix A).

**Table 3: Compliance categories**

Category	Explanation
Noted*	The commitment is noted and cannot be subjected to audit.
Compliant (C)	Complies with the commitment or condition fully
Partially Compliant (PC)	Complies with some aspects of the commitment or condition but not fully
Non-Compliant (NC)	Does not comply with the commitment or condition
Not Applicable (N/A)	Condition is not applicable to current audit period or scope (e.g. construction, closure or deviations from the approved project activities )

## 6. SUMMARY OF AUDIT FINDINGS AND RECOMMENDATIONS

This section presents the key findings of Kolomela's overall compliance with the conditions of the AEL. The detailed results are presented in Appendix A.

### 6.1 LEVEL OF COMPLIANCE AGAINST THE AEL

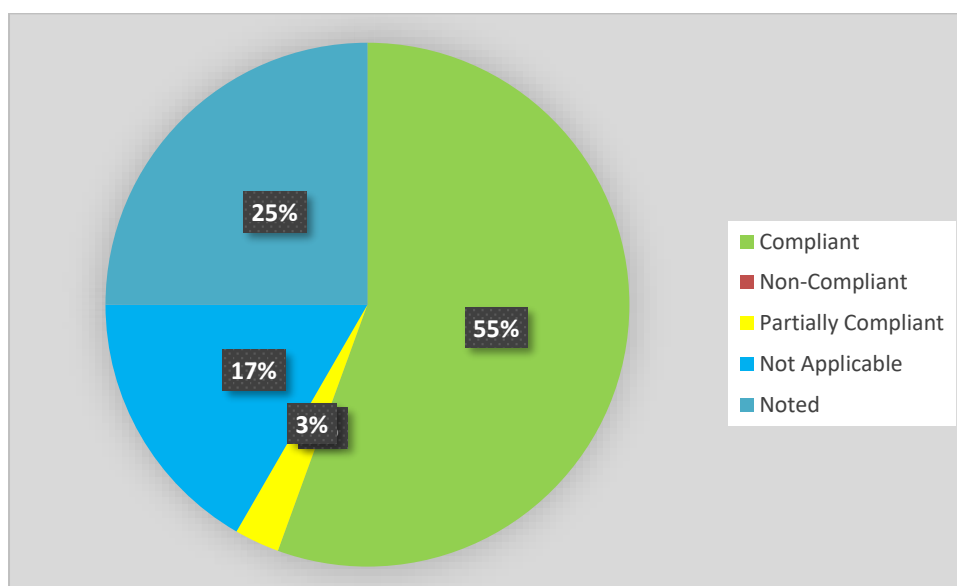
#### 6.1.1 Summary of Findings

The audit findings have been summarised into the following categories: compliant, non-compliant, partially compliant, not applicable, and noted as per the key in Table 3 above.

Kolomela achieved a compliance rate of 55% with the conditions of the WML, with 42% being not applicable or noted, and 3% being partially compliant (see Table 4 and Figure 1). The 'not applicable' clauses are generally related to approvals required for changes in production and processes. Given that there were no deviations from the activities approved, these conditions are not applicable in the current audit period.

**Table 4: EA Summary of level of compliance with the total number of AEL conditions**

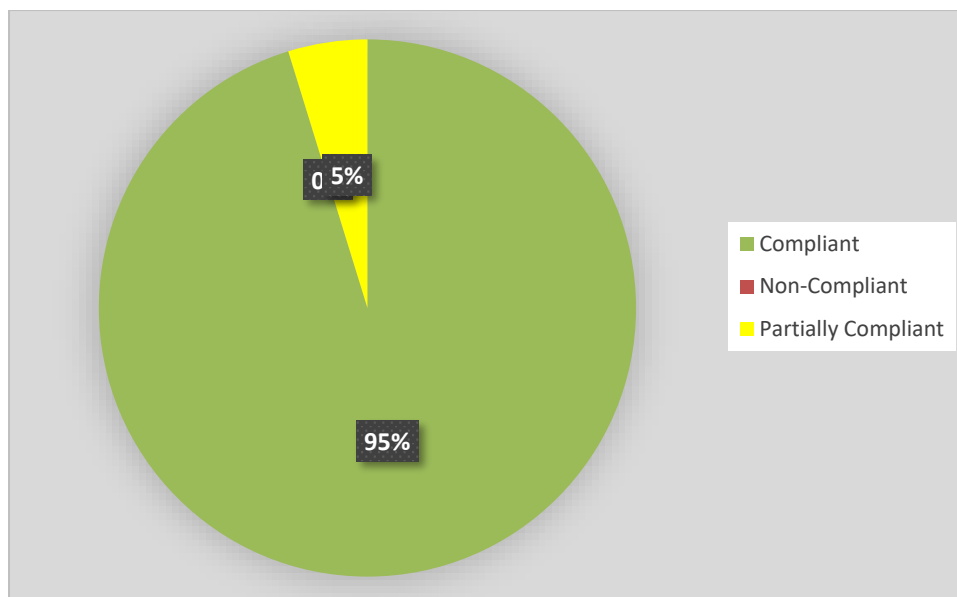
Audit category	Compliance with AEL conditions	Overall compliance as a %
Compliant	20	56%
Partially Compliant	0	0%
Non-Compliant	1	3%
Not Applicable	6	17%
Noted	9	25%
Total conditions	36	100%



**Figure 1: Percentage compliance per audit category in terms of the AEL conditions**

Several AEL conditions were found to be not applicable or noted at the time of this audit. As such, consideration is given to the compliance rate when these conditions are excluded to provide a true reflection of the mine's compliance with the AEL conditions (See Figure 2). In this regard, Kolomela achieved a 95% compliance rate, and an 5% partial compliance rate.

The partial-compliances in the AEL are administrative and relate to the annual update of the Emissions Inventory Report. It is suggested that the Emissions Inventory Report is updated annually.



**Figure 2: Percentage compliance in terms of the AEL conditions**

### 6.1.2 Summary of Findings

The AEL Audit has only identified 1 'partially compliance'. This non-compliance in the AEL relates to underground leak detection.

## 7. PROGRESS AGAINST PREVIOUS AUDIT FINDINGS

A compliance audit was previously undertaken by EXM Advisory for the 2020 audit period. For comparative purposes, the SLR 2021 audit results shown in Table 4 have been adjusted to provide four audit categories for comparative purposes: 'not applicable' includes 'noted', and 'non-compliant' includes 'partially-complaint' and these comparative results are shown in Table 5 below.

**Table 5: Comparative audit results year on year**

	2020	2021
Not applicable	7	6
Noted		9
Non-Compliant	2	1
Compliant	26	20
<b>Total clauses audited</b>	<b>35</b>	<b>36</b>

A year-on-year comparison against the previous year's audit findings would not be realistic due to the different audit compliance rankings adopted by the different consultants, however 2021's audit shows an increase in compliance.

## 8. ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations apply to this environmental audit:

- The information reported and findings contained in this Environmental Audit Report are considered accurate to the best of SLR's knowledge and are based on available documentation and verbal discussions held with Kolomela at the time of the assessment.
- The report presents findings and observations made during the audit period between December 2020 and November 2021. Findings and observations evident prior to, or after, this period have not been accounted for in the compliance of the mine with the AEL.
- No risk assessments were undertaken as part of this audit as it was not deemed necessary due to the nature of the audit.
- This report must not be altered or added to without the prior written consent of SLR Consulting (Pty) Ltd. This includes electronic copies of the report which are supplied for the purposes of inclusion as part of other reports.
- Recommendations, statements or conclusions drawn from, or based on, this report must make reference to this report.

## 9. CONCLUSION

The current AEL is deemed appropriate and effective in terms of demonstrating that certain processes are operated in accordance with national air quality regulations. Kolomela mine has demonstrated a high level of compliance with conditions contained in the AEL.

See Appendix A for details of actions that should be undertaken to address the non-conformances identified.

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## 10. DECLARATION OF INDEPENDENCE

### A) INDEPENDENT AUDITOR DECLARATION

Name Of Independent Auditor: Alice Moropa

#### UNDERTAKING

I, Alice Moropa, the undersigned and duly authorized thereto, by SLR, have adequately assessed the Kolomela Mine operations against the mine's AEL and compiled this report to the best of my knowledge.

I also hereby declare that neither myself nor SLR Consulting (Pty) Ltd, an independent consulting firm, have any interest or personal gains in this project whatsoever, except receiving fair payment for rendering an independent professional service.

Signed at SLR (Fourways) on this the 18<sup>th</sup> of February 2022.



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**SIGNATURE OF INDEPENDENT AUDITOR**

## AEL HOLDER DECLARATION

NAME OF RESPONSIBLE PERSON: \_\_\_\_\_

### UNDERTAKING

I, \_\_\_\_\_, the undersigned and duly authorized thereto, by Sishen Iron Ore Company (Pty) Ltd, have studied the contents of this report and confirm that to the best of my knowledge, the contents are correct and accurate.

Signed at \_\_\_\_\_ on this the \_\_\_\_\_ day of  
\_\_\_\_\_ 2021.

\_\_\_\_\_  
**SIGNATURE OF RESPONSIBLE PERSON**



## APPENDIX A: AEL AUDIT CHECKLIST

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
		COMPLIANT	NON-COMPLIANT	PARTIALLY COMPLIANT	NOT APPLICABLE	NOTED			
	The Atmospheric Emission Licence is issued subject to the conditions and requirements set out below which form part of the Atmospheric Emission Licence and which are binding on the holder of the Atmospheric Emission Licence ("Kolomela Mine").						The condition has been noted.	None	N/A
<b>4. General Conditions</b>									
4.1	Process and ownership changes:								
	The holder of the atmospheric emission licence must ensure that all unit processes and apparatus used for the purpose of undertaking the listed activity in question, and all appliances and mitigation measures for preventing or reducing atmospheric emissions, are at all times properly maintained and operated.						Kolomela mine has established and implemented a Leak Detection and Repair (LDAR) Programme as per the requirements of the revised Minimum Emissions Standards. This programme plays a key role in reducing fugitive emissions of volatile organic compounds. As part of the programme, components are tested for leaks during the monitoring campaign undertaken by uMoya-NILU consulting. In addition, Kolomela has implemented an action based Environmental Management System ("EMS") called Enablon to address any incidents identified. Kolomela undertakes air quality monitoring as part of the LDAR to monitor pollution trend (if any). The monitoring equipment is maintained as proven by the calibration certificates	The underground pipes should be checked for leakage. It is not certain whether these tanks form part of the LDAR program and assessment. If this is not the case, the tanks should be included in the program.	Kolomela

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
		COMPLIANT	NON-COMPLIANT	PARTIALLY COMPLIANT	NOT APPLICABLE	NOTED			
							<p>provided.</p> <p>Various procedures have also been developed by the Kolomela Mine to handle spillages. The mine manages all spillages through their Procedure For Spill Management (KOL-SHE-ENV-PRO-0012, their Spill Management Checklist (KOL-SHE-ENV-FRM-0011) and addresses all major spill incidents through the Environmental Incident Reporting and Investigation (KOL-SHE-ENV-PRO-0007). The auditor did however observe a spillage/leak at the underground tanks located at the LDV refuelling site ,which had gone unnoticed.</p>		

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
		COMPLIANT	NON-COMPLIANT	PARTIALLY COMPLIANT	NOT APPLICABLE	NOTED			
	No building, plant or site of works related to the listed activity or activities used by the licence holder shall be extended, altered or added to the listed activity without an environmental authorisation from the competent authority. The investigation, assessment and communication of potential impact of such an activity must follow the basic assessment procedure as prescribed in the Environmental Impact Assessment Regulations published in terms of section 24(5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as amended.						<p>Kolomela has been authorised in terms of NEM:AQA for the following facilities:</p> <ul style="list-style-type: none"> <li>• The diesel fuel storage facility.</li> <li>• A temporary diesel bay (includes diesel and oil).</li> <li>• Underground diesel and petrol storage.</li> <li>• The locomotive storage yard.</li> <li>• The emergency diesel power generation tanks.</li> </ul> <p>None of these facilities have been altered or added to without the approval to do so in the current licence.</p> <p>An environmental authorisation was granted by the Northern Cape Department of Environment and Nature Conservation ("DENC") on the 14th of May 2009 and 22nd November 2011 for the two large tanks included in the AEL. (Ref: NC/SIY/SIS1/01/2009 and NC/BA/13/SIY/TSA/STR/2013).</p>	None	N/A
	Any change in processes or production increases, by the licence holder, will require prior approval by the licencing authority.						No change in process or production increase has occurred which is not approved in the current AEL. This was confirmed by Kolomela Mine representatives during the site investigation.	None	N/A

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
		COMPLIANT	NON-COMPLIANT	PARTIALLY COMPLIANT	NOT APPLICABLE	NOTED			
	Any changes to the type and quantities of input materials and products, or to production equipment and treatment facilities will require prior written approval by the licensing authority.						No changes have been made to the production type or quantity has occurred which is not approved in the current AEL. This was confirmed by Kolomela Mine representatives during the site investigation.	None	N/A
	The licence holder must, in writing, inform the licensing authority of any change of ownership of the enterprise. The licensing authority must be informed within 30 (thirty) days after the change of ownership.						There have been no changes in ownership of any of the facilities or operations at Kolomela Mine.	None	N/A
	The licence holder must immediately on cessation or decommissioning of the listed activity inform, in writing, inform the licensing authority.						None of the facilities have ceased or have been decommissioned. This was also confirmed by Kolomela Mine representatives	None	N/A
4.2	General Duty of care								
	The holder of the licence must, when undertaking the listed activity, adhere to the duty of care obligations as set out in section 28 of the NEMA.						Kolomela practices duty of care by employing the following measures: Ensuring that the fuel storage facilities are bunded and cement lined to contain and prevent groundwater and soil contamination. Establishing procedures for spill management and incident management to ensure that any spill incidents are remedied and contained. Educating all employees on the handling of spillages and the utilisation and	None	N/A

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
		COMPLIANT	NON-COMPLIANT	PARTIALLY COMPLIANT	NOT APPLICABLE	NOTED			
							<p>maintenance of fuel storage equipment and facilities.</p> <p>Developing the LDAR program to detect and control any leakages, and therefore prevent or minimize emissions from the facilities.</p>		
	The licence holder must undertake the necessary measures to minimize or contain the atmospheric emissions. The measures are set out in section 28(3) of the NEMA.						<p>Kolomela practices the following measures which are aligned with section 28(3) of NEMA:</p> <p>Establishing procedures for spill management and incident management to ensure that any spill incidents are remedied and contained.</p> <p>Educating all employees on the handling of spillages and the utilisation and maintenance of fuel storage equipment and facilities through training and toolbox talks.</p> <p>Developing the LDAR program to detect and control any leakages, and therefore prevent or minimize emissions from the facilities.</p>	None	N/A

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
		COMPLIANT	NON-COMPLIANT	PARTIALLY COMPLIANT	NOT APPLICABLE	NOTED			
	Failure to comply with the above condition is a breach of the duty of care, and the licence holder will be subject to the sanctions set out in section 28 of the NEMA.						The condition has been noted.	None	N/A
<b>4.3</b>	<b>Sampling and or analysis requirements</b>								
	Measurement, calculation and or sampling and analysis shall be carried out in accordance with any nationally or internationally acceptable standard. A different method may be acceptable to the licensing authority as long as it has been consulted and agreed to the satisfactory documentation necessary in confirming the equivalent test reliability, quality and equivalence of analyses.						The air quality monitoring is undertaken by an independent air quality management consultancy, uMoya-NILU Consulting (Pty) Ltd. The LDAR assessment conducted by uMoya-NILU Consulting was undertaken in accordance with the United States Environmental Protection Agency (USEPA) Method 21. Analysis of the air quality monitoring undertaken is done against the NAAQS standards in accordance with section 10 of NEM:AQA. uMoya-NILU Consulting indicated in their reports that their technician carries out calibration and maintenance of the analysers, take background recordings of each area, and transfer data to log sheets and ensure calibration checks are done to ensure analyser is within a 10% range. The auditor was provided with calibration certificates that indicate that the measurement and sampling undertaken	None	N/A



No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
		COMPLIANT	NON-COMPLIANT	PARTIALLY COMPLIANT	NOT APPLICABLE	NOTED			
							with the monitoring equipment is SANS accredited.		
	The licence holder is responsible for quality assurance of methods and performance. Where the holder of the licence uses external laboratories for sampling or analysis, accredited laboratories shall be used.						uMoya-NILU Consulting indicated in their reports that their technician carries out calibration and maintenance of the analysers, take background recordings of each of the facilities, and transfer data to log sheets and ensure calibration checks are done to ensure analyser is within a 10% range. The auditor was provided with calibration certificates that indicate that the measurement and sampling undertaken with the monitoring equipment that is SANS accredited.	None	N/A
	Only SANAS Accredited monitoring results will be accepted by the Department of Environment, and all results should be reported to the NAEIS system annually as per the NAEIS regulation.						uMoya-NILU Consulting indicated in their reports that their technician carries out calibration and maintenance of the analysers. The auditor was provided with calibration certificates that indicate that the measurement and sampling undertaken with the monitoring equipment that is SANS accredited. The auditor was also provided with proof of submission of reports to the NAEIS system.	None	N/A
4.4	General requirements for licence holder								

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
		COMPLIANT	NON-COMPLIANT	PARTIALLY COMPLIANT	NOT APPLICABLE	NOTED			
	The licence holder is responsible for ensuring compliance with the conditions of this licence by any person acting on his, her or its behalf, including but not limited to, an employee, agent, sub-contractor or person rendering a service to the holder of the licence.						The condition has been noted.	None	N/A
	The licence does not relieve the licence holder to comply with any other statutory requirements that may be applicable to the carrying on of the listed activity.						The condition has been noted.	None	N/A
	A copy of the licence must be kept at the premises where the listed activity is undertaken. The licence must be made available to the environmental management inspector representing the licensing authority who requests to see it.						A copy of the AEL is kept on the Kolomela Mine shared network where it can be accessed should the inspector request it on site.	None	N/A
	The licence holder must inform, in writing, the licensing authority of any change to its details including the name of the emission control officer, postal address and/or telephonic details.						Izak Gous was appointed as the Air Quality Control Officer at Kolomela. The licensing authority was notified of this change in the form of a letter on 03/04/2021.	None	N/A
4.5	Statutory obligations								
	The licence holder must comply with the obligations as set out in Chapter 5 of the Act.						All AEL triggering activities that require licencing in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:AQA") undertaken at Kolomela have been licenced within the existing	None	N/A

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
		COMPLIANT	NON-COMPLIANT	PARTIALLY COMPLIANT	NOT APPLICABLE	NOTED			
							AEL . This was confirmed by reviewing information provided, site observations.		
4.6	Prescribed AEL processing fee								
	The processing fee for an atmospheric licence application is as indicated in the Annexure A to these regulation						The condition has been noted.	N/A	N/A
5.1	Process description:								
	<ul style="list-style-type: none"> <li>• HME diesel fuel storage facility (2 Vertical fixed roof tanks and 20 Horizontal fixed roof tanks)               <ul style="list-style-type: none"> <li>o 1900000L Diesel</li> <li>o 40000L Lubricants</li> <li>o 20000L Used oil</li> </ul> </li> <li>• temporary diesel bay,</li> <li>• underground diesel and petrol storage,</li> <li>• locomotive storage yard and</li> <li>• emergency diesel power generator tanks</li> <li>• 2745 cubic meter combined volume</li> </ul>						The listed activities have been authorised under the AEL licence in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:AQA")	N/A	N/A
5.3	Process description:								
	Unit process of processes: Refer to AEL figure.						The Licensee takes note of this condition. Site observations did not observe any additional activities undertaken, that would trigger further listed activities other than ones authorised under the AEL.	N/A	N/A
5.4	Hours of operation								

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
		COMPLIANT	NON-COMPLIANT	PARTIALLY COMPLIANT	NOT APPLICABLE	NOTED			
	Kolomela Mine is allowed to operate all activities approved in the AEL on a 24 hour bases 365 days a year.						The condition has been noted.	N/A	N/A
5.5	Graphical process information								
	Layout plan of storage facilities - Refer to AEL						The location of all storage facilities as indicated on the layout plan has not changed. No additional facilities or locations are used except those indicated on the layout plan.	N/A	N/A
6	Raw material and products								
6.1	Raw Materials and Products used type: Refer to table in the AEL						All consumption rates fall within the maximum permitted consumption rate. An expansion of the fuel depot was applied for and authorised under this licence in 2013. No exceedances of the authorised storage volumes have occurred since the approval of this AEL.	N/A	N/A
6.2	Production and By Product rates								
6.4	Emission Units						The LDAR assessment conducted by uMoya-NILU Consulting (Pty) Ltd was undertaken in accordance with United States Environmental Protection Agency (USEPA) Method 21. The measurement of VOC concentrations was undertaken by using a portable FID (flame ionisation detector) analyser in accordance with USEPA Method 21. The analyser used by	N/A	N/A

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							uMoya-NILU is the Thermo Foxboro TVA-1000B.		
7	Control devices, emission units and reporting groups								
7.2	Reporting Group / Emission Unit – Maximum emission rates (under normal working conditions)						None of the product storage facilities on site have a vapour pressure greater than 14kPa on Kolomela Mine.	None	N/A
7.3	Reporting Group / Emission Unit – Maximum emission rates (under start up, maintenance and shut down conditions)						None of the product storage facilities on site have a vapour pressure greater than 14kPa on Kolomela Mine.	None	N/A
7.4	Reporting Group / Emission Unit – emission monitoring and reporting requirements – VOC's annual reporting						An air quality monitoring report conducted by uMoya-NILU Consulting (Pty) Ltd dated May 2021 was submitted to the Department. The report included the pollutants emissions trend as well as the greenhouse gas emissions, as well as VOC emissions as per AEL method 21.	None	N/A
7.6	Routine reporting and record-keeping								
	Complaints register								
	The licence holder must maintain a complaints register at its premises, and such register must be made available for inspections. The complaints register must include the following information on the complainant, namely, the name, physical address, telephone number, date and the time when the complaint was registered. The register should also provide space for noise, dust and offensive odours complaints.						The mine maintains a complaints register on the ENABLON system wherein all complaints relating to all mine operations from I&AP and the general public are recorded and addressed. The auditor was provided with a record (spreadsheet) of complaints from 2017 to date. The register makes provision for the information required in the condition. No	None	N/A

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
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							complaints were recorded for the current audit period.		
	Furthermore, the licence holder is to investigate and, monthly, report to the licencing authority in a summarised format on the total number of complaints logged. The complaints must be reported in the following format with each component indicated as may be necessary: (a) Source code / name; (b) Root cause analysis; (c) Calculation of impacts / emissions associated with incidents and dispersion modelling of pollutants, where applicable; (d) Measures implemented or to be implemented to prevent recurrence; and (e) Date by which measure will be implemented.						The auditor was provided with a record (spreadsheet) of complaints from 2017 to date. No complaints were recorded for the current audit period and therefore no communication has been initiated to the department.	None	N/A
	The licensing authority must also be provided with a copy of the complaints register. The record of a complaint must be kept for at least 5 (five) years after the complaint was made.						No complaints were recorded for the current audit period and therefore no communication has been initiated to the Department. However a copy of the complaints register dated from 2017 is available, as such, complaints lodged in the past 5 years are still on record.	None	N/A

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
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Annual reporting									
	The licence holder must complete and submit to the licensing authority an annual report. The report must include information for the year under review (i.e. annual year end of the company). The report must be submitted to the licensing authority not later than 60 (sixty) days after the end of each reporting period. The annual report must include, amongst others, the following items: (a) Pollutant emissions trend;(b) Compliance audit report(s);(c) Major upgrades projects (i.e. abatement equipment or process equipment); and(d) Greenhouse gas emissions.The holder of the licence must keep a copy of the annual report for a period of at least 5 (five) years.						An annual air quality monitoring assessment and report conducted by uMoya-NILU Consulting (Pty) Ltd dated May 2021 was submitted to the Department as required. The report included the pollutants emissions trend as well as the greenhouse gas emissions.	None	Kolomela
7.7	Investigation								
	The following investigations are required: 1) Section 43L: Reporting of Greenhouse Gases annually; 2) NAEIS reporting: Annual reporting of all emissions to the NAEIS 3) Complaints Register: Recording and record keeping of all complaints; 4) LDAR: Emissions Monitoring reporting & record keeping						The following required investigations have been undertaken by Kolomela : 1)A complaints register is maintained( refer to condition 7.6) 2)NAEIS reporting: proof of submission has been provided 3) LDAR: An annual air quality monitoring assessment and report conducted by uMoya-NILU Consulting (Pty) Ltd dated May 2021 and a Leak Detection and	None	N/A



No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
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							<p>Repair (LDAR) Programme in place. The Kolomela Mine Environmental Management System (EMS - Enablon) fulfils the function of a leak register; and 4) GHG emissions (Refer to discussions under condition 7.4).</p> <p>Kolomela Mine does not have to submit a pollution prevention plan as, as per National pollution prevention plans regulation (GN 712 of 2017) as published in terms NEM: AQA (2004), such is only required for production. The Kolomela Mine AEL is only for the storage of substance and not for production.</p>		
8.	Disposal of waste and effluent arising from abatement equipment control technology								
	The disposal of any waste and effluent arising from the abatement equipment control technology must comply with the relevant legislation and requirements of the relevant authorities. No waste or effluent produced.						Waste is handled in accordance with the mine's waste management procedure (KOL-SHEENV-PRO-0013 Rev06) and waste management strategy. Different waste types are sorted and temporarily	None	N/A

No.	CONDITION	COMPLIANCE					FINDINGS	RECOMMENDATION	RESPONSIBILITY
		COMPLIANT	NON-COMPLIANT	PARTIALLY COMPLIANT	NOT APPLICABLE	NOTED			
	All waste must be disposed or handled according to the Waste Act 59/2008 specifications						stored separately in waste receptacles for collection and disposal by registered contractors. Recyclable waste is taken to the Kuruman Recycling Facility, whilst general waste is taken to the Kuruman Landfill Site, and hazardous waste is taken to the Holfontein Facility. The listed facilities are registered for the disposal of the various waste types, as such, waste is disposed of in accordance with the applicable legislation. All effluent waste is taken to the mine sewage plant for treatment, however no waste or effluent is produced as part of the abatement equipment.		
<b>9.</b>	<b>Penalties for non-compliance with licence and statutory conditions or requirements:</b>								
	Failure to comply with any of the licence and relevant statutory conditions and/or requirements is an offence, and licence holder, if convicted, will be subjected to those						The condition has been noted.	None	N/A

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Title:	Kolomela Mine Atmospheric Emissions Licence Audit
Report Number:	1
Client:	Sishen Iron Ore Company (Pty) Ltd

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