

**IMPLEMENTATION OF AND COMPLIANCE WITH THE ENVIRONMENTAL
MANAGEMENT PLAN FOR THE PERALIN PAINTS FACTORY LOCATED ON
PART 4, FARM GOCHEGANAS NO. 26, KHOMAS REGION, NAMIBIA**



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TABLE OF CONTENTS

1	Introduction.....	5
1.1	Background	5
1.2	Terms of Reference	6
1.3	Environmental Assessment Practitioner	8
2	Environmental Management Plan: Implementation and Compliance.....	9
2.1	Introduction.....	9
2.2	Compliance: Environmental Management Plan.....	9
2.2.1	<i>Compliance with Conditions of Approval.....</i>	<i>9</i>
2.2.2	<i>Compliance with the Conditions in the Notification of Decision.....</i>	<i>10</i>
2.2.3	<i>Compliance with the Environmental Management Plan.....</i>	<i>12</i>
2.3	Compliance: Monitoring and Reporting.....	30
3	Conclusions and Recommendations	31
4	References	32

LIST OF TABLES

Table 1: List of the applications/reports submitted to the Ministry of Environment, Forestry and Tourism since 2016.....	7
Table 2: Compliance with the Conditions of Approval (to ECC-0072; issued 26 July 2022).	9
Table 3: Compliance with the Conditions in the Notification of Decision (to ECC-0072; issued 26 July 2022).	10
Table 4: <i>Revised</i> Environmental Management Plan for Peralin Paints (Pty) Ltd's activities at the Peralin Paints Factory, Khomas Region, Namibia (<i>after Maartens, 2016; 2018a; b; 2019; 2020a; b; 2021a; b; 2022a; b; 2023a; b; 2024a; b; 2025</i>).....	13

LIST OF FIGURES

Figure 1: Map showing the location of the Peralin Paints Factory on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia (<i>Source: Linear Design & Mapping, July 2016</i>).	5
Figure 2: Map showing the Peralin Paints Factory on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia (<i>Source: Linear Design & Mapping, July 2016</i>).....	6
Figure 3: Pictures showing: a) the pre-beacon (right) and two beacons (left); b) the mixer; c) 200 litre drums containing effluent from the paint mixed at the retail shop in Windhoek; d) pre-settlement area; e) and f) clarification area; g) and h) backwashed recycled water from the clarification area is pumped into sumps and marble dust (magnesium carbonate) is used for filtering the recycled water; i) the final, treated effluent is discharged into the environment; j) two, lined concrete platforms; k) and l) the sludge is stored in 200 litre drums or 1,000 litre plastic containers for removal by Rent-a-Drum (<i>Source: L Maartens, 05 July 2016 and 12 July 2022</i>)	28

ACRONYMS AND GLOSSARY

The following is a list of the abbreviations, acronyms, technical terms, and definitions used in this Report:

AIDS	Acquired Immunodeficiency Syndrome
CO	Carbon monoxide
CO ₂	Carbon dioxide
CoW	City of Windhoek
DEA	Directorate of Environmental Affairs
DEAF	Directorate of Environmental Affairs and Forestry
DWA	Department of Water Affairs
EAP	Environmental Assessment Practitioner
EAPAN	Environmental Assessment Professionals of Namibia
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EMS	Environmental Management System
GBCNA	Green Building Council of Namibia
GN	Government Notice
GRN	Government of the Republic of Namibia
H&S	Health and Safety
HIV	Human Immunodeficiency Virus
I&APs	Interested and Affected Parties
IEMA	Institute of Environmental Management and Assessment
IFC	International Finance Corporation
ISEP	Institute of Sustainability and Environmental Professionals
IWM	Integrated Waste Management
km	kilometre
l	litre
m ³	cubic metre
MAWF	Ministry of Agriculture, Water and Forestry
MAWLR	Ministry of Agriculture, Water and Land Reform
MAFWLR	Ministry of Agriculture, Fisheries, Water and Land Reform
MET	Ministry of Environment and Tourism
MEFT	Ministry of Environment, Forestry and Tourism
MFMR	Ministry of Fisheries and Marine Resources
mm	millimetre
MSDS	Material Safety Data Sheet
NCE	Namibia Chamber of Environment
NEBOSH	National Examination Board in Occupational Safety and Health
NO _x	nitrogen oxides
PM	Particulate Matter
PPE	Personal Protective Equipment
SA	South Africa
SHE	Safety, Health, Environment
SO ₂	sulphur dioxide
STIs	Sexually Transmitted Infections
TB	Tuberculosis
UK	United Kingdom
UNAM	University of Namibia
VOC	Volatile Organic Compound
WHO	World Health Organisation

1 Introduction

1.1 Background

Peralin Paints (Pty) Ltd (hereinafter referred to as Peralin Paints) is a wholly owned Namibian Company located on Part 4, Farm Goheganas No. 26 (see Figures 1 and 2), around 30 kilometres (km) to the south of Windhoek, Khomas Region, Namibia.

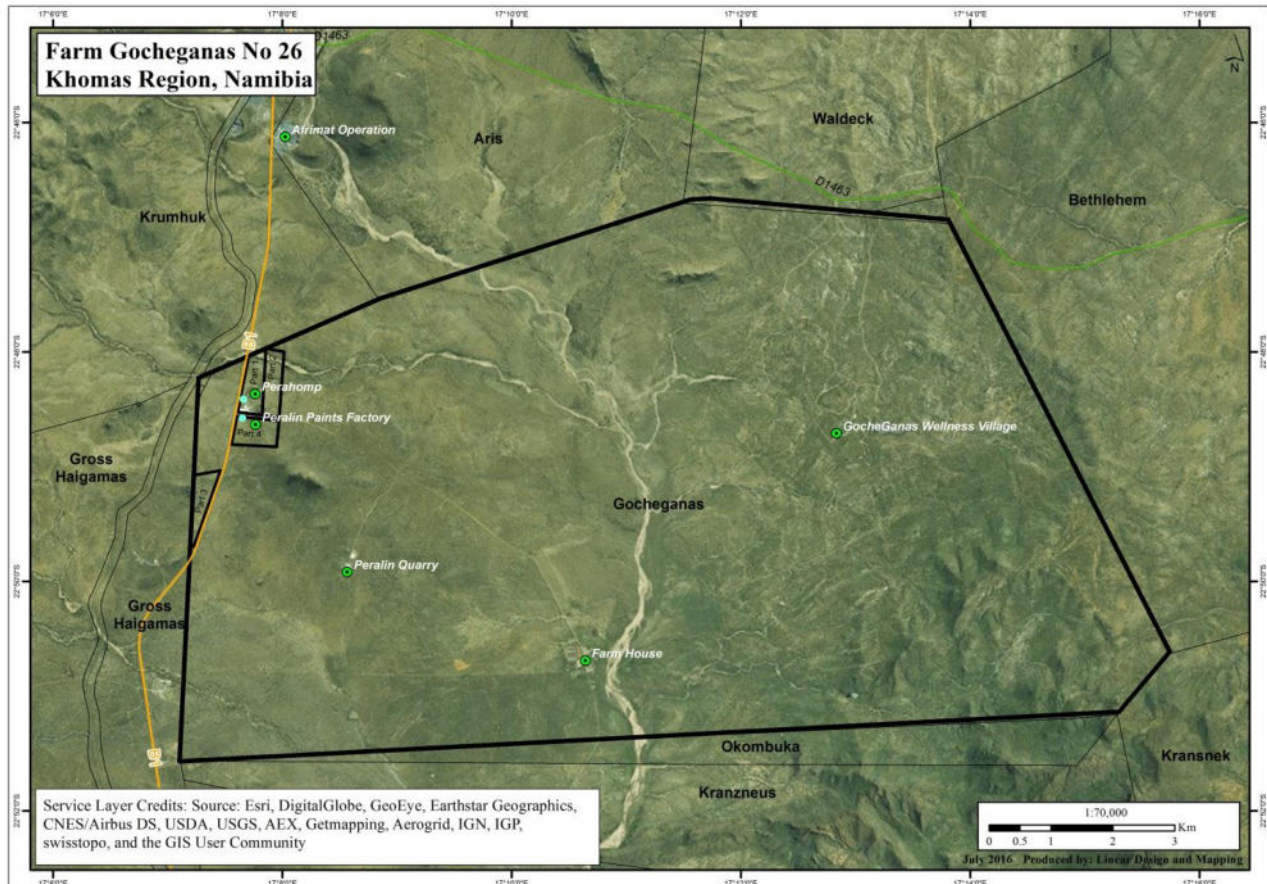


Figure 1: Map showing the location of the Peralin Paints Factory on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia (Source: Linear Design & Mapping, July 2016).

The Rattay and Pesch Families began manufacturing paint from the Aris Hotel's backyard in 1962. In 1966, the Peralin Paints Factory was moved to Part 4 on Farm Goheganas No. 26 and by 1980, Peralin Paints was solely owned by the Rattay family. In 1998, the company was split into Peralin Paints (Pty) Ltd and Peralin (Pty) Ltd. Peralin Paints relied on the Peralin Quarry for material to produce their water-based product range; Peralin (Pty) Ltd has since shut down its operations and rehabilitation of the quarry is underway (Mrs Angelika San, Managing Director (MD), Peralin Paints (Pty) Ltd, pers. comm.).

Peralin Paints has retail outlets in Windhoek (since 1980), Swakopmund (since 2008), and Ongwediva (since 2011).

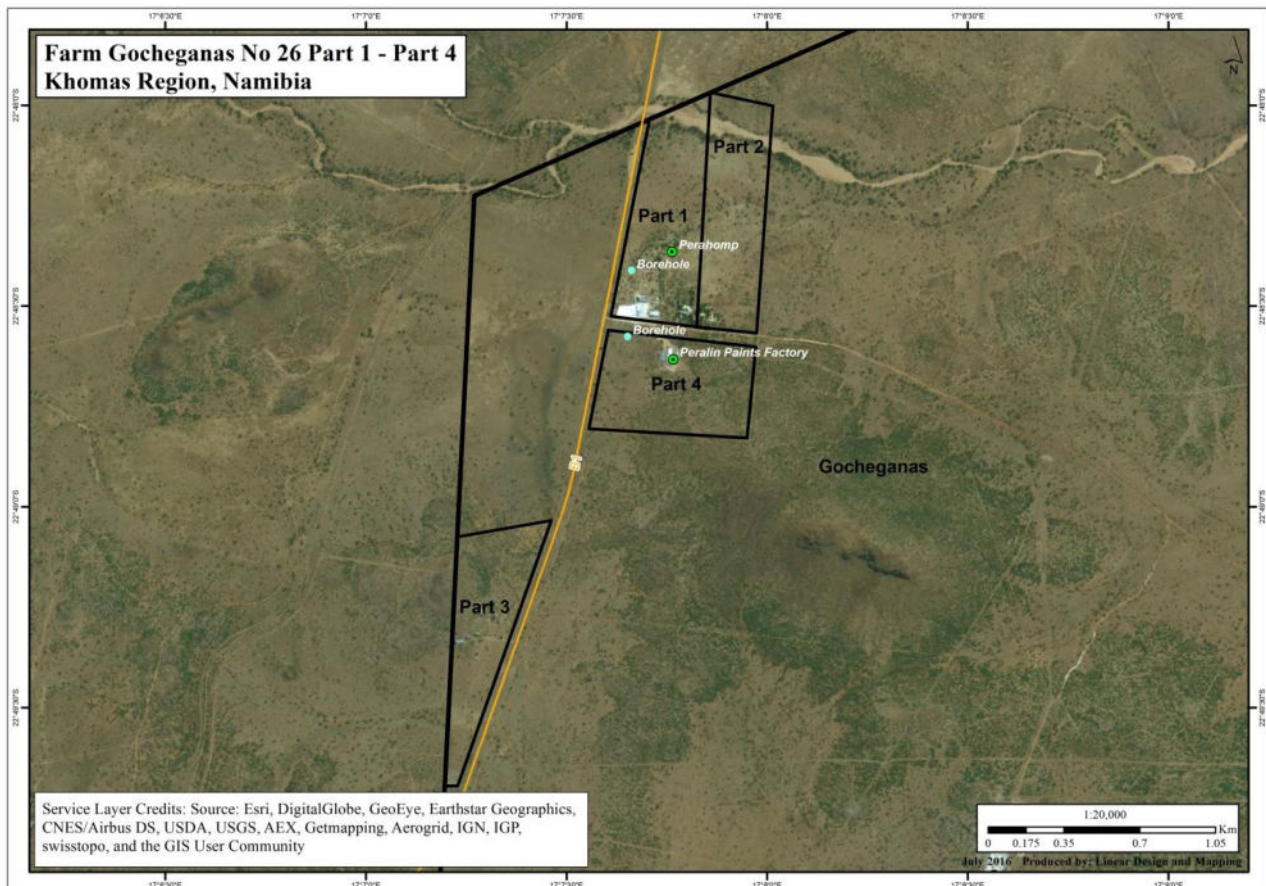


Figure 2: Map showing the Peralin Paints Factory on Part 4, Farm Gocheganas No. 26, Khomas Region, Namibia (Source: Linear Design & Mapping, July 2016).

In line with the Commencement of the Environmental Management Act (EMA), 2007 (Act No. 7 of 2007) (06 February 2012; Government Notice (GN) No. 28), the Listed Activities that may not be undertaken without an Environmental Clearance Certificate (ECC) (GN No. 29), and the Environmental Impact Assessment (EIA) Regulations (GN No. 30) (Government of the Republic of Namibia (GRN), 2012), Peralin Paints (Pty) Ltd applied to the Environmental Commissioner for an ECC on 28 July 2016.

The Company was issued an Environmental Clearance Certificate (ECC) by the Office of the Environmental Commissioner, Ministry of Environment and Tourism (now Ministry of Environment, Forestry and Tourism (MEFT)) on 09 September 2016, 26 July 2019 (ECC0072; renewal), and again on 26 July 2022 (ECC0072; renewal) (see Table 1). The ECC expires on 26 July 2025.

1.2 Terms of Reference

LM Environmental Consulting was appointed by Peralin Paints (Pty) Ltd in 2016 to assist with environmental management-related tasks (see Table 1 for a list of the applications/reports submitted to MEFT to date).

In February 2025, LM Environmental Consulting was again asked by the Managing Director, Peralin Paints (Pty) Ltd to prepare a report, illustrating the implementation of and compliance with the EMP, in aid of the application for the renewal of the ECC for the EMP for Peralin Paints Factory located on Part 4, Farm Gocheganas No. 26, Khomas Region, Namibia.

Table 1: List of the applications/reports submitted to the Ministry of Environment, Forestry and Tourism since 2016.

Application / Report	Date of Submission	Status
Application for an Environmental Clearance Certificate (ECC) & Environmental Management Plan (EMP) for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia (Maartens, 2016)	28 July 2016	ECC (09 September 2016)
Environmental Report for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia. September 2016 to December 2017 (Maartens, 2018a)	24 January 2018	No feedback received from the Directorate of Environmental Affairs (DEA), Ministry of Environment and Tourism (MET)
Environmental Report for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia. January to September 2018 (Maartens, 2018b)	18 January 2019	No feedback received from the DEA, MET
Application for the renewal of the ECC & Audit Report (APP-00160): Implementation of and Compliance with the Environmental Management Plan for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia (Maartens, 2019)	20 June 2019	Renewed ECC (26 July 2019)
Environmental Report for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia. July to December 2019 (Maartens, 2020a)	28 January 2020 (online); 29 January 2020 (hard copy)	No feedback was received from the DEA, MET
Environmental Report for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia. January to July 2020 (Maartens, 2020b)	17 August 2020 (online and hard copy)	No feedback was received from the Directorate of Environmental Affairs and Forestry (DEAF), Ministry of Environment, Forestry and Tourism (MEFT)
Environmental Report for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia. August 2020 to January 2021 (Maartens, 2021a)	30 January 2021 (online); 01 February 2021 (hard copy)	No feedback was received from the DEAF, MEFT
Environmental Report for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia. February 2021 to July 2021 (Maartens, 2021b)	31 August 2021 (online) and 01 September 2021 (hard copy)	No feedback was received from the DEAF, MEFT
Environmental Report for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia. August 2021 to January 2022 (Maartens, 2022a)	23 February 2022 (online and hard copy)	No feedback was received from the DEAF, MEFT
Application for the renewal of the ECC & Audit Report (APP-0010419): Implementation of and Compliance with the Environmental Management Plan for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia (Maartens, 2022b)	14 July 2022 (online) and 21 July 2022 (hard copy) – MEFT's Online Portal collapsed shortly after	Renewed ECC-0072 (26 July 2022)
Environmental Monitoring Report for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia. August 2022 to January 2023 (Maartens, 2023a)	15 February 2023 (hard copy only)	No feedback was received from the DEAF, MEFT
Environmental Monitoring Report for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region, Namibia. February to July 2023 (Maartens, 2023b)	17 August 2023 (hard copy only)	No feedback was received from the DEAF, MEFT
Environmental Monitoring Report for the Peralin Paints Factory located on Part 4, Farm Goheganas No. 26, Khomas Region,	29 February 2024 (hard copy only)	No feedback was received from the DEAF, MEFT

Application / Report	Date of Submission	Status
Namibia. August 2023 to January 2024 (Maartens, 2024a)		
Environmental Monitoring Report for the Peralin Paints Factory located on Part 4, Farm Gocheganas No. 26, Khomas Region, Namibia. February to July 2024 (Maartens, 2024b)	04 September 2024 (hard copy only)	No feedback was received from the DEAF, MEFT
Environmental Monitoring Report for the Peralin Paints Factory located on Part 4, Farm Gocheganas No. 26, Khomas Region, Namibia. August 2024 to January 2025 (Maartens, 2025)	17 February 2025 (hard copy only)	No feedback was received from the DEAF, MEFT
Application for the renewal of the ECC & Audit Report (APP-005581): Implementation of and Compliance with the Environmental Management Plan for the Peralin Paints Factory located on Part 4, Farm Gocheganas No. 26, Khomas Region, Namibia (this report)	26 April 2025 (online) and 28 April 2025 (hard copy)	This report

1.3 Environmental Assessment Practitioner

The author of this Report is Dr Lima Maartens who has more than 32 years of experience in natural resource management (*she gained her doctorate (Ph.D.) in Fisheries Science from Rhodes University, South Africa (SA) while working for the Namibian Ministry of Fisheries and Marine Resources (MFMR) in 2000*), lecturing (*University of Namibia (UNAM)*), environmental science and management (*De Beers Marine Namibia and the Canadian Forsys Metals Corp*), and consulting (*Dr Maartens established LM Environmental Consulting in October 2009*).

Sectors that she worked in as an Environmental Assessment Practitioner (EAP) include: exploration (including offshore oil and gas); mining and quarrying; renewable energy (solar and wind); tourism; manufacturing; agriculture; aqua- and mariculture; township, property (including medicine storage facilities) and waterfront developments, transport (rail and road), and infrastructure.

Dr Maartens is registered as a Lead Practitioner and Reviewer with the Environmental Assessment Professionals of Namibia (EAPAN) (she served on the Executive Committee during 2016/17), an Associate Member and Environmental Auditor with the Institute of Sustainability and Environmental Professionals (ISEP) (previously the Institute of Environmental Management and Assessment (IEMA)) in the United Kingdom (UK), a Full Member of the Namibia Chamber of Environment (NCE), and a Member of the Namibia Scientific Society.

She has published five peer-reviewed scientific research articles (and three as co-author), six popular articles (and one as co-author), one book chapter (and one book chapter as co-author), 186 technical reports (LM Environmental Consulting), three technical reports (for De Beers Marine Namibia), and one conference paper.

2 Environmental Management Plan: Implementation and Compliance

2.1 Introduction

As part of the EMP performance review, the following actions were carried out:

- A meeting was held with the Managing Director, Mrs Angelika San, followed by a site walk-through, on 01 April 2025 (note that an in-depth site inspection was carried out in aid of an Environmental Practical Application that the author of this report undertook as part of a NEBOSH (National Examination Board in Occupational Safety and Health) Certificate in Environmental Management (see Maartens, 2018b: Annexure A - Risk Assessment) on 24 May 2018);
- The following information was made available by Mrs Angelika San:
 - Excel sheet: Farm Gocheganas Part 1 borehole meter reading (February 2018 to date);
 - Excel sheet: Farm Gocheganas Part 4 borehole meter reading AND water level of borehole (July 2024 to date);
 - Excel sheet: Rainfall Farm Gocheganas Part 1 (October 2019 to date);
 - Excel sheet: Monthly water consumption (October 2016 to date); and
 - Peralin Paints Groundwater Monitoring Report 2023-2024 (SLR Environmental Consulting (Namibia) (Pty) Limited (SLR), 2024);
 - TEST REPORT I250588/1 – Tap Water (Peralin Paints Factory - Farm Gocheganas Part 4) 13 March 2025 and reported on 26 March 2025; and
 - TEST REPORT I250588/2 – Effluent Water 13 March 2025 and reported on 04 April 2025;
- A meeting was held with Mrs Angelika San and Mrs Ester Gustavo, Associate Hydrogeologist and Namibia Team Lead Hydrology & Hydrogeology, SLR, on 08 April 2025; SLR was appointed by Peralin Paints to assist with obtaining a wastewater discharge exemption permit and with the renewal application for permit numbers 11,235 and 11,329 in January 2020.

2.2 Compliance: Environmental Management Plan

To illustrate compliance with: i) Conditions of Approval to the ECC; ii) Conditions (Notification of Decision); and iii) the Environmental Management Plan (EMP; see Maartens, 2022b), the following colour codes were applied:

	Compliance/Completed
	In Progress/Ongoing
	Non-compliance
	Not (Currently) Applicable
	Changes made to the existing EMP
	Unknown
	Not audited

The EMP (see Maartens, 2016; 2019; 2022b; also see International Finance Corporation (IFC), 2007) is not a static document and the document should be updated as activities at the Peralin Paints Factory progress.

2.2.1 Compliance with Conditions of Approval

Compliance with the Conditions of Approval to the ECC-0072, issued 26 July 2022, is indicated in Table 2.

Table 2: Compliance with the Conditions of Approval (to ECC-0072; issued 26 July 2022).

Condition of Approval	Compliance / Comments (April 2025)
1. This environmental clearance is valid for a period of 3 (three) years, from the date of issue unless withdrawn by this office	Ongoing
2. This certificate does not in any way hold the Ministry of Environment, Forestry and Tourism accountable for misleading information, nor any adverse effects that may arise from these activities. Instead, full accountability rests with the proponent and its consultants	Ongoing
3. This Ministry reserves the right to attach further legislative and regulatory conditions	Ongoing

during the operational phase of the project	
4. All applicable and required permits are obtained and mitigation measures stipulated in the EMP are applied particularly with respect to management of ecological impacts.	Ongoing
5. Strict compliance with national heritage guidelines and regulations is expected throughout the life-span of the proposed activity, therefore any new archaeological finds must be reported to the National Heritage Council for appropriate handling of such.	Not Applicable

2.2.2 Compliance with the Conditions in the Notification of Decision

Compliance with the Conditions in the Notification of Decision, dated 21 September 2022, is indicated in Table 3.

Table 3: Compliance with the Conditions in the Notification of Decision (to ECC-0072; issued 26 July 2022).

Conditions	Compliance / Comments (April 2025)
C1: Conditions of Approval	
1. This certificate does not in any way hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from these activities. Instead, full accountability rests with the proponent and its consultants.	Ongoing
2. This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project.	Ongoing
3. Regular environmental monitoring and evaluations on environmental performance should be conducted. Targets for improvements should be established and monitored throughout this process.	Ongoing
4. This environmental clearance is valid for a period of 3 (three) years, from the date of issue unless withdrawn by this office.	Ongoing
C2: Clearance Certificate Validity	
1. On expiry of the ECC, the proponent is required to submit within a period not exceeding one month, and in the prescribed form and manner an application to the Office of the Environmental Commissioner for the renewal of the ECC.	The application for the renewal of the ECC was submitted on 01 April 2025 (online) and 26 and 28 April 2025 (online and hard copy).
2. Failure to renew an expired environmental clearance certificate shall result in permanent termination of the environmental clearance certificate.	
3. In terms of Section 3 (2)C of the Environmental Impact Assessment, you are instructed to, within 14 days of this notice issuance date, ensure that all registered interested and affected parties ("I&APs") are notified that an environmental clearance certificate has been issued in respect to your application and of their right to appeal	Not Applicable
C3: Compliance with authorization under other laws	
4. All other applicable and required permits or authorization from relevant competent authorities must be obtained prior to commencing the proposed activities and accordingly adhered to.	Compliant and ongoing
C4: Implementation and Monitoring	
5. The granting of the Environmental Clearance Certificate (ECC) constitute, an approval for the implementation of mitigation measures proposed in your approved Environmental Management Plan (EMP), hence making the approved EMP legally binding document.	Ongoing
6. The proponent shall appoint a suitably experienced environmental control officer, or site agent where appropriate, before the commencement of any listed activities to ensure compliance with the conditions of approval and mitigation stipulated in the approved EMP	Mr Likius Hamalwa joined the Company on 09 August 2021 as the Safety Officer. All (four) sections, that is the Paint Factory, and the retail shops in Windhoek, Swakopmund, and

	<p>Ongwediva have representatives for Health and Safety (H&S) (OSH), First Aid, and Fire Fighting that report to Mr Hamalwa, and who in turn reports to Mrs Angelika San (see Maartens, 2022b; 2023a; b; 2024a; b; 2025).</p> <p>At the moment, Mrs Angelika San is responsible for all the environmental management-related tasks. Some tasks, however, have already been taken over by Mr Hamalwa (e.g. water sampling, checking the machinery/pumps/pools for the effluent water, and waste management) (Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p>
7. The proponent shall erect a signboard not smaller than 70 cm in height and 100 cm in width, at the major entrance/s to project site / premises, specifying the title of their approved activity, the name of the ECC holder, and a contact details for enquiries.	A notice/sign board relating emergency contact details was put up at the entrance to the Peralin Paints Factory (see Maartens, 2019; 2020a; b; 2021a; b; 2022a; b; 2023a; b; 2024a; b; 2025).
8. A copy of the Environmental Clearance Certificate (ECC), EMP, Environmental Audit and monitoring reports must be kept at the site of the authorized activity and readily available for inspection by officials of the Ministry and registered Interested and affected Parties (I&APs) on request.	Copies of the ECCs and the reports are kept on file (L. Maartens, pers. obs. 01 April 2025).
9. Officials of the environmental commissioner's office may from time-to-time conduct spot-inspection (non-auditing) without prior notice and or Auditing Inspection (dates to be agreed prior to arrival to the site), hence access to the site and the aforementioned documentation must be granted to any authorized official representing the Office of the Environmental Commissioner and Registered	Ongoing

Interested and Affected Parties (I&APs)	
10. Officials representing the Office of the Environmental Commissioner must be, in possession and or by request and for the purpose of inspection referred to in C4(9) present the staff identification card in order to gain entry to the premises	Ongoing
11. The proponent is required, from the date of commencing implementation of project activities, to compile and submit environmental monitoring reports (on project progress and the environmental management profile) on a bi-annual basis to Office of Environmental Commissioner	See Maartens (2023a; b; 2024a; b; 2025).
12. Any changes to, or deviations from the scope of project activities approved in respect to the assessment received and reviewed for the purpose of granting this ECC Number (ECC 0072) are subject to an amendment application and approval by the Environmental Commissioner prior to adopting / implementing any such changes / deviations.	Not (Currently) Applicable
13. For the purpose of amending and or transferring the ECC, the proponent submit in the prescribed form and manner an application to the Office of the Environmental Commissioner, clearly indicating the need for amendment and or transfer of the ECC	Not (Currently) Applicable
14. Non-compliance with a condition of this Environmental Clearance Certificate or EMP may render the Proponent liable to criminal prosecution.	Ongoing

2.2.3 Compliance with the Environmental Management Plan

Compliance with the Environmental Management Plan is indicated in Table 4 (see Maartens, 2016; 2019; 2022b; also see International Finance Corporation (IFC), 2007).

The EMP is not a static document, and the document should be updated as activities at the Peralin Paints Factory progress.

Table 4: *Revised* Environmental Management Plan for Peralin Paints (Pty) Ltd's activities at the Peralin Paints Factory, Khomas Region, Namibia (*after Maartens, 2016; 2018a; b; 2019; 2020a; b; 2021a; b; 2022a; b; 2023a; b; 2024a; b; 2025*).

Aspect	Impact	Mitigation & Management Measures	Compliance & Comments (01 April 2025)
Social and Environmental Performance			
Management and Monitoring	Social and Environmental Performance	Adhere to all Namibian Legislation, including Best Practice Guidelines.	Ongoing
		Ensure that all aspects related to the Environmental Management Plan (EMP) are implemented.	Ongoing
		Hold regular site meetings/inspections. Make provision in the minutes of the meetings for reporting on all aspects of the EMP.	<p>Ongoing</p> <p>Regular meetings are not held and minutes are not recorded (Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm.). However, inspections take place on a continuous basis and adequate mechanisms for communicating health, safety and environmental management-related matters/procedures/plans are in place.</p> <p>The Managing Director/Operations Manager has an “open door policy”; anything urgent is to be immediately reported to the Managing Director (in person, or telephonically) (see Maartens, 2022b).</p> <p>Mr Likius Hamalwa joined the Company on 09 August 2021 as the Safety Officer. All (four) sections, that is the Paint Factory, and the retail shops in Windhoek, Swakopmund, and Ongwediva have representatives for Health and Safety (H&S) (OSH), First Aid, and Fire Fighting that report to Mr Hamalwa, and who in turn reports to Mrs Angelika San (see Maartens, 2022b; 2023a; b; 2024a; b; 2025). At the moment, Mrs Angelika San is responsible for all the environmental management-related tasks. Some tasks, however, have already been taken over by Mr Hamalwa (e.g. water sampling, checking the machinery/pumps/pools for the effluent water, and waste management) (Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p>
Consultation and Disclosure	Social and Environmental Performance	<p>Maintain open and direct lines of communication with the Authorities and Interested and Affected Parties (I&APs) (e.g. the Ministry of Environment, Forestry and Tourism (MEFT), the Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR), and the City of Windhoek (CoW)) with regards to environmental matters.</p> <p>Consult with I&APs throughout the project process and adequately incorporate I&APs' concerns.</p>	Compliant and ongoing
Grievance Mechanism	Social and Environmental Performance	Implement a grievance mechanism for receiving and resolving any concerns and grievances related to the project's social and environmental performance throughout the project life cycle.	<p>Compliant and ongoing</p> <p>The staff report their grievances to Mr Hamalwa, who then reports these to Mrs San.</p>

Aspect	Impact	Mitigation & Management Measures	Compliance & Comments (01 April 2025)
		<p>Inform all staff and I&APs about the mechanism.</p> <p>Address concerns promptly and transparently and in a culturally appropriate manner.</p> <p>Keep a register of all concerns/issues received from staff and I&APs, as well as the measures taken to address these.</p>	<p>The Managing Director/Operations Manager also has an “open door policy”; anything urgent is to be immediately reported to the Managing Director (in person, or telephonically).</p> <p>When staff put their grievances in writing, the letters are kept in a “Personnel Management File” (see Maartens, 2022b).</p>
Training, including awareness and inductions	Social and Environmental Performance	<p>Train employees and contractors in matters related to the project’s social and environmental performance and Namibia’s regulatory requirements.</p> <p>Ensure adequate environmental awareness training for all senior site personnel.</p> <p>Give environmental induction presentations to all site personnel.</p>	<p>Compliant and ongoing</p> <p>Training courses, including refresher courses, are provided to staff with regards to all the Safety Equipment used (including Personal Protective Equipment (PPE)), Firefighting, First Aid, and Health and Safety (see Maartens, 2022b; 2023a; b; 2024a; b; 2025).</p> <p>Environmental awareness training is ongoing. Topics that are covered include e.g.: treatment of the trade effluent and recycling; staff are to report any leaking taps (one person checks all the taps every afternoon before closure), and are encouraged to save water in the production process (where feasible) in order to reduce the amount of trade effluent; reducing energy use (by switching off lights and equipment when not in use); and waste management (especially with regards to the re-use of waste, that waste should be segregated, and that littering is not allowed).</p> <p>Working Procedures (mixing of paint and the handling of raw materials), Safety Rules and a Procedure (Accident at Work), a Fire Escape Plan/Procedure, and a list of all the Company’s H&S Representatives, are displayed on a Notice Board (and has been communicated to staff). It was planned to add a second notice board at all (four) sections so that there will be a notice board for H&S, and a notice board for personnel-related issues (see Maartens, 2022b); this has since been done, (Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p> <p>Previously, inductions were given to all contractors by the H&S Representative (see Maartens, 2018a; 2018b). Peralin Paints (Pty) Ltd prepared a document that all contractors will be required to fill out before they enter any of the four sections (see Maartens, 2022b; 2023a; b; 2024a; b). A copy of the document was made available to LM Environmental Consulting on 11 February 2025 (see Maartens, 2025).</p>

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Employment and procurement opportunities	Social and Environmental Performance	Source contracting companies/service providers/experts/workers based on merit and expertise giving preference to local contractors/service providers/experts/workers on condition that the local contractors/service providers/experts/workers have the required experience and expertise.	<p>Compliant and ongoing</p> <p>Peralin Paints currently employs 32 permanent staff and four (4) staff are on probation (25 males and nine (9) females): nine (9) persons at the Peralin Paints Factory; 16 persons at the retail shop in Windhoek; five (5) persons at the retail shop in Swakopmund, and six (6) persons at the retail shop in Ongwediva.</p> <p>Peralin Paints (Pty) Ltd is currently offering two (2), three-year apprenticeships within the sales department in Windhoek. The first apprentice started in June 2024 and will attend a week-long training course once a month (Maartens, 2024b); the second person started their apprenticeship in November 2024 (Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p> <p>Contractors currently include: Absolute Logistics (delivery of goods to Ongwediva), an electrician (twice per year; to clean out the electricity boxes (and thus to prevent any short circuits) / replace bulbs), a contractor doing machinery maintenance check-ups (once a year), Ultra scales cc (calibration of scales twice a year), Namcon Logistics (delivery of raw materials), and Rent-a-Drum (waste removal) (see Maartens, 2022b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p> <p>Previously, inductions were given to all contractors by the H&S Representative (see Maartens, 2018a; 2018b). Peralin Paints (Pty) Ltd prepared a document that all contractors will be required to fill out before they enter any of the four sections (see Maartens, 2022b; 2023a; b; 2024a; b). A copy of the document was made available to LM Environmental Consulting on 11 February 2025 (see Maartens, 2025).</p>
		Source maximally from local resources to ensure maximum economic beneficiation of local businesses in terms of new business sales.	Compliant and ongoing
Labour and Working Conditions	Social and Environmental Performance	Establish, maintain and improve the worker-management relationship. Base the employment relationship on equal opportunity and fair treatment and no discrimination to be allowed.	Compliant and ongoing
		<p>Comply with Namibia's labour and employment laws.</p> <p>Promote safe and healthy working conditions and the protection and promotion of worker health.</p>	<p>Peralin Paints sub-contracts a Labour Consultant, Mr Nils Serrer from Totus Consulting (see Maartens, 2022b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p> <p>Compliant and ongoing</p> <p>The Managing Director is ultimately responsible to ensure that there are no harm (caused) to any of the staff/sub-contractors (while carrying out their work duties), and/or damage to the environment. Management recognises that any incident that has an effect on people's health and safety will also have a significant impact on the environment) (see Maartens, 2018b).</p>

Aspect	Impact	Mitigation & Management Measures	Compliance & Comments (01 April 2025)
			<p>Safety Rules are in place (see Maartens, 2016).</p> <p>Dr Matare from Northlands Medical Group was appointed (see Maartens, 2019); the staff received medical check-ups in August 2022 (see Maartens, 2023a), September 2023 (surveillance/testing was carried out in August 2023) (see Maartens, 2024a), and August 2024 (see Maartens, 2024b).</p> <p>Measures were implemented to protect the entire team (including contractors) against the SARS-CoV-2 Virus that causes COVID-19 (see Maartens, 2020b; 2021a; b). A procedure is in place should an employee of Peralin Paints test positive for Covid-19 (see Maartens, 2020b; 2021a; b; 2022a; b). On the 23rd of August 2024, awareness training (based on information provided by the World Health Organisation (WHO)) re the monkeypox (mpox) virus, was given to all staff (see Maartens, 2024b).</p> <p>Namibia Medical Care (NMC) provided information re HIV/AIDS and Tuberculosis (TB), via Zoom, to all employees (Maartens, 2023a). During September/October 2024, Peralin Paints (Pty) Ltd arranged for the staff to meet with Northlands Medical Group, who spoke to the employees about HIV/AIDS and Tuberculosis (TB) (see Maartens, 2025).</p>
		Document and communicate the Working Conditions and Terms of Employment.	Compliant and ongoing
		Respect Collective Agreements and the right of workers to organize and bargain collectively.	<p>Compliant and ongoing</p> <p>A team of people within Peralin Paints, and consisting of one person working at the Paint Factory, one person from the Sales Department, and two people from Management, is responsible to resolve/undertake e.g. affirmative action (AA) matters (two people, one male and one female, specifically deal with AA matters), salary negotiations, and other matters (e.g. the cost of the medical aid) (see Maartens, 2022b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p> <p>In 2022 and again in 2024, Management spoke to every employee in person (see Maartens, 2022b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p>
		Implement a Grievance Mechanism.	See above
Occupational Health and Safety and Security	Social and Environmental Performance	Adhere to all Namibia's Health and Safety Regulations (Labour Act, 1992: Regulations Relating to the Health and Safety of Employees at Work).	<p>Compliant and ongoing</p> <p>The Managing Director is ultimately responsible to ensure that there are no harm (caused) to any of the staff/sub-contractors (while carrying out their work duties), and/or damage to the environment. Management recognizes that any incident that has an effect on people's health and safety will also have a significant impact on the environment) (see Maartens, 2018b).</p>

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		Ensure that an HIV/AIDS Policy and Programme and Health and Safety Plan is in place.	Peralin Paints (Pty) Ltd prepared an HIV/AIDS Policy for the Company (see Maartens, 2024b). A copy of the final (updated) HIV/AIDS Policy was made available to LM Environmental Consulting on 12 February 2025 (see Maartens, 2025).
		A SHE (Safety, Health, Environment) Representative to be appointed once the staff complement reaches 20.	Compliant and ongoing Mr Likius Hamalwa joined the Company on 09 August 2021 as the Safety Officer. All (four) sections, that is the Paint Factory, and the retail shops in Windhoek, Swakopmund, and Ongwediva have representatives for Health and Safety (H&S) (OSH), First Aid, and Fire Fighting that report to Mr Hamalwa, and who in turn reports to Mrs Angelika San (see Maartens, 2022b; 2023a; b; 2024a; b; 2025). At the moment, Mrs Angelika San is responsible for all the environmental management-related tasks. Some tasks, however, have already been taken over by Mr Hamalwa (e.g. water sampling, checking the machinery/pumps/pools for the effluent water, and waste management) (Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).
		Occupational Health and Safety Training to be provided to all employees.	Compliant and ongoing Training courses, including refresher courses, are provided to staff with regards to all the Safety Equipment used (including Personal Protective Equipment (PPE)), Firefighting, First Aid, and Health and Safety (see Maartens, 2022b; 2023a; b; 2024a; b; 2025).
		Ensure that employees are trained in the use of appropriate fire fighting equipment and ensure that such equipment is on hand at all times.	Compliant and ongoing There are several fire extinguishers (<i>last serviced in May 2024 – personal observation, 01 April 2025</i>) at the Peralin Paints Factory, as well as taps where water can be obtained from. There is a documented Fire Escape Plan, the staff are adequately trained, and fire drills are carried out twice annually (see Maartens, 2018b). Of all the identified hazards, i.e. fire, flooding, major spills/leaks, the biggest risk is that of forest fires that may spread onto the property of the Peralin Paints Factory. For this reason, the grass around the property is taken out manually every year around May/June (to create a fire break) (see Maartens, 2018b). The latter will be done again in April 2025 (Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).
		Comply with all safety regulations re. electricity supply.	Compliant and ongoing An electrician visits the Peralin Paints Factory every six months (to clean out the electricity boxes (and thus to prevent any short circuits)), as well as the retail shop in Windhoek (see Maartens, 2022b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).

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		Provide and ensure the active use of PPE (e.g. protective glasses and dust masks in dusty working conditions, overalls, gloves, safety shoes and hard hats).	Compliant and ongoing (see Safety Rules; Maartens, 2016).
		Make suitable arrangements, as far as practicable, for the maintenance of health, the prevention and overcoming of outbreaks of disease (e.g. TB) and of adequate first aid services.	<p>Compliant and ongoing</p> <p>Dr Matare from Northlands Medical Group was appointed (see Maartens, 2019); the staff received medical check-ups in August 2022 (see Maartens, 2023a), September 2023 (surveillance/testing was carried out in August 2023) (see Maartens, 2024a), and 14 and 15 August 2024 (see Maartens, 2024b).</p> <p>Measures were implemented to protect the entire team (including contractors) against the SARS-CoV-2 Virus that causes COVID-19 (see Maartens, 2020b; 2021a; b). A procedure is in place should an employee of Peralin Paints test positive for Covid-19 (see Maartens, 2020b; 2021a; b; 2022a; b). On the 23rd of August 2024, awareness training (based on information provided by the World Health Organisation (WHO)) re the monkeypox (mpox) virus, was given to all staff (see Maartens, 2024b).</p> <p>Namibia Medical Care (NMC) provided information re HIV/AIDS and Tuberculosis (TB), via Zoom, to all employees (Maartens, 2023a). During September/October 2024, Peralin Paints (Pty) Ltd arranged for the staff to meet with Northlands Medical Group, who spoke to the employees about HIV/AIDS and Tuberculosis (TB) (see Maartens, 2025).</p> <p>The First Aid Kits are checked annually (and expired medication, etc. replaced) (see Maartens, 2022b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p>
		Supply potable water for human consumption and other domestic uses; conduct chemical testing of water samples; drinking-water quality to be in accordance with the MAWF's Water Quality Guidelines and Standards for Potable Water (2008) Water Quality Guidelines and Standards for Potable Water (Annexure 1 to the Water Resources Management Regulations 2023: Water Resources Management Act 2013).	<p>Compliant and ongoing</p> <p>Chemical tests were carried out at Analytical Laboratory during 2016 (four tests), 2018 (one test), 2021 (one test) (see Maartens, 2022b), and 2023 (two tests; see Maartens, 2023a; b). The tap water was found to be of excellent quality (Group A) (Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm.).</p> <p>The borehole water from the borehole on Part 4 was tested at the beginning of June 2023, and again on 29 May 2024; the water was found to be of excellent quality (Group A) (see Maartens, 2023b; 2024b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm.).</p> <p>A drinking water sample (from the borehole on Part 4) was collected and submitted to Analytical Laboratory for testing on 13 March 2025. The water was tested and classified as being acceptable (as per Water Resources</p>

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			<p>Management Regulations, Water Resources Management Act, 2013 (No 11) and the South African Water Quality Guidelines Volume 5: Agricultural water use: Livestock watering, Second Edition, 1996).</p> <p>It was advised that chemical tests be carried out at least annually, preferably every six months (see Maartens, 2022b), or as required by the Water Resources Management Regulations 2023: Water Resources Management Act 2013.</p>
		Prevent communicable disease (e.g. Sexually Transmitted Infections (STIs) such as HIV transmission): provide surveillance and active screening and treatment of employees; prevent illness among employees (through health awareness and education initiatives); ensure ready access to medical treatment, confidentiality and appropriate care, particularly with respect to migrant workers; and promote immunization.	<p>Dr Matare from Northlands Medical Group was appointed (see Maartens, 2019); the staff received medical check-ups in August 2022 (see Maartens, 2023a), September 2023 (surveillance/testing was carried out in August 2023) (see Maartens, 2024a), and 14 and 15 August 2024 (see Maartens, 2024b).</p> <p>Measures were implemented to protect the entire team (including contractors) against the SARS-CoV-2 Virus that causes COVID-19 (see Maartens, 2020b; 2021a; b). A procedure is in place should an employee of Peralin Paints test positive for Covid-19 (see Maartens, 2020b; 2021a; b; 2022a; b). On the 23rd of August 2024, awareness training (based on information provided by the World Health Organisation (WHO)) re the monkeypox (mpox) virus, was given to all staff (see Maartens, 2024b).</p> <p>Namibia Medical Care (NMC) provided information re HIV/AIDS and Tuberculosis (TB), via Zoom, to all employees (Maartens, 2023a). During September/October 2024, Peralin Paints (Pty) Ltd arranged for the staff to meet with Northlands Medical Group, who spoke to the employees about HIV/AIDS and Tuberculosis (TB) (see Maartens, 2025).</p>
		Ensure that security arrangements are in place.	<p>Compliant and ongoing</p> <p>The entire property is fenced off, and there is a security (alarm) system (see Maartens, 2018b).</p> <p>During 2019, the perimeters were debushed and upgraded (see Maartens, 2022b).</p> <p>Baboons in the area are a nuisance; the cameras and lights have been damaged, and water taps have been opened (resulting in water losses) (see Maartens, 2022b; 2023a; b; 2024a; b). The pipeline to the water tanks was damaged three times during one of the reporting periods, and it was decided to put in a trough so that the baboons could drink water from there (Maartens, 2024b). An electrical fence was constructed around the Peralin Paints Factory; the fence was completed in mid-February 2025 (see Maartens, 2025; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p>

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		<p>Restrict all activities to previously demarcated areas; all other areas will be regarded as "no go" zones in order to minimize the impact on the surrounding land.</p> <p>No trespassing on adjoining properties is allowed and no game/vegetation is to be interfered with.</p>	
Peralin Paints Factory	Pollution of biophysical environment (air, soil and water)	Toilets to be provided and used at the Peralin Paints Factory. There are four flush toilets (one for females and three for males) at the Peralin Paints Factory that drain into a French drain system.	Compliant and ongoing (see Maartens, 2016)
		Sanitary wastewater to be released into a French drain system.	
		Use bio-degradable detergents on site.	Toilets are cleaned once a week and Sunlight Liquid is used in the kitchen (Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm.). The latter contains: anionic detergents, solubilisers, colourants and perfume (see https://www.sunlight.co.za/products/sunlight-dishwashing-liquid) (see Maartens, 2022b).
		Vehicle maintenance/servicing not to be allowed on site.	Vehicle maintenance/servicing does not take place on-site.
		Fuel tanks (portable), and chemicals (if relevant) are to be properly stored and transported.	The truck is washed every two to three weeks, and the bus (used) every week (on-site) (see Maartens, 2022b).
		Immediately report and clean up any accidental hydrocarbon spill: Sunisorb, Drizit, Peatsorb can be used to clean up small spills; in case of larger spills, the spill together with the polluted soil should be removed and disposed of at e.g. a biological remediation site; ensure the availability of absorbent pads and/or spill kits and ensure that personnel are trained in their use.	Compliant and ongoing (see below: Hazardous Materials Management)
		Enforce proper waste (hazardous and non-hazardous) management practices (as per Waste Management Plan) – waste and litter to be disposed of in scavenger and weatherproof bins and the refuse to be collected and disposed of at least once a week.	Compliant and ongoing (see below: Waste Management)
Traffic, presence and movement of machinery	Air quality (dust or Particulate Matter (PM) pollution)	Minimize dust generation from vehicles on the roads; all vehicles/trucks moving on the gravel roads should not exceed 60 km/h; all vehicles, trucks moving within the Factory area should not exceed 30 km/h.	Compliant and ongoing

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		Minimize the area in which the movement of vehicles will take place to reduce the effects of dust pollution.	Compliant and ongoing
		Maintain the road surface to preserve surface characteristics (e.g. texture and roughness).	Compliant and ongoing The roads are graded once a year (see Maartens, 2022b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).
Traffic, presence and movement of machinery	Air quality (dust or Particulate Matter (PM) pollution and gaseous emissions) & Occupational and Community Health and Safety	<p><u>Please note:</u> Emissions released to the atmosphere include: dust/PM and gaseous emissions of e.g. carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO_x), sulphur dioxide (SO₂), and Volatile Organic Compounds (VOCs). The impacts are not considered significant. The production area e.g. is well-ventilated, and the staff wear PPE (e.g. dust masks) (note that water is the main solvent for the paint made by Peralin Paints). When staff has finished decanting substances (or weighing raw materials), both containers (or buckets) are closed immediately. The paint buckets are filled and closed immediately (see Maartens, 2018b: Annexure A).</p> <p>Outside the practical application area, there are also dust/PM and gaseous emissions (from the exposed surfaces and windblown dust, the presence of vehicles (petrol and diesel)/equipment, and vehicle-entrained dust from the gravel road leading to the Factory). The impacts are not considered significant.</p> <p>Impacts at an International/National level (not considered to be significant) include an impact on air quality (dust or PM pollution and gaseous emissions) (the emissions of CO₂, a greenhouse gas (GHG), would contribute to global warming/climate change) (some of the raw materials are imported via truck from South Africa, as well as from Namibia; and the product (paint) is transported (via truck) to Windhoek and from there to the other retail facilities and the depot).</p> <p>Namibia has an Atmospheric Pollution Prevention Ordinance (No. 11 of 1976). Parts II, III, IV, and V (of the Ordinance) deals with the Controls of noxious or offensive gases, Atmospheric pollution by smoke, Dust control; and Air pollution by fumes emitted by vehicles, respectively. The Ordinance does not include any ambient air standards to comply with, only prescribing opacity guidelines for smoke under Schedule 1. It is implied that "the Director" provides air quality guidelines for consideration during the issuing of Registration Certificates. Registration Certificates are only issued for "Scheduled Processes" which are processes resulting in noxious or offensive gasses and typically pertain to point source emissions. The Ordinance defines a range of pollutants as noxious and offensive gasses but air pollution guidelines are usually primarily for criteria pollutants namely, SO₂, NO_x, CO, ozone (O₃), lead and PM. No ambient air quality guidelines or standards exist for Namibia.</p>	
Traffic, presence and movement of machinery (exhaust from diesel engines)	Air quality & Occupational and Community Health and Safety	Implement manufacturer recommended engine maintenance programmes (to control vehicle emissions: CO, NO _x , SO ₂ , PM and VOCs).	Compliant and ongoing Also, staff is trained in the procedure applying to emissions (e.g. vehicle/forklift engines may not be left idling, no containers (or buckets) may be left standing open, all staff wear PPE (e.g. dust masks), and the production area is well-ventilated) (see Maartens, 2022b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).
Traffic, movement of machinery	Occupational and Community Safety	Adopt best transport safety practices by implementing the following measures: emphasize safety aspects among drivers; improve driving skills and require licensing of drivers; adopt limits for trip duration; avoid	Compliant and ongoing Planned preventative maintenance (PPM) takes place on a regular basis (i.e. of the vehicle fleet: six "bakkies", two lorries, two busses, and two forklifts). Transportation (routes are optimised, as well as loads; all staff is

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		<p>dangerous routes and times of day; and use speed control devices.</p> <p>Regularly maintain vehicles and use manufacturer approved parts.</p> <p>Use locally sourced materials (where possible) to minimize transport distances.</p>	<p>transported to and from the Peralin Paints Factory by bus on a daily basis). Vehicles are regularly serviced, and tyre pressures maintained. There are tracking devices on the vehicles, and some of the newer models have speed limiters (see Maartens, 2022b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p>
Peralin Paints Factory: Resource Use			
Energy Management	Resource use (e.g. coal) / depletion of natural resources	<p>Promote the sustainable use of energy (that will result in the reduction of use and cost reductions) (e.g. energy efficient light sources).</p> <p>Raise awareness amongst the staff and contractors/service providers (to save energy).</p>	<p>Compliant and ongoing</p> <p>Control measures in place to enable energy efficiency include: i) all light bulbs/fluorescent tubes at all four sections have since been replaced by new energy savings/efficient lighting; ii) planned preventative maintenance (PPM) takes place regularly (i.e. of all machines/equipment/the vehicle fleet: five "bakkies", two lorries, two busses, and two forklifts); and iii) transportation (routes are optimised, as well as loads; all staff is transported to and from the Peralin Paints Factory by bus daily, vehicles are regularly serviced, and tyre pressures maintained; there are tracking devices on the vehicles, and some of the newer models have speed limiters) (see Maartens, 2022b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p>
Water Management	Resource use / depletion of natural resources	<p>Ensure prudent use of water in all activities.</p> <p>Implement a water conservation program, promoting the continuous reduction in water consumption; treatment and disposal costs commensurate with the magnitude and cost of water use.</p> <p>Water storage tanks to be insect and animal-proof and to be covered to reduce evaporation.</p>	<p>See Maartens (2020a; b; 2021a; b; 2022a; b; 2023a; b; 2024a; b; 2025).</p> <p>Water for the Peralin Paints Factory, the Peralin Quarry, and the private houses is abstracted from a borehole that is located on Part/Portion 1, Farm Gocheganas No. 26 (see Figure 2). The water is pumped to the Peralin Paints Factory area and stored in ten, covered 10,000-litre tanks (see Maartens, 2016).</p> <p>An allocation of 30,000 cubic metres (m³) of groundwater per year for commercial purposes from this borehole on Part 1 of Farm Gocheganas No. 26, with conditions, was obtained from the Department of Infrastructure, Water and Technical Services, CoW (letter dated 10 June 2022) (see Maartens, 2022b); the permit was valid for two years (i.e. until 30 June 2024). An application for the renewal of abstraction authorisation was submitted on 31 May 2024.</p> <p>The CoW authorised the abstraction of 30,000 m³/year from WW205022 (Part 1) and 20,000 m³/year from WW204721 (the second borehole is located on Part 4 [see Figure 2]; water is abstracted from this borehole since July 2024); the renewal is valid for two years until 30 June 2026 (see Maartens, 2024b).</p>

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			According to Mrs Ester Gustavo (Associate Hydrogeologist and Namibia Team Lead Hydrology & Hydrogeology, SLR Environmental Consulting (Namibia) (Pty) Limited), Siyamana Mulele (Hydrogeologist, Hydrogeology Division of the CoW), is not aware of any reasons to reapply for new licences to abstract water (as long as they/the CoW have a bulk licence issued to them by the DWA) (pers. comm. with Mrs Angelika San, 25 March 2025 and with Mrs Angelika San and Dr Maartens on 08 April 2025).
Peralin Paints Factory: Hazardous Materials Management			
Hazardous materials management	Social and Environmental Performance	<p>Establish hazardous materials management priorities (based on hazard analysis of risky operations).</p> <p>Avoid, or minimize the use of hazardous materials.</p> <p>Prevent uncontrolled releases of hazardous materials to the environment or uncontrolled reactions that may result in fire or explosion.</p>	Compliant and ongoing
Hazardous materials management	Pollution of biophysical environment (soil and water)	<p>Implement prevention and control measures for the use, handling and storage of hazardous materials:</p> <p><u>Materials transfer</u>: regularly inspect, maintain and repair fittings/pipes/hoses; make use of drip trays/other drip containment measures at connection/possible overflow points;</p> <p><u>Overfill protection</u>: use trained filling operators; install gauges on tanks to measure the volume inside; make use of dripless hose connections (vehicle tanks) and fixed connections (storage tanks); use a catch basin/drip tray around the fill pipe to collect spills;</p> <p><u>Reaction, fire, and explosion prevention</u>: hazardous materials to be stored in marked containers and separate (from non-hazardous materials); incompatible hazardous materials (acids, bases, flammables, oxidizers, reactive chemicals) to be stored in separate areas and with containment facilities separating material storage; smoking or working with open flames not to be permitted in the presence of these substances; limit access to hazardous waste storage areas and clearly label and demarcate the area; conduct regular inspections of the areas and document the findings; prepare and implement spill response and emergency plans; train employees in the use of appropriate fire fighting equipment and ensure that such equipment is on hand at all times.</p>	<p>Compliant and ongoing</p> <p>All the materials are offloaded (onto pellets/the ground in the case of the 1,000 litre bulk containers) and immediately taken (via forklift) to, either the raw material storage, or the production area.</p> <p>Hazardous materials (e.g. ammonia 25%) are labelled, stored in closed containers, separate from non-hazardous/incompatible materials, on impermeable surfaces (the surfaces are not worn or fractured; there is no bunding/secondary containment areas at the Peralin Paints Factory).</p> <p>Raw materials are used on the basis of “first in, last out”.</p> <p>Spills of all materials (hazardous and non-hazardous) are reported and cleaned up immediately (all surfaces inside the Peralin Paints Factory are impermeable).</p> <p>There is a written procedure in place re how to deal with spills, should e.g. raw materials be offloaded from a truck, and the containers fall off / tip over / get damaged. The same applies to the final product being loaded onto trucks</p> <p>All the staff is adequately trained (see Maartens, 2018b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p>

Aspect	Impact	Mitigation & Management Measures	Compliance & Comments (01 April 2025)
		<p>Train workers on the correct transfer and handling of fuels and chemicals and the response to spills.</p> <p>Immediately report and clean up any accidental hydrocarbon spill: Sunisorb, Drizit, Peatsorb can be used to clean up small spills; in case of larger spills, the spill together with the polluted soil should be removed and disposed of at e.g. a biological remediation site.</p>	
Hazardous materials management	Occupational Health and Safety	<p>Implement hazard communication and training programmes (including information on Material Safety Data Sheets (MSDS)) to make employees aware of workplace chemical hazards and how to respond to these.</p> <p>Provide and ensure the active use of PPE.</p>	<p>Compliant and ongoing</p> <p>MSDSs have been developed for all the materials/substances used and/or produced by Peralin Paints. Materials are stored adequately, i.e. all hazardous materials are labelled, stored in closed containers, separate from non-hazardous/incompatible materials, on impermeable surfaces. Working procedures (mixing of paint, etc.) are in place and the staff is adequately trained. Also, a procedure is in place for the unloading of hazardous substances, the staff is adequately trained, and regular planned inspections are carried out of the storage facilities.</p> <p>Staff is supplied with and use the relevant PPE (see Safety Rules; Maartens, 2016; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025).</p>
Peralin Paints Factory: Waste Management			
Waste management: non-hazardous and hazardous	Pollution of biophysical environment	<p>Ensure that a Waste Management Plan is in place. The generation of waste should be avoided or minimized as far as practicable; where it cannot be avoided, but has been minimized, waste should be recovered and reused; where waste cannot be recovered/reused, it should be treated, destroyed and disposed of in an environmentally sound manner.</p> <p>Institute and maintain good housekeeping and operating practices; littering is not allowed.</p> <p>Runoff from areas where surface water might have become contaminated should be captured, treated and comply with the MAWF's Water Quality Standards for Effluent (2008; see Annexure E) water quality standards set out in Annexure 11 to the Water Resources Management Regulations 2023: Water Resources Management Act, 2013); uncontaminated runoff should be diverted around areas where such water might become contaminated.</p>	<p>Compliant and ongoing</p> <p>See Maartens (2016; 2018a; b; 2019; 2020a; b; 2021a; b; 2022a; b; 2023a; b; 2024a; b; 2025).</p> <p>Peralin Paints (Pty) Ltd updated their Waste Management System; the employees were consulted as part of the process in order to raise awareness and to improve the current management of the liquid and solid waste at the Peralin Paints Factory.</p> <p>Peralin Paints is following an integrated waste management (IWM) approach. Waste is reduced (by buying in bulk quantities), re-used (e.g. cartons, wooden pallets, paint buckets, 1,000 litre Polypropylene binder containers, old iron drums), recovered (recycled e.g. cartons, Polyethylene bags or bucket packaging), and disposed of at both hazardous and non-hazardous landfills (old and dirty Polypropylene buckets, old dissolved (mixing) blades, old ballcocks, etc. are disposed of as waste/scrap metal).</p> <p>Staff is adequately trained in waste management (e.g. waste is segregated (in plastic, or metal drums, or in skips)), all transfers (and disposal) of waste meet the legal requirements (Rent-a-Drum collects the waste, signs</p>

Aspect	Impact	Mitigation & Management Measures	Compliance & Comments (01 April 2025)
		<p>Non-hazardous and hazardous waste to be collected and stored separately.</p> <p>Non-hazardous waste: refuse (that will not be recycled) to be stored in covered refuse bins, collected on a regular basis and disposed of at the Windhoek Landfill.</p> <p>Hazardous waste: recycle petroleum (fuels and lubricants) waste products and collect and recycle batteries and print cartridges (if relevant). The remainder to be transported to the hazardous waste disposal site in Windhoek.</p>	<p>for it, and then transports it to the municipal landfill sites; here, the waste is weighed and the CoW then charges Peralin Paints directly for the disposal of the waste (at their landfill(s)), and records relating to waste management are kept.</p> <p>At least five, and up to nine worker hours are spent per week to clean the premises, the production and wastewater treatment/recycling areas, and to check the machines/equipment used. Twice a year, there is a comprehensive clean-up exercise (during which redundant materials (e.g. tyres) are removed). All staff work together as a team.</p> <p>The re-use of the dried sludge by Rent-a-Drum (and ultimately the building industry) is being investigated by the Management of Peralin Paints (Pty) Ltd (see Maartens, 2022b; 2023a; b; 2024a; b). The sludge is stored in 200- and 1,000-litre containers; no leaching can occur (see Maartens, 2025).</p>
Waste management: sanitary	Pollution of biophysical environment	<p>Toilets to be provided and used at the Peralin Paints Factory. There are four flush toilets (one for females and three for males) at the Peralin Paints Factory that drain into a French drain system.</p> <p>Sanitary wastewater to be released into a French drain system.</p>	Compliant and ongoing (see Maartens, 2016).
		<p>Ensure that the discharge of sanitary wastewater to land conform to the regulatory requirements (MAWF's Water Quality Standards for Effluent (2008) water quality standards set out in Annexure 11 to the Water Resources Management Regulations: Water Resources Management Act, 2013).</p>	<p>See Maartens (2018a; 2019)</p> <p>In a letter dated 19 July 2021, the Department of Economic Development and Community Services, City of Windhoek (CoW), noted that the Municipal Council of Windhoek received the exemption permit (Permit Number 771) for Domestic and Industrial Wastewater Purification and Effluent Disposal from the Ministry of Agriculture, Water and Land Reform (MAWLR) on 11 May 2021. The latter permit grants the Municipal Council of Windhoek exemption from compliance with the provisions of Section 21(1) and 21(2) of the Water Act 54 of 1956 (as amended by the Water Act 22 of 1985); the permit is valid for five years (i.e. until 10 May 2026). Peralin Paints (Pty) Ltd is required to comply with the conditions provided under this permit and the CoW will conduct compliance monitoring of the Peralin Paints Factory on an annual basis (see Maartens, 2021b and 2025).</p> <p>On 04 December 2024, SLR Environmental Consulting (Namibia) (Pty) Ltd, on behalf of Peralin Paints (Pty) Ltd, applied (to the CoW) for a (domestic) WASTEWATER TREATMENT, EFFLUENT DISCHARGE AND REUSE LICENCE (In terms of Part 8, Regulation 66 (1) of Government Gazette Notice, No. 8187 of 29 August 2023, as promulgated under Part 13, Section 72 (1) of the Water Act, Act No. 11 of 2013 – as published in the</p>

Aspect	Impact	Mitigation & Management Measures	Compliance & Comments (01 April 2025)
			Government Gazette of the Republic of Namibia, No. 5367, of 19 December 2013, Government Notice No. 332) (see Maartens, 2025).
Wastewater management - wastewater treatment	Pollution of biophysical environment	Ensure that the discharge of process wastewater to land conform to the regulatory requirements.	<p>The process is described below (see Figure 3).</p> <p>Since 2016, N\$1,203,000.00 has been spent to upgrade the wastewater (trade effluent; note that there is e.g. no “white spirit effluent“ as can be found at some of the other paint manufacturers) treatment/recycling area.</p> <p>On 04 December 2024, SLR Environmental Consulting (Namibia) (Pty) Ltd, on behalf of Peralin Paints (Pty) Ltd, applied (to the CoW) for a (industrial) WASTEWATER TREATMENT, EFFLUENT DISCHARGE AND REUSE LICENCE (In terms of Part 8, Regulation 66 (1) of Government Gazette Notice, No. 8187 of 29 August 2023, as promulgated under Part 13, Section 72 (1) of the Water Act, Act No. 11 of 2013 – as published in the Government Gazette of the Republic of Namibia, No. 5367, of 19 December 2013, Government Notice No. 332) (see Maartens, 2025).</p>
		Runoff from areas where surface water might have become contaminated should be captured, treated and comply with the MAWF's Water Quality Standards for Effluent (2008; see Annexure E) water quality standards set out in Annexure 11 to the Water Resources Management Regulations 2023: Water Resources Management Act, 2013); uncontaminated runoff should be diverted around areas where such water might become contaminated.	<p>Drainage systems include: in the production area and the outside wastewater treatment/recycling area; for the toilets (French drain); and for the outside stormwater drainage (in case of precipitation events).</p> <p>Rainfall in the area is low – between 250 and 400 mm per year (Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm., 01 April 2025). During periods of rainfall, it is ensured that the settling ponds/beacons are not filled to their maximum capacity (and would thus not overflow during rainfall events). The settling ponds/beacons were also constructed much higher than ground level. At the clarification (re-cycling) area, the trade effluent has already been treated (flocculation) and the higher density flocculants are found at the bottom of the beacons (should the beacons overflow). It is thus highly unlikely that spills or leaks would enter any stormwater (runoff).</p>
<p>The (paint) mix vessels are cleaned with water. The wastewater is collected in a pre-beacon (see Figure 3a); the sludge accumulating in this area is cleaned out once a week and taken to the two, lined, concrete slabs (see Figure 3j) to dry. From here, the wastewater is collected (and alternated so that one area can be cleaned) into one of two beacons (see Figure 3a); mixing also takes place in this area (see Figure 3b). The effluent from the paint mixed at the retail shop in Windhoek is stored in 200 litre drums and also disposed of here (see Figure 3c).</p> <p>The effluent is then pumped underground (via PVC pipes) to the pre-settlement area (see Figure 3d). Once the water has evaporated, the dry contents are removed and collected by Rent-a-Drum for disposal at the hazardous waste facility in Windhoek. Material that did not settle in the pre-settlement area is pumped to the clarification (re-cycling; flocculation) area (see Figure 3e). Here, coagulation and flocculation chemicals are added. Overflow (recycled water) (from the clarification area) is collected, stored in a 1,000 litre tank (see Figure 3f), and the water is then used for the cleaning of equipment / vehicles. The remainder of the recycled water is backwashed into an area consisting of nine concrete sumps (where the flocculants can settle) (see Figure 3g). The recycled water is collected in four sumps at a time, and alternating with the other four sumps; the ninth sump contains marble dust (magnesium carbonate; see Figure 3h) to again filter the recycled water (the marble dust is replaced every three months), before it is released into nature (see Figure 3i). There is no surface water in the area, or an important groundwater aquifer. Soil samples, e.g., have not been taken and submitted for analysis. Flora in the area flourish, and no wild animals can access the area where the treated effluent is discharged.</p>			

Aspect	Impact	Mitigation & Management Measures	Compliance & Comments (01 April 2025)
All the sludge from the pre-beacon, beacons, sumps and clarification area is removed, put onto one of two, lined concrete platforms (see Figure 3j)), let to dry, after which it is then collected and stored in 200 litre drums or 1,000 litre plastic containers (see Figures 3k,l) for collection and disposal Rent-a-Drum.			
 <p>Figure 3: Pictures showing: a) the pre-beacon (right) and two beacons (left); b) the mixer; c) 200 litre drums containing effluent from the paint mixed at the retail shop in Windhoek; d) pre-settlement area; e) and f) clarification area; g) and h) backwashed recycled water from the clarification area is pumped into sumps and marble</p>			

Aspect	Impact	Mitigation & Management Measures	Compliance & Comments (01 April 2025)
<p>dust (magnesium carbonate) is used for filtering the recycled water; i) the final, treated effluent is discharged into the environment; j) two, lined concrete platforms; k) and l) the sludge is stored in 200 litre drums or 1,000 litre plastic containers for removal by Rent-a-Drum (<i>Source: L Maartens, 05 July 2016 and 12 July 2022</i>)</p> <p>A written procedure is in place regarding the treating (and recycling) of the trade effluent (wastewater) and the staff is adequately trained. Records are also kept of the amount of wastewater (trade effluent) from the Peralin Paints Factory (see Maartens, 2022b; Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm.).</p> <p>A different acid and flocculent have since been used (in treating the trade effluent) (as the aluminium content of the trade effluent was too high with the previous acid and flocculent used). Also, the oxygen content was not high enough. In August 2023, Peralin Paints (Pty) Ltd started the process of putting fiberglass linings into all beacons/ponds/sumps for effluent water. The work was completed in December 2023. Also, the industrial aerator (pump) has since been installed.</p> <p>An effluent sample was taken on 29 May 2024 and submitted to Analytical Laboratory for testing; the final effluent does not meet the recommended limits for industrial effluent (see Maartens, 2024b). An effluent sample was again collected and submitted to Analytical Laboratory for testing on 13 March 2025. The effluent was tested and classified as not acceptable (as per Water Resources Management Regulations, Water Resources Management Act, 2013 (No 11) - Effluent Discharge - General Standard).</p>			
Wastewater management - stormwater management	Soil erosion	Regular inspection and maintenance of permanent erosion and runoff control features.	Compliant and ongoing
Peralin Paints Factory: Rehabilitation & Decommissioning			
Rehabilitation	Social and Environmental Performance	<p>Manually rip (using picks or rakes) disturbed areas where compaction has taken place; avoid creating parallel furrows (this will promote erosion).</p> <p>Reshape all disturbed areas to their original contours / manually rip disturbed areas, where compaction has taken place.</p> <p>Manually remove all weedy / invasive alien species that are present at the site.</p> <p>Adequately drain pipelines and tanks prior to decommissioning (to avoid pollution of the biophysical environment (soil and groundwater)).</p>	N/A
Decommissioning	Social and Environmental Performance	<p>Clean out the oil traps, seal all petrol, diesel, oil and grease containers and remove these from the site(s) to the hazardous waste facility in Windhoek.</p> <p>Remove all equipment, waste, temporary structures, etc. from the site(s).</p> <p>Inform the Ministry of Environment and Tourism to assess the rehabilitation effort for approval and signoff.</p>	N/A

2.3 Compliance: Monitoring and Reporting

To illustrate Peralin Paints' compliance with the proposed "monitoring and reporting" (see Maartens, 2016; 2019), the following colour codes were applied:

	Compliance/Completed
	In Progress/Ongoing
	Non-compliance
	Not Applicable
	Changes made to the existing EMP

Type	Parameter	Frequency	Compliance
Abstraction of groundwater	As per the Appendix 1(b) Standard Conditions for Groundwater Abstraction from Boreholes (City of Windhoek, 17 June 2024)		
(Potable) drinking-water quality	As per the Department of Water Affairs (DWA), Ministry of Agriculture, Water and Land Reform's (MAWLR) Potable Water Numeric Requirements (see Maartens, 2016: Annexure E) Water Quality Guidelines and Standards for Potable Water (Annexure 1 to the Water Resources Management Regulations 2023: Water Resources Management Act 2013)		Chemical tests were carried out at Analytical Laboratory during 2016 (four tests), 2018 (one test), 2021 (one test), and 2023 (two tests) (borehole at Part 1); the borehole water from the borehole on Part 4 was tested at the beginning of June 2023, on 29 May 2024, and again on 13 March 2025 (Mrs Angelika San, Managing Director, Peralin Paints (Pty) Ltd, pers. comm.).
Quality of discharged wastewater	As per the permit conditions to the Domestic and Industrial Wastewater Purification and Effluent Disposal Permit (Number 771; 19 July 2021)		
Sewage pipelines	Maintenance, and monitor for damage to or leakages	Regular maintenance and monitoring	Maintenance is carried out twice a year; monitoring is taking place on an <i>ad hoc</i> basis
Stormwater and soil erosion	Soil erosion rates	<i>Ad hoc</i> (rainy season)	
Environmental Management Plan	Environmental performance / corrective measures to be taken as or when required	Internal audits	Internal audits are carried out <i>ad hoc</i>
		Environmental Monitoring Reports (bi-annual)	See Maartens (2023a; b; 2024a; b; 2025)

3 Conclusions and Recommendations

Peralin Paints (Pty) Ltd has been manufacturing paint since 1962. Their activities will and are having impacts on the environment, both positive, as well as negative in nature.

Even though Peralin Paints does not have an Environmental Management System (e.g. ISO 14001:2015) in place, it should be noted that: the “housekeeping” at the Peralin Paints Factory is of a very high standard; procedures (operational and emergency preparedness and response), with a few exceptions, were established and are maintained; staff is adequately trained; environmental performance is checked; and Management of Peralin Paints strives and is committed to continually improve their environmental performance.

Old paint (or paint samples) are being donated to schools/crèches/soup kitchens (see Maartens, 2016; 2018a; b; 2019; 2020a; b; 2021a; b; 2022a; b; 2023a; b; 2024a; b; 2025), or paint is sold at a discounted price (to the previously disadvantaged). Peralin Paints is also one of the sponsors of Pako Magazine for young ones and teenagers of Namibia.

Peralin Paints is a certified member of the Green Building Council of Namibia (GBCNA), advocating for a better built environment. Certification creates a universal platform for credible and objective measurement of green building methods, and rewards environmental leadership and sustainability achievements. Peralin Paints operates in an environmentally sustainable way, with the vision for Namibians to live and work in healthy, efficient and productive environments (see <https://www.facebook.com/paintnamibia>; Maartens, 2021a; b; 2022a; b; 2023a; b; 2024a; b; 2025).

To further improve Peralin Paints' environmental performance, the following is advised:

- i. That Peralin Paints complies with the *Standard Conditions for Groundwater Abstraction from Boreholes* (City of Windhoek, 17 June 2024) and the *Conditions to the Domestic and Industrial Wastewater Purification and Effluent Disposal Permit (Number 771)*.

Finally, it is advised that Peralin Paints (Pty) Ltd, their contractors and employees should continue to implement and observe the Environmental Management Plan on an ongoing basis. Environmental performance should be regularly monitored (so that the lessons learnt can be incorporated into the improvement of the Environmental Management Plan over time) and corrective measures taken as or when required.



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4 References

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