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Submitted to: Alfacharcoal Namibia (Pty) Ltd.
Attention: Mr Johan Leijenaar
P O Box 81169
Olympia
Windhoek
Namibia.

REPORT:

OPERATION OF A CHARCOAL PRODUCTION AND STORAGE PLANT, OUTJO, KUNENE REGION – COMPLIANCE REPORT

PROJECT NUMBER: ECC-28-535-REP-02-D

REPORT VERSION: REV 01

DATE: 16 JULY 2024

TITLE AND APPROVAL PAGE

Project Name:	Operation of a Charcoal Production and Storage Plant, Outjo, Kunene Region – Compliance Report
Client Company Name:	Alfacharcoal Namibia (Pty) Ltd.
Client Name:	Mr Johan Leijenaar
Ministry Reference:	APP- 004369
Status of Report:	Final for Government Submission
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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

ABBREVIATIONS

Abbreviation	Description
Alfacharcoal	Alfacharcoal Namibia (Pty) Ltd
CoC	chain of custody certification
dB	decibels
DEA	Department of Environmental Affairs
ECC_1	environmental clearance certificate
ECC_2	Environmental Compliance Consultancy (Pty) Ltd
EIA	environmental impact assessment
EMA	Environmental Management Act No. 7 of 2007
EMP	environmental management plan
Erf	erven
FSC	Forest Stewardship Council
IFC	International Finance Corporation
ILO	International Labour Organisation's
Km	kilometre
m^2	meters squared
mm	millimetre
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy
MSDS	material safety data sheet
NamPower	Namibia Power Corporation (Pty) Ltd
PPE	personal protective equipment

1 INTRODUCTION

1.1 COMPANY BACKGROUND

Environmental Compliance Consultancy (Pty) Ltd (ECC) has been engaged by Alfacharcoal Namibia (Pty) Ltd (hereinafter referred to as the Proponent), to renew their environmental clearance certificate (ECC) for the operation of a charcoal production and storage plant in Outjo, Kunene Region. The Proponent holds an approved ECC (ECC – 01439) issued by the Ministry of Environment, Forestry and Tourism (MEFT) from 22 June 2021 to 22 June 2024 (Appendix A). As part of this application, a desktop audit has been undertaken to determine the status of the compliance with their environmental management plan (EMP) (Appendix B).

The charcoal production and storage plant are located on Erf 636 in the area zoned 'general industrial' of Outjo on a 7100 square m^2 Erf and can be accessed via the C39 main road shown in Figure 1 below.

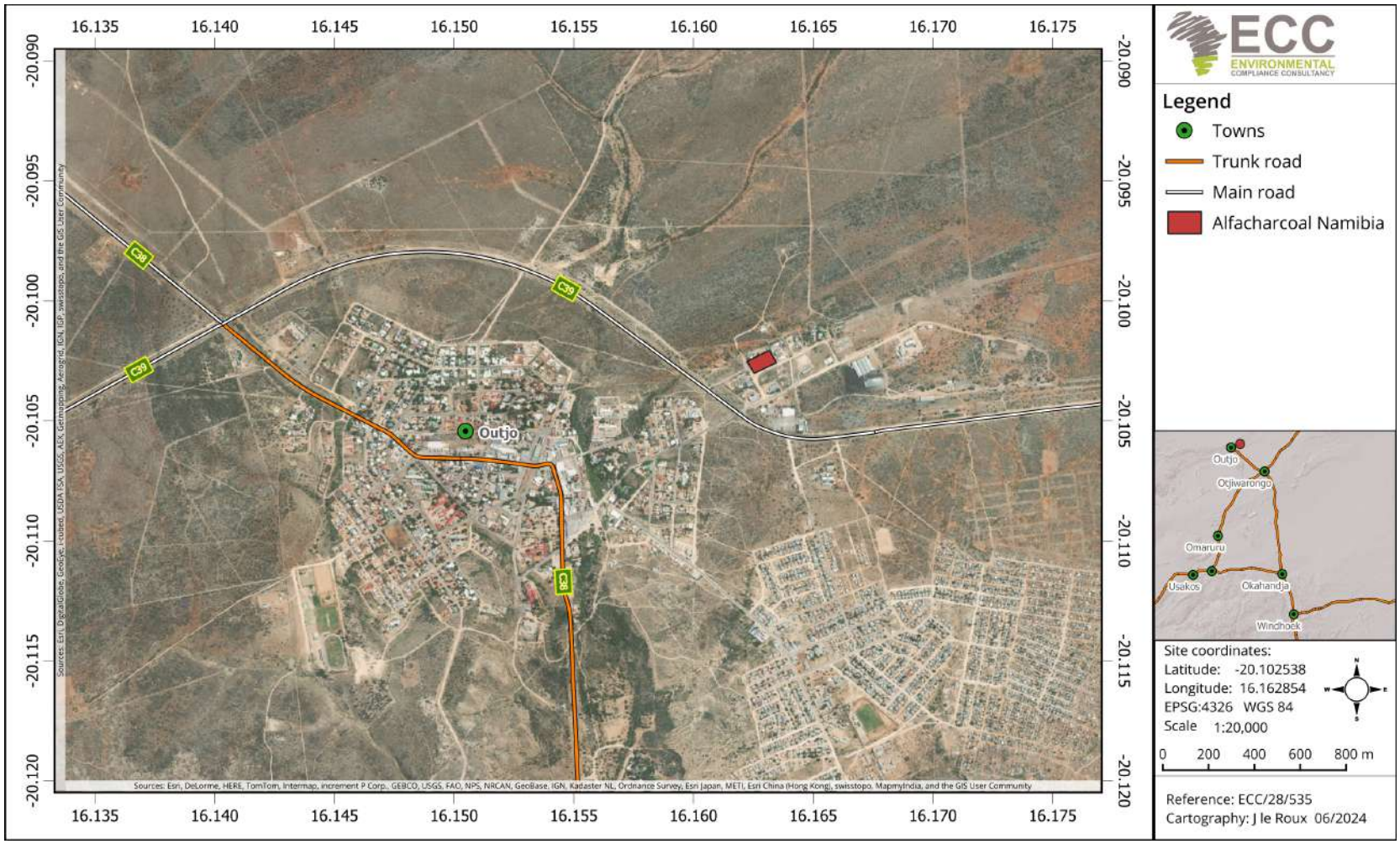

Figure 1 – Project location

1.2 PURPOSE OF THIS REPORT

The purpose of this report is to document the findings of an environmental compliance audit, conducted to assess the compliance of the Proponent with their environmental management plan and conditions of their environmental clearance certificate.

The approved EMP for the existing environmental clearance certificate is audited to monitor the proceeds of the Project and ensure that all measures stipulated in the document are met and effectively adhered to, as required by the Department of Environmental Affairs (DEA). In an event where the Project activities are altered, the EMP is required to be revised and amended accordingly.

As per the Environmental Management Act (EMA), No. 7 of 2007 and its associated environmental impact assessment (EIA) Regulations of 2012, the Project cannot be undertaken without a valid environmental clearance certificate.

1.3 THE PROPONENT OF THE PROPOSED PROJECT

Table 1 – Proponent's details

Company Representative:	Contact Details:
Mr Johan Leijenaar Company manager	Alfacharcoal Namibia (Pty) Ltd P O Box 81169 Windhoek Namibia alfacharcoalnam@gmail.com + 264 811572601

1.4 ENVIRONMENTAL AND SOCIAL ASSESSMENT PRACTITIONER

The report has been prepared by Environmental Compliance Consultancy Pty Ltd (ECC) (Reg. No. 2022/0593) on behalf of the Proponent.

Authored by ECC employees with no material interest in the report's outcome, ECC maintains independence from the Proponent and has no financial interest in the Project apart from fair remuneration for professional fees. Payment of fees is not contingent on the report's results or any government decision. ECC members or employees are not, and do not intend to be, employed by the Proponent, nor do they hold any shareholding in the Project. Personal views expressed by the writer may not reflect ECC or its client's views. The environmental report's information is based on the best available data and professional judgment at the time of

writing. However, please note that environmental conditions can change rapidly, and the accuracy, completeness, or currency of the information cannot be guaranteed.

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Email: info@eccenvironmental.com

2 BACKGROUND TO THE PROJECT

Biomass from harvested encroacher bush species (in the form of wood logs) is sourced from the surrounding farms that are Forest Stewardship Council (FSC) certified. The Alfacharcoal plant is certified as FSC by complying with the FSC chain of custody certification (CoC) requirements, which are audited annually.

Once the raw material is delivered to the plant, the wood is sawn into one-meter pieces with a 100 - 200 mm diameter to fit into the retort kiln chambers and slowly burnt. The final product (unsieved charcoal) from this process is loaded in bulk bags and transported to a processor (Unifoods), located approximately 7 km outside of Outjo, where it is sieved in all the different sizes.

2.1 RENEWAL ACTIVITIES

As part of the operation of the charcoal production and storage plant project, the following activities are envisaged for the renewal period:

- Continued operation of the existing charcoal production and storage plant including the use of the onsite offices, as well as toilet facilities;
- Water is sourced from the Outjo municipality through NamWater supply;
- Electricity is supplied by the NamPower grid network; and
- Existing infrastructure including two retort kilns and two storage sheds.

3 ENVIRONMENTAL COMPLIANCE AUDIT

3.1 SITE INSPECTION

For this compliance audit, a physical inspection was not conducted, therefore, a desktop audit was conducted.

3.2 ACTIVITIES FOR THE MONITORING PERIOD

During the period under review, the Proponent undertook the following activities:

- Operation of the charcoal production kilns;
- Operation of two storage sheds;
- Sourcing water from Outjo municipality through a pipeline; and
- Sourcing electricity from the NamPower grid.

The following images depict various on-site activities and provide evidence of compliance with the Project's environmental management plan (EMP):

Figure 2 - Employee can be seen wearing the appropriate PPE (provided by the Proponent)

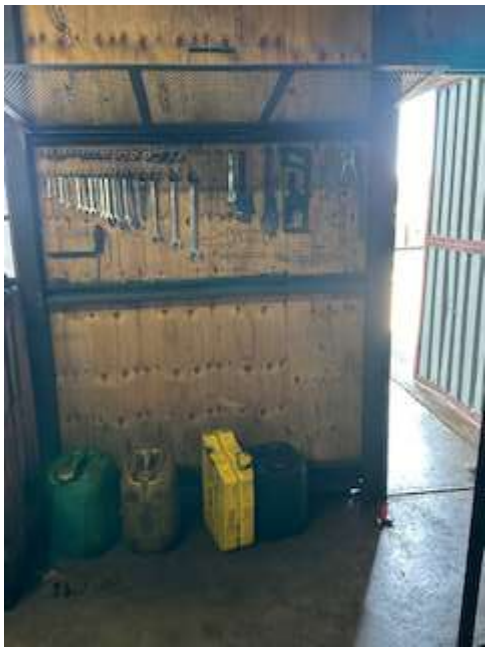

Figure 3 - Fuels can be seen being stored in a dedicated area on a concrete floor (impermeable surface) (provided by the Proponent)

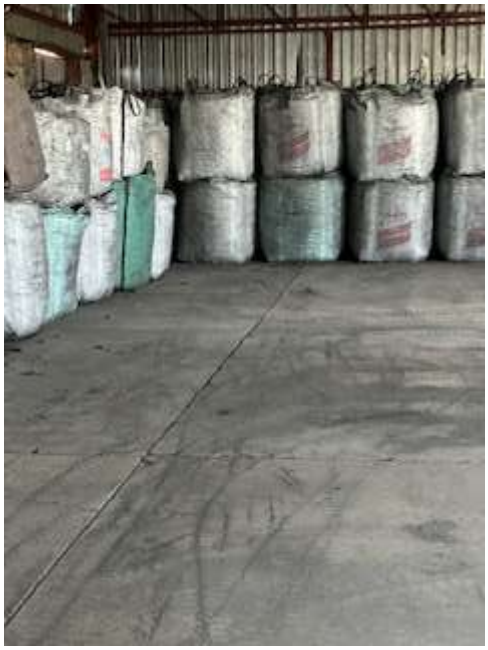

Figure 4 – Packaging and storage of charcoal demonstrates an exemplary level of cleanliness and organization in housekeeping. (provided by the Proponent)

Figure 5 - Depicts chemical tanks situated on an elevated structure that lacks proper bunding (provided by the Proponent)

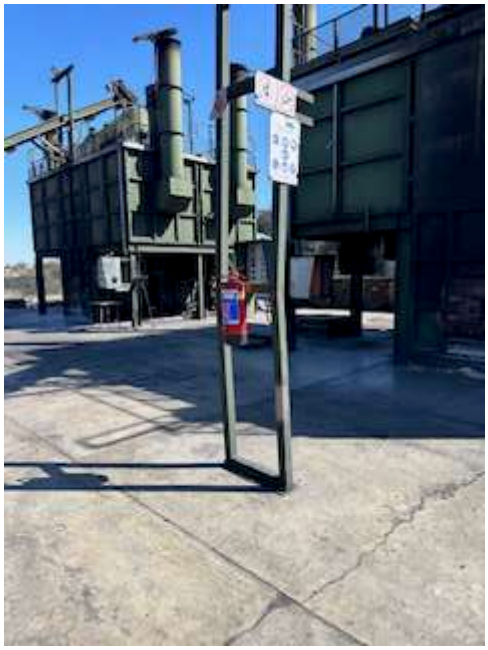

Figure 6 - Fire-extinguishing equipment in dedicated work areas (provided by the Proponent)

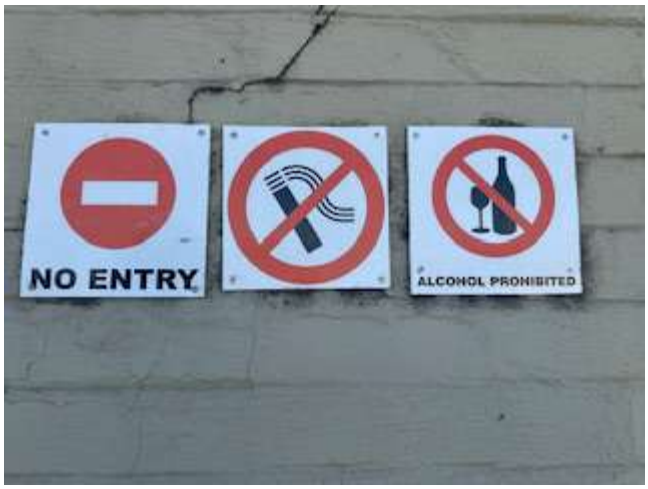

Figure 7 - Appropriate signage across the site showing prohibited activities (provide by the Proponent)

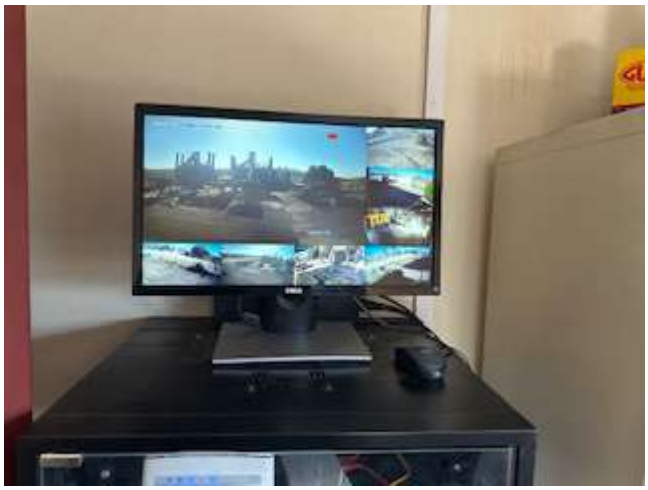

Figure 8 - The utilisation of a video recording system to monitor emissions from plant operations (provide by the Proponent)

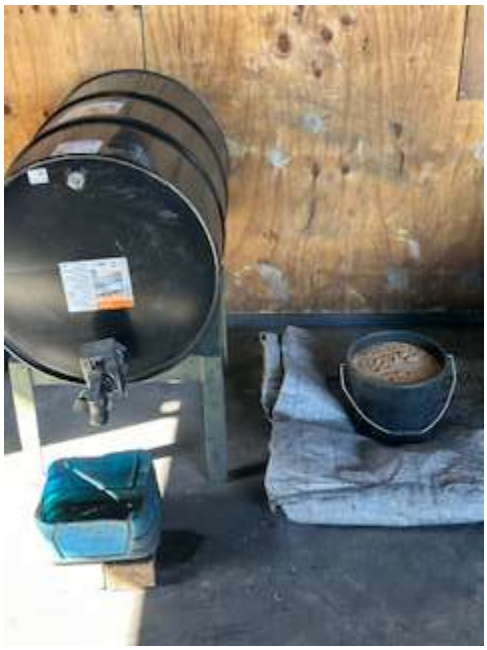

Figure 9 - Presence of a bucket of sand near an oil container to create a temporary bund to contain a spill should one occur.

3.3 ANNUAL COMPLIANCE AUDIT

The EMP provides the technical details for each mitigation, monitoring and institutional measure, including the impact(s) to which it relates and the conditions when required, together with designs, equipment descriptions and operating procedures as granted.

3.4 COMPLIANCE AUDIT FINDINGS

This section outlines the findings of the environmental audit completed for the Project. It addresses obligations in terms of the key Acts that govern the activities on site, and the commitments made in the EMP, and presents the findings and recommended corrective actions where applicable (Table 2).

The Project's EMP:

- Identifies institutions responsible for ensuring compliance with the EMP and provides their contact information;
- Provides standard procedures to avoid, minimise and mitigate the identified negative environmental impacts and to enhance the positive impact of the proposed activities on the environment;
- Provides for site rules and actions required;
- Forms a written record of procedures, responsibilities, requirements and rules for contractor/s, their staff and any other person who must comply with the EMP;

- Ensure zero pollution incidents; minimal vegetation clearing and earthworks, protect local flora, fauna, and water resources; and use water and other natural resources effectively and efficiently; and
- Provides a monitoring and auditing programme to track and record compliance identify and respond to any potential or actual negative environmental impacts and record any mitigation measures that are implemented.

3.5 ISSUES OF NON-COMPLIANCE

The proponent is not in possession of a wastewater permit for their septic tank.

Table 2 - EMP audit (desktop)

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
General operational activities	Odour, noise and smoke nuisances emanating from the plant during operational hours	– Continue to utilise the plant's existing video recording system to visually monitor emissions from plant operations. Currently, this system is in place and records footage on a 24-hour basis.; – Ensure a complaints register is available and all complaints are recorded; – Should complaints be received, the existing video footage can be used to verify whether the smoke is from the plant. If the smoke is from the plant a root cause assessment shall be done to identify why the smoke occurs; and – Monitor air quality (through quantitative means) to detect areas of concern by implementing an air quality monitoring protocol for the plant.	**Compliant**	The Proponent provided visual proof as shown in section 3.1. in Figure 8
	Noise disturbance to neighbouring businesses	– Minimise excessive noise-generating activities, where possible; – Procedures for receiving complaints from surrounding businesses or	**Compliant**	The Proponent provided ECC with copies of the compliant register, no complaints were recorded.

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
	due to the operational activities.	residents to be in place and mitigation measures to be implemented should activities generate excessive noise, which is unexpected; and – In the event that noise complaints are received on a frequent basis noise monitoring should be carried out using a type 1 or 2 sound level meter.		
	Loud noises generated by machinery on site and prolonged exposure to them can result in nuisance for workers and neighbours as well as potential hearing loss in the long term.	– Ensure noise levels are maintained within the International Labour Organisation's (ILO) daytime and night-time occupational exposure limit of 85 Db for industrial areas; – Ensure that machines are maintained on a regular basis; – Hearing protection (ear plugs or noise cancelling headphones) should be provided (mandatory) on a risk identification basis and when noise levels exceed 85dB; – Implement work rotation programs to reduce cumulative exposure to vibration on personnel.	**Compliant**	The Proponent provided proof of compliance in the form of images or documentation of all conditions pertaining to this activity as well as visual proof of certain activities as shown in section 3.1.

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
Emergency Incidents	Fire at the plant/workshop	– Development of a Fire Control Plan through the process of risk assessment; – Operational risk assessment for all hot works; – Developing site-specific work procedures as part of the fire management system; – Induction on fire prevention and toolbox talks; – Control and reduce the potential risk of fire by segregating and safe storage of materials; – Avoid potential sources of ignition by prohibiting smoking in and around the plant; – Perform hot work in a safe location, or with fire hazards removed or covered; – Make suitable fire-extinguishing equipment immediately available. This can include pails of water, buckets of sand, or portable extinguishers; and – Enforce safety procedures for hot work permits and ensure explosion	**Compliant**	The Proponent has provided proof of compliance in the form of either images as shown in section 3.1 or documentation.

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
		hazards associated with hot work activity are recognized and mitigated. – Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. – Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air); and – Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).		
	Soil and water contamination due to inadequate control or accidental release of hazardous substances on site	Since there is the potential to store approximately 140 litres of diesel fuel per week in 20-liter containers on site, the following should be taken into consideration. **Storage** – Label chemicals appropriately	**Partially - compliant**	– Chemicals and fuels should be labelled. – Not all fuels stored in a proper bunded area. – The Proponent has provided proof of compliance in the form of either images as

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
		– Chemicals with different hazard symbols should not be stored together – Clear guidance on the compatibility of different chemicals can be obtained from the Materials Safety Data Sheets (MSDS) which should be readily available – Store chemicals in a dedicated, enclosed, and secure plant with a roof and a paved/concrete floor. – Chemical tanks should be completely contained within secondary containment such as bunding. – Consider feasibility of substitution of hazardous chemicals with less hazardous alternatives. – Storage and handling of fuels and chemicals shall be in compliance with relevant legislation and regulations – Fuels, lubricants, and chemicals are to be stored within appropriately sized, impermeable bunds or trays with a capacity not less than 110 % of the total volume of products stored.		shown in section 3.1 or documentation of the other mitigation/management measures.

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
		Spills The kits with the following items as a minimum should be made available on site: – Absorbent materials – Shovels – Heavy-duty plastic bags – Protective clothing (e.g., gloves and overalls) – Major servicing of equipment shall be undertaken offsite or in appropriately equipped workshops – For small repairs and required maintenance activities all reasonable precautions to avoid oil and fuel spills must be taken (e.g., spill trays, impervious sheets). – Provision of adequate and frequent training on spill management, spill response and refuelling must be provided to all onsite staff. – No refuelling is to take place within 50 meters of groundwater boreholes, surface water or streams.		

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
		– Vehicles and machinery are to be regularly serviced to minimise oil and fuel leaks. – All major petroleum product spills (spill of more than 200 liters per spill) should be reported to the Ministry of Mines and Energy (MME) on Form PP/11 titled "Reporting of major petroleum product spill'. **The following points therefore apply to all areas on the site:** – Assess the situation for potential hazards. – Do not come into contact with the spilled substance until it has been characterised and necessary personal protective equipment (PPE) is provided. – Isolate the area as required. **The following measures are to be implemented in response to a spill:** – Spills are to be stopped at the source as soon as possible (e.g., close valve or upright drum).		

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
		– Spilt material is to be contained to the smallest area possible using a combination of absorbent material, earthen bunds or other containment methods. – Spilt material is to be recovered as soon as possible using appropriate equipment. In most cases, it will be necessary to excavate the underlying soils until clean soils are encountered. – All contaminated materials recovered subsequent to a spill, including soils, absorbent pads and sawdust, are to be disposed of at an appropriately licenced plant, and – A written Incident report must be submitted to the general manager.		
Water and wastewater management	Risk of environmental pollution	– Recycle wastewater, where possible and feasible. – Install an impermeable hardstand in areas of high-risk contamination to prevent ground infiltration by pollutants. Segregation of	**Partially - Compliant**	No industrial wastewater is produced on site. All sewage waste in the septic tanks is removed/collected by the town council. However, Proponent should

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
		wastewater (domestic and industrial effluent), and – The monitoring of wastewater discharges should be conducted on a regular basis.		still apply for a wastewater discharge permit.
	Possible de-containment of sewage effluent discharged into the environment runs the risk of pathogen /diseases transmissions and odours	In order to obtain an effluent wastewater permit, the Proponent should have the following information and complete the application: – Specification of the treatment system (type of technology); – Description of major activities resulting in effluent generation; – List of contaminants (analysis of effluent samples); – Effluent quality; – Points of discharge; – Show the present average quantities of incoming water, recycled water, final outflow; and – Where final effluent discharged. – Ensure toilets are always clean and dry.	**Non-compliant**	– No industrial wastewater is produced on site. All sewage waste in the septic tanks is removed/collected by the town council. However, Proponent should still apply for a wastewater discharge permit.

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
		– Provide adequate sanitary facilities, including clean water, soap, disposable paper towels. – Ensure suitable personal protective equipment that may include waterproof/abrasion-resistant gloves, footwear, eye, and respiratory protection, and – Face visors are particularly effective against splashes when working with sewage.		
	Environmental pollution (littering and poor storage of waste)	Waste management should be handled in accordance with the International Finance Corporation (IFC) standards as follows: – Implement a waste management plan covering all aspects of waste generated on site. – Training and toolbox talks about the importance of waste management. – Ensure high standard of housekeeping across the site. – Solid waste shall be stored in an appointed area in covered, tip-proof metal drums/skips for collection and	**Compliant**	The Proponent has provided proof by providing images of housekeeping on site as shown in section 3.1.

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
		disposal to an approved waste management site. – The waste storage areas shall always be kept clean and tidy. – Storage of domestic waste on site may result in the attraction of unwanted scavengers and should be removed as soon as it is feasible. – Implement the waste management hierarchy across the site: Avoid, reuse, recycle, then the disposal. – Return packaging of hazardous and non-hazardous materials (wherever possible), such as empty bags for reuse. – Solid wastes should be deposited/emptied on a regulate basis. – See the material safety data sheets available from suppliers for disposal of contaminated products and empty containers. – Liaise with the governing body (municipality/council) regarding the waste and handling of hazardous waste, and		

Activity	Impact	Mitigation/Management Measures	Compliance	Comments
		– Hydrocarbon and chemical contaminated solids have the potential to cause contamination of the soil, ground and or surface water, thus correct storage and disposal methods are required.		
Job creation, skills development and business opportunities	Beneficial socio-economic impacts on a local and regional scale	– Maximise local employment and local business opportunities. – Enhance the use of local labour and local skills as far as reasonably possible. – Ensure that goods and services are sourced from the local and regional economy as far as reasonably possible.	**Compliant**	– The Proponent has through word of mouth confirmed that employees are from Outjo – Furthermore the proponent has provided receipts of goods and services being sources from and around Outjo. – Therefore, the Proponent has complied with these components of the EMP.

4 CONCLUSION AND RECOMMENDATIONS

A majority of the proposed activities were carried out in compliance, with a few partial compliances and areas that could be improved on with the relevant requirements and conditions of the granted licence in accordance with the approved EMP.

We recommend that the proponent ensure that all containers, especially those containing fuels or chemicals are labelled appropriately. Furthermore, the proponent should ensure that all fuels are correctly stored in a properly bunded area. An example of correct bunding is shown below:

Figure 10 - Collapsible bund able to contain accidental spills and leaks.

Furthermore, we recommend that the Proponent apply for a wastewater discharge permit to comply with their EMP and Sections 21 and 22 of the Water Resources Management Act of 2013 and the regulations of 2023.

It is recommended that the Proponent continues to adhere to all environmental legislation and company standards to ensure that the best practical environmental protection continues as the Project activities progress.

APPENDIX A – ENVIRONMENTAL MANAGEMENT PLAN

APPENDIX B – ENVIRONMENTAL CLEARANCE CERTIFICATE

ECC – 01439

Serial: kTowcd1439

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

ENVIRONMENTAL CLEARANCE CERTIFICATE

ISSUED

In accordance with Section 37(2) of the Environmental Management Act (Act No. 7 of 2007)

TO

Alfacharcoal Namibia (Pty) Ltd
P O Box 81169, Windhoek

TO UNDERTAKE THE FOLLOWING LISTED ACTIVITY

Operation of a charcoal production and storage plant in Outjo, Kunene Region

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM
Private Bag 13306
WINDHOEK, NAMIBIA
25 JUN 2021
ENVIRONMENTAL COMMISSIONER
REPUBLIC OF NAMIBIA

Issued on the date: 2021-06-22

Expires on this date: 2024-06-22

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