forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

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

	(For official use only)
File Reference Number:	12/9/11
NEAS Reference Number:	
Date Received:	

Risk Assessment for an application for exclusion of waste stream or portion of waste stream in terms of the National Environmental Management: Waste Act, 2008(Act No.59 of 2008), as amended.

Kindly note that:

1. This form is current as of 01 April 2021. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority.

2. The information must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing.

3. Incomplete forms (including information as required in the application form may be returned to the applicant for revision and the inclusion of additional information.

4. Unless protected by law, all information filled in on this application will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this application on request, during any stage of the application process.

BACKGROUND INFORMATION	
APPLICANT	Gledhow Sugar Company (Pty) Ltd
CONTACT PERSON	Gledhow Sugar Company SHERQ Manager
NAME	Mr Clement Sithole
ADDRESS	1 Gledhow Mill Road, KwaDukuza, 4450 / PO Box 55, KwaDukuza, South Africa, 4450
E-MAIL ADDRESS	CSithole@Gledhow.co.za
TELEPHONE	032 437 4502
CELL PHONE	082 904 1645

WASTE GENERATING FACILITIY OR FACILITIES						
PHYSICAL ADDRESS OF FACILITY OR FACILITIES	1 Gledhow Mill Road, KwaDukuza, 4450					
GPS CO-ORDINATES AT CORNERS OF WASTE GENERATING FACILITY OR FACILITIES. **(Please note that the co-ordinates are for the boiler ash)**	LATITUDE			LONGITUDE		
	29º	21'	51.29"S	31º	17'	16.10"E
	29º	21'	52.03"S	31º	17'	15.60"E
	29º	21'	51.23"S	31º	17'	13.78"E
	29º	21'	50.53"S	31º	17'	14.31"E
WASTE STREAM OR PORTION OF A WASTE STREAM TO BE EXCLUDED FROM THE DEFINITION OF WASTE	Boiler Ash					
BENEFICIAL USE/S	Concrete Blockmaking / substitute for sand in the construction industry					

WASTE GENERATING PROCESS		
DETAILED DESCRIPTION OF WASTE GENERATING PROCESS[1]	Please refer to Annexure 1 for the process flow chart for the boiler ash waste stream. **Waste stream** Boiler ash is the waste stream relevant to this application for exclusion from the waste stream. It is to be used for concrete blockmaking and as a substitute for sand in the construction industry. **Brief description of the waste source** Pea coal is burnt in three (3) boilers with rotating grates and the burnt ash is transferred into a holding bin and then it is loaded with GSC Front-end loader into trucks to be taken to the recipients for blockmaking and as a substitute for sand in the construction industry.	
PRODUCTION PROCESS FLOW CHART ATTACHED	**YES** Please refer to Annexure 1 for the process flow chart for the boiler ash waste stream.	NO

[1] A process flow chart must be attached with this form for the process description

WASTE CLASSIFICATION	**HAZARDOUS**	GENERAL
IF HAZARDOUS LIST THE HAZARDS OF THE WASTE	• GHS Hazardous: o Skin Irritation: - Cat 2: H315 o Causes Serious Eye Damage . Cat 1: H318. • Assessment for disposal: o Based on GN R635 (7)(2), the waste is chemically assessed as a Type 1 waste due to the high leachable Lead concentration (LC > LCT2).	

RISK ASSESSMENT WITHOUT MITIGATION

ACTIVITY	RISK DESCRIPTION	ENVIRONMENTAL RECEPTORS	ASSESSMENT OF RISK					SIGNIFICANCE
			Impact	Probability	Magnitude	Duration	Scale	
Context • Gledhow Sugar Company has on their SHEQ system: – The Illovo Code of Conduct and Business Ethics. – An overarching ILLOVO SHERQ policy. – Their own in house Waste Management Plan. – The Illovo Integrated Risk Management System (IIRMS) to ensure that the standards to which the business conforms are unified under a single platform, guiding and measuring compliance.								

• The classification and the SSV comparison of the boiler ash gives very good indications of the hazards encountered by all affected stakeholders when working with ash. It helps to identify areas which must be managed in order to minimise or eliminate risks. • The intention is to maximize the intended beneficial use of the waste, while minimising any unacceptable impacts to people, environment and economic harm.								
Ash removal for: • concrete blockmaking. • substitute and supplementation for sand in the	• Storage over time and running out of storage space, if demand is low. • Windblown dust if ash is dry.	**Spillage** • Surface and effluent water. • Possible ground water pollution • Surrounding environment	High	1	6	1	1	8

construction industry.		impacted by the spill. **Windblown dust: Health and safety** • Local airborne nuisance dust. • Eye damage and skin irritation. • Inhalation of the wind blown dust. • Ingestion of the ash. **Health and Safety** No signages for risks, dangers and correct PPE.						
Access to ash storage area.	**Security and safety** • Unauthorised access to the ash area. • Unauthorised removal of ash.	**Health and safety** The removal of ash in an unauthorised and unmanaged way may lead to the following undesired consequences: • Accidents; • Spillages; • Health impacts to people; and • Environmental impacts.	Low	1	4	2	2	8

Process of transferring ash from the storage area to the receiving vehicles.	**Dust** Windblown dust from the process of ash transfer by the front-end loader to the receiving vehicle. **Spillage** Areas outside of the ash storage area. **Hot ash** The quenched ash still being too hot after coming from the boilers.	**Driver of vehicles, employees and the environment** • Risk to health: eyes and respiratory systems. • If ash storage is close to the boundary fence there is a risk to the surrounding environment by wind-blown dust. • Ensure that the ash is at a safe temperature to remove.	Low	3	4	1	1	18
Transporting of ash to: • Concrete blockmaking plant. • Construction site to be used as a substitution to sand.	**Spillage** • Overfilling the receiving truck bin carrying capacity. • Windblown ash. • Road accidents which may result in spillages on the main and access roads. • Spillages which may result in accidents.	**Spillage** Soil, road, surface and groundwater contamination. Ash spillage on roads and grass verges within community residential areas. **Dust:** **Health and Safety Driver and Public** Windblown dust on:	Medium	3	5	2	2	27

	• Non – compliance to the ROAD TRAFFIC ACT. (RTA), driving unsafe vehicle. • Soil contamination. • Environmental affects to the flora and fauna. • Contamination of the natural watercourses / stormwater systems.	• Surrounding environment, • Driver of following vehicles: eyes and respiratory systems. • Vehicle damage due to dust scouring. • Pedestrians and cyclists affected by windblown ash. Causing a physical and health hazard to people and animals in the vicinity **Safety and compliance to the RTA,** • Health and safety of the driver and general public could be affected in the event of spillage due to compromised vehicle integrity - it will endanger the lives of driver and the public.						

		• Incorrect or no placarding on vehicles. **GSC Reputation** Damage to reputation as GSM is seen as the owner and source of the ash. **Economic** Financial repercussions for spillage clean up.						
Ash off-loading from vehicle.	**Spillage** • Outside of dedicated storage area. **Health** • Windblown dust	**Environment** • Spillages and wind blown dust into the natural water course and into the surrounding area affecting flora and water quality. • Windblown dust affecting the health of the people in the immediate vicinity.	Moderate	4	4	2	2	32
Storage at end user facilities.	**Environment** Run off **Environment** Windblown dust.	**Environment** Dust of boiler ash, contaminating the surrounding flora ;	Low	3	4	2	2	24

		surface or groundwater resources. **Health and Safety** Incorrect and/or no safety signages indicating risks dangers and correct PPE.						
Ash management during the process of: • Concrete block making. • Substitution to sand in the construction industry.	**Dust:** • **Health:** There may be health impacts from working with the dried ash dust during the transfer or loading process. • Failure to use PPE during the course of the entire operation. • **Environment:** dust blown onto the surrounding areas. **Environment:** • Any ash slurry run-off from the transfer or loading operations will affect the receiving environment if not managed correctly,	**Dust:** **Health.** There may be health impacts from working with ash through exposure routes such as, eyes, mouth, inhalation and skin. Correct PPE is required for the entire duration of the operation, to keep the dust from the skin, hands, feet, eyes and lungs. **Environment:** • Any run-off from the operations into the water during the operations and transfers as well as during rain run-off	Medium	3	5	2	2	27

	especially near to natural water sources. • Any uses in the construction industry may involve the leaching out of the heavy metals into the soils, ground water and surrounding surface water courses and soils.	will affect the receiving environment if not managed correctly. • Leaching of heavy metals into the ground water, surreounding wtare courses and soils.						
Secondary waste generation	**Environment**:. • Secondary waste generation would involve ash mixed with a multitude of other items like oils, grease, as well as other items in the storage sites if they are not managed. • The ash too can contaminate items like greases and any fuel kept uncovered on site.	**Environment:** Should this contaminated ash escape into the environment through poor management: • the environment: flora, fauna, soil and natural water sources would be impacted. • Unnecessary waste is created.	Low	1	2	2	2	6
Socio-Economic Risks: Positive spin offs at risk should ash beneficiation not be possible.								

Employment and utilization of a renewable resource.	• Employment from the local community for the operation as the resource is freely available.	**Local economy** Particularly amongst the vulnerable community groups: youth and women.	Positive					+
• The making of blocks would create business opportunities for the community as well as opportunities to employ local community members. • The opportunity for builders to build simple housing from local blocks made in the area.	• Some members of the community also can provide building services to build simple houses. • The boiler ash is not sold.	**Local economy** Particularly amongst the vulnerable community groups: youth and women.	Positive					+

The following factors and criteria must be used to assess the impacts of the activities:

CRITERIA	
Magnitude (Severity)	Duration
10 – Very high	5 – Permanent (longer than 10 years)
8 – High	4 – Long term (5 – 10 years)
6 – Moderate	3 – Medium term (12 months to 5 years)
4 - Low	2 – Short term (< 12 months)
2 - Minor	1 – Immediate
Scale	Probability (Likelihood)
5 – International	5 – Definite
4 – National	4 – Highly probable
3 – Regional	3 – Medium probability
2 – Local	2 – Low probability
1 – Site only	1 – Improbably
0 – None	0 - None

Magnitude
Measures the size of the impact

Duration
Duration refers to the lifetime of the impact i.e. how long it will last

Scale
The scale refers to the extent of the impact

Probability
The probability refers to the chance of the impact to occur. The potential impact could be most likely to occur, unlikely, etc.

<u>Assessment of Significance of Impact</u>

Significance rating of the potential impact illustrates the importance of the impact itself. The size of the area affected by pollution may be extremely high but the significance of this effect is dependent on the concentration or level of pollution in that area. In order to determine the significance of an impact, the following method should be used:

Significance (S) = (Magnitude + Duration + Scale) x Probability

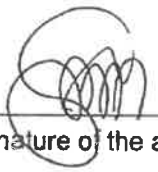
The values of S must then be categorised as follows:

RATING		DESCRIPTION
SP > 60	High significance	An impact which could influence the decision about whether or to proceed with the activities regardless of any possible mitigation

SP 30 - 60	Moderate significance	An impact or benefit which is sufficiently important to require management and which could have an influence on the decision unless it is mitigated
SP < 30	Low significance	Impacts with little real effect and which will not have an influence on or require modification of the activities
+	Positive impact	An impact that is likely to result in a positive consequence/effect

I, __Clement Sithole__ (the Applicant) hereby declare that I have read the completed Risk Assessment form and hereby confirm that the information is, to the best of my knowledge, true and correct

Furthermore, I declare that I am fully aware of my responsibilities in terms of the Waste Exclusion Regulations, and that failure to comply with these Regulations may constitute an offence in terms of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008).



Signature of the applicant[2]/ Signature on behalf of the applicant:

Clement Sithole _____
Name of Applicant:

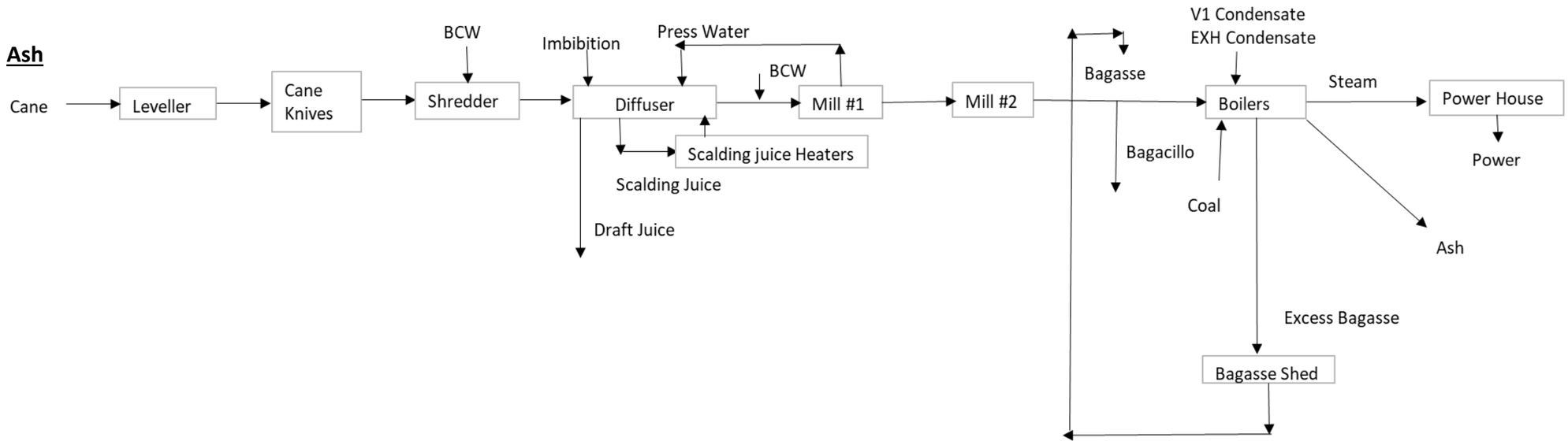
__SHERQ Manager_____
Designation

26th of June 2023_____
Date:

[2] If the applicant is a juristic person, a signature on behalf of the applicant is required as well as proof of such authority.

ANNEXURE 1:

PROCESS FLOW CHART FOR THE BOILER ASH WASTE STREAM


Ash
Cane
Leveller
Cane Knives
BCW
Shredder
Imbibition
Press Water
BCW
Diffuser
Mill #1
Scalding juice Heaters
Scalding Juice
Draft Juice
Mill #2
Bagasse
Bagacillo
V1 Condensate
EXH Condensate
Boilers
Coal
Steam
Power House
Power
Ash
Excess Bagasse
Bagasse Shed