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ENVIRONMENTAL MANAGEMENT PLAN FOR PROPOSED OPERATIONS AT MINING CLAIM 71519 AT FARM GOABEB POS 3

1. Particulars of mining claims

Registered number 71519 (pending) , Farm Goabeb 63, Pos 3, State land, Usakos District, Erongo Region

2. Geological nature of the deposit

Industrial minerals such as wollastonite, calcite and quartz are present in the hill outcrop. The hill including the old excavation of the quarry is shown in Figure 1. Also visible is the dump formed from the excavated material by the previous occupiers of the site (unknown).

Figure 1: Historical quarry on the mining claim.

The quarry is situated in the Usakos district on Farm Goabeb Pos 3.

Figure 2: Excavation of the quarry

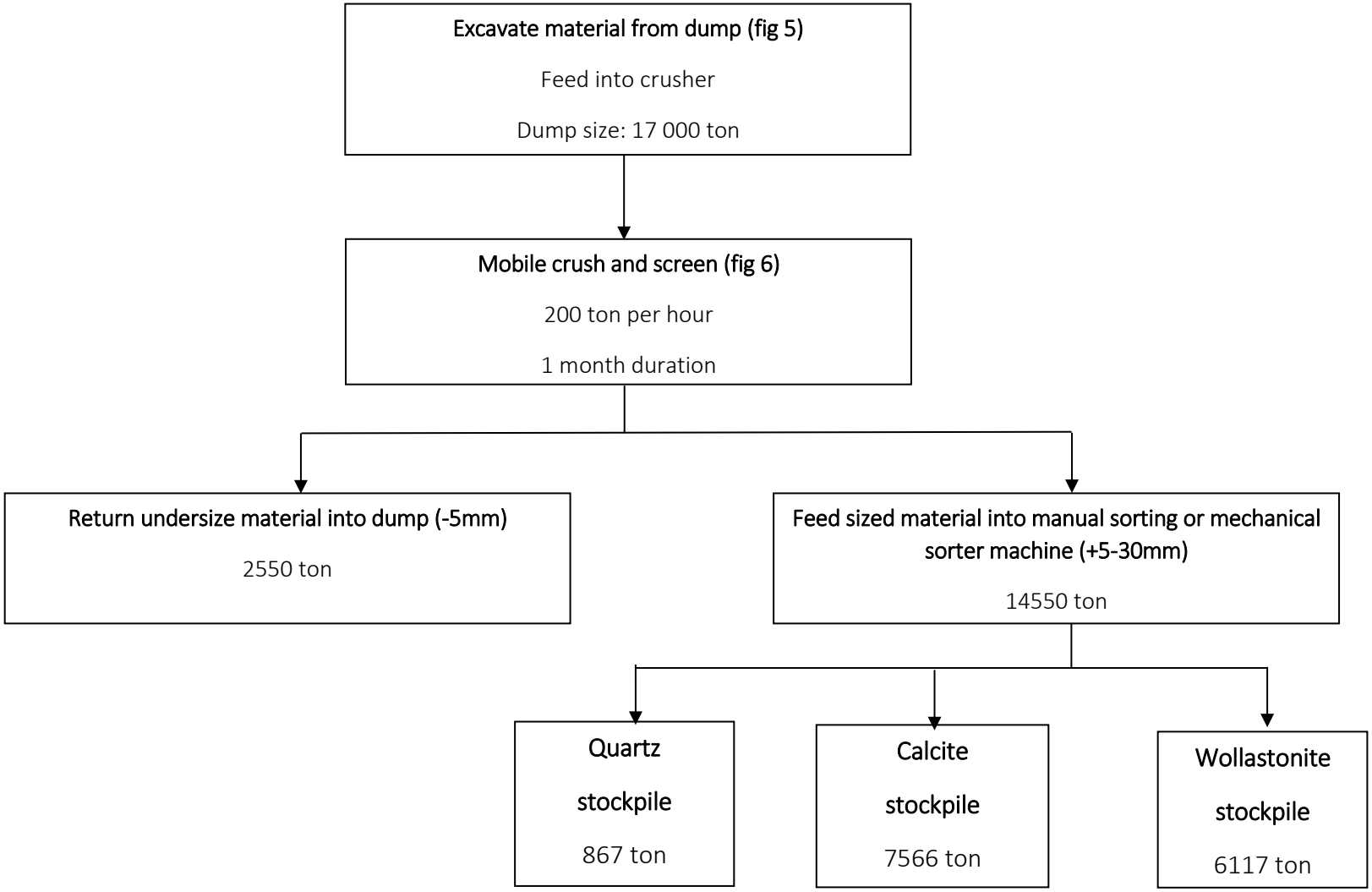
3. Expected nature of the operations

It is planned to utilise the material that is currently available in a stockpile at the site as shown in figure 1 and figure 3. The dump is approximately 2000m^2 in area size and contains about 17 000 ton of rock blasted from the hill. It is expected to process the material within 1 month of duration.

Figure 3: Stockpile of material blasted and excavated from the quarry

Figure 4: Barren surface of the overburden dump. No animals or plants are visible on the dump which will be disturbed by activity.

The proposed process description is as follows:



The main products will be stockpiled and packaged into 1 ton woven bags for transportation off site.

List of equipment at site

Description	Quantity	Power source
Excavator, 20 ton	1	Diesel
Jaw crusher, mobile	1	Diesel
Screen, mobile	1	Diesel
Ore sorter unit	1	Genset
Light vehicle	2	Diesel

List of buildings

Description	Quantity	Power source
Mobile office	1	Solar PV
Mobile toilet	2	Solar PV
Storage container	1	Solar PV
Tearoom	1	Solar PV

List of personel

Description	Number
Site foreman	1
Excavator operator	1
Plant operator	6
Labourers	4

Figure 5: Example of excavator loading from dump into a mobile crusher

Figure 6: Example of excavator feeding material into a mobile screening plant

Figure 7: Example of an excavator feeding material into mobile screening plant and producing screened product stockpiles

There are no further exploration activities planned for now. Any further mining operations from the ore body will be applied for approval in advance.

4. Project motivation (need and desirability)

The project feasibility and impacts are based on desktop studies, laboratory analysis as well as field investigations.

5. Existing damage to the environment at the site

As indicated in the photographs damage of previous operations consist of the excavation into the hill as well as the stockpiled materials. If our operation as proposed is approved, the majority of the stockpile will be removed from site and may be considered a form of rehabilitation. Apart from the removal of the stockpile no other form of rehabilitation is envisaged.

Figure 8: Existing damage to the environment from previous quarry activities

6. Assessment of ecological impacts and mitigation

Table 1: assessment criteria of impacts

Criteria	Category	Description
Extent or spatial influence of impact	National	Beyond 20 km of radius of site
	Regional	Within 20 km radius of site
	Local	Within 2 km radius of site
	Site specific	On site or within boundaries of site
Magnitude of the impact	High	Natural and/or social functions and/or processes are severely altered
	Medium	Natural and/or social functions and/or processes are notably altered
	Low	Natural and/or social functions and/or processes are slightly altered
	Very low	Natural and/or social functions and/or processes are negligibly altered
	Zero	Natural and/or social functions and/or processes remain unaltered
Duration of impact	Zero	Zero time
	Short term	Up to 18 months
	Medium term	0 to 5 years (after operations)
	Long term	5 to 10 years (after operations)
	Permanent	More than 10 years (after operations)
Probability	Definite	Estimated greater than 95% chance of impact occurring

	Very likely	Estimated 50 to 95% chance of impact occurring
	Fairly likely	Estimated 5 to 50% chance of impact occurring
	Unlikely	Estimated less than 5% chance of impact occurring
	Zero	Definitely no chance of occurring
Reversibility	Reversible	The impact is reversible within a period of 10 years
	Irreversible	The activity will lead to an impact that is permanent

No	RISK	REASON	RISK RATING				
			Extent	Magnitude	Duration	Probability	Reversibility
6.1.	Hydrocarbon pollution	Oil leaks from equipment Oil leaks from containers Fuel leaks from containers Fuel leaks from equipment	Site specific	Medium	Short term	Fairly likely	Reversible
	Regular inspection and servicing of equipment on site Store only small quantities at site to a maximum of 2500 liter of diesel and 100 liter of lubricants Fuel to be stored in approved self bunded tank (fig.9) Oil containers to be stored in approved drums and on leak proof floor Treat any spillage with oil absorbent material and dispose at approved site Remove any contaminated soil and dispose at approved site No washing down of oily equipment will be allowed at site except where the water can be contained and disposed safely at approved site.						

Figure 9: Self bunded fuel tank on trailer for storage and dispensing of diesel

No	RISK	REASON	RISK RATING				
			Extent	Magnitude	Duration	Probability	Reversibility
6.2.	Dust pollution	Dust from excavating material from the dump. Dust from screening and crushing. Dust from vehicle movement.	Local	Very low	Short term	Definite	Reversible
	Activities to occur in ventilated areas. Lower production rate within tolerable levels for dust. Monitor dust in air within 2 km radius of operations. Limit movement of vehicles to few roads and to minimum. Water the road and working area to suppress dust if at high levels. Provide affected personnel with dust masks.						

No	RISK	REASON	RISK RATING				
			Extent	Magnitude	Duration	Probability	Reversibility
6.3.	General waste pollution	Domestic waste Industrial waste	Site specific	Low	Short term	Very likely	Reversible
	Provide site with suitable and marked waste bins and dispose at approved municipal site. Provide site personnel with awareness training.						

No	RISK	REASON	RISK RATING				
			Extent	Magnitude	Duration	Probability	Reversibility
6.4.	Noise pollution	Equipment noise	Local	Low	Short term	Very likely	Reversible
	Due to the locality, low magnitude and short duration of the activity it is recommended to tolerate this impact within reasonable measures and within 2 km radius of the site. To limit activities to day shift only in consideration of farmstead residents that may be impacted by noise. There are 6 farmsteads based on the farm. The farmsteads are between 400m and 2 km distanced from the site.						

No	RISK	REASON	RISK RATING				
			Extent	Magnitude	Duration	Probability	Reversibility
6.5.	Water use	Water is a scarce resource in the area.	Local	Low	Short term	Fairly likely	Reversible
	The process of treating the dump material does not require water and is termed a dry process. Water that might be required is related to dust suppression of airborne dust due to excavator and screening plant. Hidrox will ensure that water use is limited to the minimum, and only in cases where it is necessary and effective in reducing airborne dust, by water sprayer.						

No	RISK	REASON	RISK RATING				
			Extent	Magnitude	Duration	Probability	Reversibility
6.6.	Water effluent contamination of the environment	Water effluent can contaminate the environment and animals can be exposed to harmful substances	Site specific	Medium High	Short term	Zero	Reversible
	Domestic sewerage will be contained in mobile toilets and containers, to be emptied by service provider. No other effluent will be generated.						
No	RISK	REASON	RISK RATING				
			Extent	Magnitude	Duration	Probability	Reversibility
6.6.	Disturbance of natural environment	Removal of local flora and fauna	Site specific	Very low	Short term	Zero	Reversible
	The dump presents no habitat to natural life, and is barren from plants and animal life (figures 3 and 4) The dump is only 2000 m^2 in area and therefore very local in extent.						

7. Socio economic impacts

The socio economic impact are evaluated according to criteria in Table 1.

No	RISK	REASON	RISK RATING				
			Extent	Magnitude	Duration	Probability	Reversibility
7.1	Impact on farming activities	Employees interfering with farming activities. Livestock entering the working area.	Site specific	Very low	Short term	Unlikely	Reversible
	Awareness training of employees to avoid interference with farming activities and to be on lookout for wandering farm animals on the site. Communication with farmstead residents. Keeping Hidrox activities only to the close boundaries of the site, and only within the estimated 1 month duration of activities.						

No	RISK	REASON	RISK RATING				
			Extent	Magnitude	Duration	Probability	Reversibility
7.2	Local employment creation	Positive impact of 12 short term employment opportunities, of which 3 fixed term. If stage 2 proceeds the positions will be permanent new jobs.	Local, regional, national	High	Short term	Definite	Non-reversible
	Tax revenues	Positive impact of adding tax revenues to government fiscus.	National	High	Short term	Definite	Non-reversible
	Positive impacts of employment, tax revenues to Government and new source of foreign currency. Training and development of employees.						

8. Environmental monitoring

Hidrox will employ on consultancy basis, an environmental practitioner to monitor, report and manage the environmental aspects of the project and to ensure compliance to the ECC.

9. Alternatives

The alternative to the project is to not proceed with the activities. The impact of the no-go option will be that none of the negative or positive effects of the project will be realized. The status quo of the existing environmental disturbance will remain and no new economic benefits to the local, regional or national economy will be achieved. The positive impacts outweighs the negative impacts for this project.

10. Post project monitoring

Only limited monitoring of the site is envisaged after activities have ceased at site. Monitoring at project closure include:

- Inspection of stockpiles
- Inspection of remaining dump, if any
- Close-out meetings with various homestead residents