## THABA STONE QUARRY PORTION 2 AND REMAINING EXTENT OF THE FARM UITKOMST NO 558, THABA NCHU FREE STATE PROVINCE

#### **ENVIRONMENTAL PERFORMANCE ASSESSMENT**



DMRE REFERENCE NUMBER:	FS 30/5/1/2/2/195 MR
AUDIT PERIOD:	September 2022

#### PREPARED FOR:

Thaba Stone (Pty) Ltd Contact Person: Me L Kotze Tel: 082 366 1808 Cell: 082 567 2191

Postal Address: P.O. Box 226 Thaba Nchu 9780

#### PREPARED BY:

Auditor: Christine Fouché
Tel: 021 851 2673
Cell: 082 811 8514
Fax: 086 546 0579
Postal Address:
Suite 62
Private Bag x15
Somerset West

**Greenmined Environmental** 





#### 1. PROJECT SPECIFIC DETAIL

ITEM	MINING RIGHT/PERMIT HOLDER			
Company Namo	Thoma Stane (Dtv.) Ltd			
Company Name	Thaba Stone (Pty) Ltd			
Contact Person	Me Lee-Anne Kotzé			
Tel Number	082 366 1808			
Cell Number	082 567 2191			
E-mail Address	admin@uitkomsklip.co.za			
Postal Address	P.O. Box 226 Thaba Nchu 9780			
ITEM	CONSULTANT DETAIL			
Company Name	Greenmined Environmental (Pty) Ltd			
Contact Person	Christine Fouché			
Tel Number	021 851 2673			
Cell Number	082 811 8514			
E-mail Address	Christine.f@greenmined.co.za			
Postal Address	Postnet Suite 62 Private Bag x15 Somerset West 7129			
ITEM	LOCATION AND AREA INFORMATION			
Site Name	Thaba Stone Quarry			
Property Description	Portion 2 and the Remaining Extent of the farm Uitkomst No 558			
Location	The quarry is located ±2.5 km east of Thaba Nchu and ±18 km west of Tweespruit. Access to the quarry is directly of the N8 that passes the site to the south.			
Size of Mining Area	80.9896 ha			



#### **TABLE OF CONTENTS**

1.	PROJECT SPECIFIC DETAIL	2
2.	. ENVIRONMENTAL AUDIT REPORT	4
	PROJECT DETAIL	4
	DETAIL OF AUDITOR	4
	SCOPE & PURPOSE OF ENVIRONMENTAL AUDIT	5
	ASSUMPTIONS, UNCERTAINTIES OR GAPS IN KNOWLEDGE	5
	LOCATION	6
	PROJECT DESCRIPTION	7
	SITE CONDITIONS	7
	REPORTABLE ENVIRONMENTAL INCIDENTS	
	ADOPTED METHODOLOGY	
	INSPECTION ASPECTS	8
	COMMENTS OR COMPLAINTS RECEIVED FROM I&AP'S	
	AUDITING OF EA, EMPR AND REPORTING THEREOF	
	GENERAL REPORT	
	ECO SIGNATURE	16
	PHOTOGRAPHS	17



#### 2. ENVIRONMENTAL AUDIT REPORT

#### **PROJECT DETAIL**

Permit / Right		Date of	
Number:	FS 30/5/1/2/2/195 MR	Commencement:	2008
Site Name:	Thaba Stone Quarry	Inspection Date:	29/08/2022
Permit / Right			
Holder:	Thaba Stone (Pty) Ltd	Other Authorisations:	General Authorisation:
Report Number:	03		27/2/1/C252/27

## <u>DETAIL OF AUDITOR</u> (APPENDIX 7 SUB-REGULATION 3(A) & (B)):

ECO:	Christine Fouché
EXPERTISE:	Ms Fouche has a Diploma in Nature Conservation and a BSc in Botany and Zoology with sixteen years experience in doing environmental impact assessments and compliance monitoring in South Africa.
DECLARATION OF INDEPENDENCE:	<ul> <li>I, Christine Fouche, in my capacity as environmental control officer declare that—</li> <li>I act as independent environmental control officer in this compliance audit;</li> <li>I will perform the work relating to the audit in an objective manner, even if the results and findings are not favourable to the holder of the authorisation;</li> <li>I have expertise in conducting environmental compliance audits, including knowledge of the Act and regulations that have relevance to the activity;</li> <li>I will adhere to and comply with all responsibilities as indicated in the National Environmental Management Act and Environmental Impact Assessment Regulations.</li> <li>I do not have and will not have any vested interest in the activity other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014.</li> </ul>



## SCOPE & PURPOSE OF ENVIRONMENTAL AUDIT (APPENDIX 7 SUB-REGULATION 3(C)):

This environmental audit report was compiled in terms of the requirements of the NEMA EIA Regulations, 2014 (as amended).

#### **OBJECTIVE:**

The objective of the environmental audit report (EAR) is to evaluate compliance of the operational activities with the Environmental Management Programme Report (EMPR) as approved by the Department of Mineral Resources and Energy.

#### **INSPECTED AREAS:**

The inspection included an assessment of the following areas:

- Office area;
- Hard rock quarry;
- Processing areas;
- Stockpile area;
- Ready-mix plant;
- Borrow-pit areas; and
- Rehabilitated historic borrow pit.

In order to establish the environmental compliance assessment of the operation, the mining site was inspected by the Environmental Control Officer, Christine Fouché, of Greenmined Environmental accompanied by site management.

## ASSUMPTIONS, UNCERTAINTIES OR GAPS IN KNOWLEDGE (APPENDIX 7 SUB-REGULATION 3(F)):

The assumptions made in this document, stem from specific information gathered during the site audit and background information gathered from site management. No uncertainties or gaps in knowledge could be identified that is applicable during this audit period.



#### **LOCATION**

Site Location:	The quarry is located ±2.5 km east of Thaba Nchu and ±18 km west of Tweespruit. Access to the quarry is directly of the N8 that passes the site to the south.			
Site Map:	CE1	© 2020 Google 2020 Maxar Technologies 20 AfriGIS (Pty) Ltd.		
	A1 29°12'54.36" S	26°52'21.28" E		
	B1 29°13'18.75" S	26°52'57.21" E		
	A 29°13'26.93" S	26°53'09.21" E		
	F1 29°13'31.84" S	26°53'07.89" E		
01. 0 11. 1	C1 29°13'28.00" S	26°52′54.22″ E		
Site Coordinates:	D1 29°13'26.02" S	26°52'45.28" E		
	G1 29°13′25.09" S 26°52′42.44" E			
	H1 29°13'38.93" S I1 29°13'35.77" S	26°52'35.80" E 26°52'23.55" E		
	J1 29°13′35.77′ S	26°52'31.15" E		
	E1 29°13'12.15" S	26°52'13.11" E		
	1 2 10 12.10 0	20 02 10.11		



#### PROJECT DESCRIPTION

Thaba Stone Quarry entails the mining of aggregate from Portion 2 and the Remaining Extent of the farm Uitkomst No. 558. The Right Holder implements the opencast mining method where the available topsoil (if any) is stripped and stockpiled separately. Gravel and weathered dolerite is removed with earthmoving equipment, loaded onto trucks and transported to the stockpile area from where it is sold to clients. The hard rock dolerite is mined by drilling and blasting to loosen the material, upon which earthmoving equipment loads the loosened stone onto trucks that transport it to the crushing and screening plant where it is reduced and screened to the various sized stockpiles.

#### **SITE CONDITIONS**

Sunny windy day with dry soil conditions.

#### REPORTABLE ENVIRONMENTAL INCIDENTS

Incident Date:	
Incident No:	The quarry keeps a register of the environmental related incidents that occurs
Incident:	on site. No major incidents occurred during the audit period that had to be
How addressed:	reported to the DMRE.
When addressed:	

## ADOPTED METHODOLOGY (APPENDIX 7 SUB-REGULATION 3(D):

COMPLIANCE SCORE	DESCRIPTION
1	Task not achieved
2	Task 20% achieved
3	Task 50% achieved
4	Task 80% achieved
5	Task 100% achieved in accordance with the EMP

NON-COMPLIANCE SCORE	DESCRIPTION
1	LOW – Mitigation not needed / mitigation measures to be maintained
2	MEDIUM – Mitigation should be considered
3	HIGH – Mitigation compulsory



#### **INSPECTION ASPECTS**

DESCRIPTION	COMPLIANCE SCORE	NON- COMPLIANCE SCORE	STATUS	COMMENTS
	L	EGISLATION COM	IPLIANCE:	
National Environmental Management Act, 1998 (Act No 107 of 1998) and the Environmental Impact Assessment Regulations, 2014 (as amended 2017)	5	-	Compliant	The competent authority deems the approved EMPR and MR of the quarry compatible with an Environmental Authorisation in terms of NEMA, 1998.
Copy of the EA and EMPR available on site	N/A	-	-	-
Mineral and Petroleum Resources Development Act, 2002 (Act No 28 of 2002)	5	-	Compliant	-
Mining right available on site	5	-	Compliant	-
Mine plan annually reviewed	5	-	Compliant	The mine plan was last reviewed in June 2022.
National Environmental Management: Air Quality Act, 2004 (Act No 39 of 2004)	5	-	Compliant	Although the activities at the mine does not require an air emissions licence, the requirements of the NEM:AQA is considered on site.
National Environmental Management: Waste Act, 2008 (Act No 59 of 2008)	TBC	-	To be confirmed	Site management must obtain safe disposal certificates when waste is removed from site.
National Water Act, 1998 (Act 36 of 1998)	5	-	Compliant	The MR Holder has a General Authorisation issued by the DWS for the use of borehole water.
National Environmental Management: Biodiversity Act, 2004 (Act No 10 of 2004) (NEM:BA)	4	3	Management to be intensified	The listed weeds/invader plants that germinated at the mine must be removed.
Hazardous Substances Act, 1973 (Act 15 of 1973)	4	3	To be addressed	Most of the chemicals associated with the operation is stored at the off-site workshop. Site management must however ensure that the material safety data sheets (MSDS) of all chemicals used on site is available in near vicinity to the products.



DESCRIPTION	COMPLIANCE SCORE	NON- COMPLIANCE	STATUS	COMMENTS
		SCORE		
	TOPSOII	L & OVERBURDEN	MANAGEMEN	
Topsoil stripping	5	-	Compliant	The gravel mining areas has very little topsoil, but topsoil is removed where possible. Topsoil was stripped when the hard rock quarry was extended.
Topsoil storage/stockpiling (<2.5 m)	5	-	Compliant	Topsoil is stockpiled on site.
Overburden stripped & stockpiled	5	-	Compliant	-
Topsoil returned to rehabilitated area	5	-	In process	Where stockpiled topsoil is available, the Right Holder returns it to the rehabilitated areas.
		VEGETATIO	N:	
Protected plants (if any) sheltered from mining activities	N/A	-	-	No protected plants were identified in the active mining footprint.
Riparian vegetation protected	N/A	-	-	No mining takes place in any riparian area.
Aliens & weeds controlled on site	4	3	To be addressed	The invader plants noted during the audit must be removed prior to it setting seed.
Indigenous grassmix used to rehabilitate	N/A	-	-	As discussed on site it is proposed that the rehabilitated areas be seeded with a grassmix to reduce the likelihood of weeds/alien invaders germinating on the areas.
Recent vegetated areas protected against grazing.	N/A	-	-	Not yet applicable.
No unauthorised collection of firewood	5	-	Compliant	-
		FAUNA:		
All animals, birds and reptiles protected on site	5	-	Compliant	-
Operation pits providing an escape route for trapped animals	5	-	Compliant	-
Operational areas daily inspected for signs of trapped animals	5	-	Compliant	-
AIR QUALITY & NOISE:				
Dust suppression implemented	5	-	Compliant	-
Monthly fallout dust monitoring implemented	5	-	Compliant	The monthly dust monitoring reports are filed at the site office.
Processing plant fitted with water sprayers	5	-	Compliant	-
Machinery and the plant regularly cleaned to prevent accumulation of dust.	5	-	Compliant	-



DESCRIPTION	COMPLIANCE SCORE	NON- COMPLIANCE SCORE	STATUS	COMMENTS
Speed of vehicles controlled to lessen dust generation and road deterioration	5	-	Compliant	-
Noise control	5	-	Compliant	-
Hearing protection available to employees	5	-	Compliant	-
Mining equipment serviced regularly to ensure noise emissions are minimized	5	-	Compliant	-
Blasting limited to twice a year	5	-	Compliant	Thus far the site has only set one blast for the year (April 2022).
I&AP's and stakeholders informed prior to a blast	1	3	To be implemented	The surrounding landowners must be informed in writing prior to the setting of a blast.
Operation hours restricted to office hours.	5	-	Compliant	-
	ARCHAEOI	OGICAL AND CU	LTURAL INTER	EST:
Archaeological and/or cultural remnants protected.	N/A	-	-	To date no archaeological or cultural remnants were discovered at the mine.
		SURFACE WA	TER:	
Storm water diverted around the stockpiled area and access roads to prevent erosion	5	-	Compliant	No erosion problems were noted at the time of the inspection.
Vehicle repairs contained to workshop, or drip trays used during emergency break downs	5	-	Compliant	All vehicle repairs are done at an off-site workshop.
Areas with erosion reinstated	N/A	-	-	No signs of erosion were noted during the site inspection.
No water used for mining activities	5	-	Compliant	The site does not wash any material, and the only mining related water is used for dust suppression purposes. The mine does not extract water from any of the dams on the property.
VISUAL EXPOSURE:				
Is the contractor implementing good visual and housekeeping standards.	5	-	Compliant	At the time of the inspection the site was neat and well managed.
Open pits progressively backfilled and made safe	5	-	Compliant	The Right Holder rehabilitates the any areas no longer needed for mining.
MANAGEMENT OF FUEL AND HAZARDOUS PRODUCTS:				
Hazardous material stored within a bunded area (110% capacity)	4	3	To be addressed	The Fuchs containers with hazardous waste/material in must be removed from site or placed in a bunded area.
Management of fuel and oil spills	5	-	Compliant	No spills were noted at the time of the inspection.



DESCRIPTION	COMPLIANCE SCORE	NON- COMPLIANCE SCORE	STATUS	COMMENTS
Drip trays present when refuelling is done outside the service bay	5	-	Compliant	Site management confirmed that drip trays are used when the excavator is refuelled on-site.
Mining equipment mechanically sound without visible oil leaks	5	-	Compliant	This appeared to be true at the time of the inspection.
Sump and oil separator operational	N/A	-	-	No workshop or wash bay was established at the mining area.
Complete oil spill kit available on site	4	3	To be addressed	The bin of the oil spill kit may not be used for the disposal of general waste.
Material safety data sheets (MSDS) available on site	1	3	To be addressed	MSDS's must be obtained for all chemicals used on site.
		WASTE MANAGE	EMENT:	
Site free of day-to-day litter	4	3	To be addressed	The empty Fuchs containers must be removed from the salvage yard to the workshop and be disposed of as hazardous waste.
Waste collected in sealable containers	4	3	To be addressed	At the time of the inspection, the general and hazardous waste was mixed in the various drums. This needs to be stopped, the waste be disposed of as hazardous waste, and the employees re-inducted.
General waste dumped at a recognised landfill site	TBC	-	To be confirmed	As discussed, site management must proof that general- and hazardous waste is correctly disposed of at registered waste
Hazardous waste removed by a registered waste handling contractor	TBC	-	To be confirmed	handling facilities. See general report.
Hydrocarbon spills cleaned from site	5	-	Compliant	At the time of the inspection no spills were noted.
Spillages not disposed of into the environment, ditches, drains or water courses	5	-	Compliant	No spills were noted at the time of the site inspection.
Waste disposal permits on site	1	3	To be obtained	A waste register must be started at the quarry and the safe disposal certificates (SDC) for the removal of hazardous waste and proof of general waste disposal must be filed for auditing purposes.
No waste stockpile area allowed outside the boundaries of the mining area	4	3	To be addressed	Refer to earlier remark regarding the empty Fuchs containers.
Proper sanitation facilities available to employees.	5	-	Compliant	The ablution facilities drain into a septic tank that will be serviced by a registered contractor once it reaches capacity. No pit latrines (as mentioned in the EMPR) is used on site.

SEPTEMBER 2022



DESCRIPTION	COMPLIANCE SCORE	NON- COMPLIANCE SCORE	STATUS	COMMENTS
		FIRE MANAGE	MENT:	
Firefighting equipment available on-site	5	-	Compliant	-
Fires contained to facilities specially constructed for the purpose	5	-	Compliant	-
Employees trained in firefighting	5	-	Compliant	-
Combustibles kept away from fuel storage receptacles	5	-	Compliant	-
Vegetation in vicinity of fuel storage removed	N/A	-	1	No fuel is stored on site.
Major fires or explosions reported.	N/A	-	-	No fire/explosion occurred during the audit period.
	MINE	& EQUIPMENT MA	ANAGEMENT:	
Mining area demarcated with visible beacons	5	-	Compliant	Due to the large size of the mining footprint (±80 ha) and the fact that only ±10 ha of the area has to date been altered for mining related activities, the placing of beacons on the corners of the mining area is deemed impractical. The boundary of the hard rock quarry is demarcated with white painted drums for safety purposes and a fence is in place along the boundary of the camp.
No permanent buildings established on site	N/A	-	-	The development of the quarry allowed the development of permanent buildings on the property that will remain upon rehabilitation of the mining area for future use by the landowner. The development of the buildings adds value to the property.
Mining contained to designated mining area	5	-	Compliant	To date all mining has commenced within the approved mining boundaries.
Unnecessary surface disturbance avoided	5	-	Compliant	-
Progressive rehabilitation of mined out areas	5	-	Compliant	-
Gates and fences erected/maintained in consultation with landowner	5	-	Compliant	-
ACCESS ROADS, VEHICLES & TRANSPORTING OF MATERIAL:				
Existing roads used and access road maintained.	5	-	Compliant	-
Movement of project related vehicles and machinery restricted to the approved mining	5	-	Compliant	-



DESCRIPTION	COMPLIANCE SCORE	NON- COMPLIANCE SCORE	STATUS	COMMENTS
area. No crisscrossing through undisturbed areas.				
Vehicle repairs only conducted in service bay area, and waste products disposed of in containers/bins.	5	-	Compliant	All services are done at the off-site workshop.
Speed limit enforced within the mining area	5	-	Compliant	-
	EMPLO'	YEE AND SAFETY	MANAGEMEN <sup>*</sup>	Т:
Workers inducted and informed of EMPr conditions	5	-	Compliant	-
Proof of training available	5	-	Compliant	-
Workers daily transported to site	5	-	Compliant	-
Workers provided with PPE	5	-	Compliant	-
Are there signs present, indicating the mining site and speed restrictions	5	-	Compliant	-
Effective access control to prevent unauthorised entry.	5	-	Compliant	-
Hauling routes clearly marked with appropriate signage.	5	-	Compliant	-



#### COMMENTS OR COMPLAINTS RECEIVED FROM I&AP'S

(APPENDIX 7 SUB-REGULATION 3(G) & (J)):

No written environmental related complaints were received during the audit period.

## AUDITING OF EA, EMPR AND REPORTING THEREOF (REGULATION 34):

Date of previous	
EAR/EPA:	September 2021
Proof of submission	
to DMRE available:	Proof of submission of the EPA/EAR is available on site.
EAR/EPA compiled	
by independent	The 2021 and 2022 EAR was compiled by Greenmined Environmental (Pty) Ltd.
person with	
environmental	
auditing expertise:	
Potential and	
registered I&AP's	-
notified within 7 days	
of the submission	
date, and report	
available on publicly	
accessible website	

#### **GENERAL REPORT**

Compliance of the mining site with the EMPR (2008) was reviewed during the site assessment. The mining area recorded a compliance score of 97% for the audit period.

The hard rock quarry was expanded to the east since the last audit. As mentioned earlier, the surrounding landowners must be informed in writing prior to each blast being set of at the quarry.

Some of the unwanted overburden stockpiled south of the quarry was crushed and sold to new clients. Following this, the Mexican Poppy plants (*Argemone mexicana*) germinated on the remaining soil heaps. This needs to be addressed and the plants removed before setting seed.

The Fuchs containers at the salvage yard still need to be removed from site and disposed of as hazardous waste as it contains grease. The site must file the proof of safe disposal of the buckets as hazardous waste for auditing purposes. At the control room of the plant, the general- and hazardous waste was mixed in the same drum. This needs to be sorted and prevented in future. As discussed, the site must be able to provide proof of safe disposal of both the general and hazardous waste removed from site.

The old borrow pit was neatly rehabilitated and large portions are covered with grass. However, the remaining Mexican Poppy plants need to be controlled.



Mining continues at the weathered dolerite / borrow pit area to the south-east, with excavations focussed on specific target areas to reduce the number of open pits on the property. At the time of the inspection these areas were well managed.

Additionally, the following matters were discussed on site:

#### **Waste Management:**

It was again suggested that site management start a waste register to keep track of all the waste, including general, hazardous (for example contaminated soil), and liquid (sewerage), that is removed from site. It is of the utmost importance that the cradle-to-grave principle is implemented at Thaba Stone, meaning that the mine can proof what happened to the site related waste from generation to final disposal. All disposal certificates, collection proofs and delivery receipts must be filed for auditing purposes. It was suggested that site management should consider appointing a registered waste handling company to remove the mining related waste from site. The waste contractor must then provide the site with a safe disposal certificate (SDC) with each load that is removed from site.

#### Weeds and/or Invader Plant Species:

At the time of the inspection, Mexican Poppy (*Argemone mexicana*) plants established on some of the denuded areas in and around the mining areas (refer to photos). It is important for management to take note that all species listed as Category 1a or b invasive species in terms of the National Environmental Management: Biodiversity Act, 2004 and Alien and Invader Species Regulations, amended 2016 must be controlled. In terms of this legislation plants classified as category 1 a or b species are invasive species which must be controlled and whenever possible, removed and destroyed. Any form of trade or planting is strictly prohibited. As the Mexican Poppy is classified as a Category 1b plant it needs to be removed from the mining area as soon as possible.

#### **Blasting Notifications:**

As mentioned earlier, all blasting notifications must be done in writing to ensure that the mine has proof of the notifications for auditing purposes. The notification record will also be useful should complaints be received.

#### Material Safety Data Sheets (MSDS):

The MSDS's of all chemicals used on site must be obtained and kept in a file on site.

#### **DOCUMENT CHECKLIST:**

Mining right
Mine works program
Social and labour plan
Approved EMPR
Updated Mine Plan
Present
Present
Present

Financial provision (2021)Present (electronic copy)

Environmental Assessment Report (2021) - Present (electronic copy)

General Authorisation - Present

Proof of waste removal - To be obtained

Monitoring results - Dust Monitoring (Present)

Noise monitoring (Present)

Waste spreadsheet - Present (to be completed)

Incidents register - Present



Complaints Register - Present Environmental Awareness Training - Present

Material Safety Data Sheets - To be obtained

#### MATTERS TO BE ADDRESSED:

- 1. Remove the empty Fuchs containers from the salvage yard;
- 2. Waste registers must be implemented on site to proof the safe disposal of all waste;
- 3. The Mexican Poppy plants must be removed from site;
- 4. Prevent the mixing of general- and hazardous waste;
- 5. Blasting notifications must be in writing; and
- 6. MSDS's must be obtained for all chemicals on site.

## ABILITY OF EMPR TO ADEQUATELY MANAGE OR MITIGATE ENVIRONMENTAL IMPACTS (APPENDIX 7 SUB-REGULATION 3(E):

Although some aspects of the EIAR & EMPR is outdated (such as the use of pit latrines and development of permanent buildings), it is believed that the EMPR currently adequately manage and/or mitigate environmental impacts at the mining area.

#### **NEED FOR AMENDMENT OF THE EMPR:**

No need was identified for the amendment of the EMPR.

#### **FINANCIAL PROVISION:**

The last quantum calculation compiled for Thaba Stone Quarry was in 2021 by Greenmined Environmental (Pty) Ltd and the financial provision amount came to R 483 637.34. This report is accompanied by a new financial provision calculation for the year 2022 that amounts to R 526 862.69. Should the 2022 financial provision amount be approved by the DMRE, the Right Holder will arrange for the shortfall amount of R 272 862.69.

#### **ECO SIGNATURE**

NAME:	SIGNATURE:	DATE:
Christine Fouche	James "	09 September 2022



#### **PHOTOGRAPHS**





















# OVERBURDEN STORAGE, STOCKPILE AND PROCESSING AREA General waste to be removed from the spill kit General- and hazardous waste being mixed Contaminated soil contained in a designated **Crusher plant** drum

SEPTEMBER 2022 21

Processing area neatly managed



