NAMIBIA MARBLE AND GRANITE (PTY) LTD

Annual Operational Monitoring Report

14 September 2023

URBAN Green
SUSTAINABILITY CONSULTANTS

PROJECT INFORMATION

Project Title:	**EXPLORATION AND MINING AT ML142**
Project Location:	**KARIBIB, ERONGO REGION**
Report Title:	**ANNUAL OPERATIONAL MONITORING REPORT**
Report Date:	**14 September 2023**
Competent Authority:	**MINISTRY OF MINES AND ENERGY** **PRIVATE BAG 13297** **WINDHOEK**
Approving Authority	**DIRECTORATE OF ENVIRONMENTAL AFFAIRS** **MINISTRY OF ENVIRONMENT AND TOURISM** **PRIVATE BAG 13306** **WINDHOEK**
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---------- **14 September 2023**

Signature **Date**

Environmental Assessment Practitioner

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PART 1: INTRODUCTION

1.1 BACKGROUND

Namibia Marble & Granite (Pty) Ltd (NAMAGRA), the owner of ML142, operates a marble mine, located on Farm Habis No. 71, approximately 25km to the south of Karibib Town along the MR77 district road within the Erongo Region.

In compliance with section 27 of the Environmental Management Act, 2007 (Act 7 of 2007), an Environmental Clearance Certificate (ECC) was obtained during 2014 for the on-site listed activities, as defined within Government Notice No. 29 of 2012. Since 2014 the ECCs (i.e., mining activities and solar plant) was kept up to date, with the latest ECCs expiring on 29 January 2024 (ML142) and 20 October 2023 (Solar Farm).

The particular mining activity has been in existence prior to the first EIA conducted, dated January 2014. The mentioned EIA was accordingly conducted considering the status of the site and surroundings at the time (i.e. January 2014).

Since 2014, the following studies/assessments were undertaken –

- During 2017 a study was undertaken by Mr. Bernardo, a student from UNAM to characterise and establish the extent of radioactive materials and assess the potential radiation risk. This study concluded that the concentrations and total gamma dose rates are lower than the world average values (see Appendix A).
- During 2018 an asbestos health assessment was undertaken by Momentum/OCSA, which concluded that the no asbestos fibres were detected within the samples collected (see Appendix B).
- During 2022 a heritage impact assessment was undertaken considering the larger mine area, during which time the bushman painting was investigated and recorded (Appendix C). As per the recommendations of the study, the site was excluded from the future mining area and a marble wall constructed to restrict access from the access road to the heritage site.

In compliance with the initial ECC and that of 2021, NAMAGRA has appointed Urban GREEN cc to undertake the monitoring and evaluation of their on-site activities at ML142 and produce an annual report for submission with the Approving Authority and Competent Authority.

In preparation of this annual report, all environmental reports and documentation, pertaining to ML142 was reviewed, followed by a site visit and on-site monitoring evaluation, dated 14 September 2023. The on-site monitoring evaluation comprised of a visual inspection, guided by the EMP (dated June 2017), followed by a verbal feedback to NAMAGRA on potential impacts and mitigations, as well as matters requiring attention and/or implementation, followed by this Annual Monitoring Report.

For purpose of consistency and keeping with the known format to NAMAGRA, the same method of evaluation and reporting style was used, with minor amendments grouping similar impacts with each other.

Following the method of evaluation set by the EMP (dated June 2017); the level of compliance has been indicated by means of three (3) main colours, i.e. green, orange and red. 'Green' indicates high level of compliance to the EMP and these areas should be maintained or even "bettered". 'Orange' indicates les satisfactory compliance, which requires attention, with the 'red' being more critical as it indicates non-conformance.

1.2 OPERATIONAL MONITORING

1.2.1 OVERVIEW

Environmental monitoring is defined as *'an activity undertaken to provide specific information on the characteristics and functions of environmental and social variables in space and time'* and is therefore one of the most important components of an EIA with EMP, which is essential for:

- Ensuring that impacts do not exceed the legal standards;
- Checking the implementation of mitigation measures in the manner described in the EMP report, and
- Providing early warning of potential environmental damages.

This Environmental Monitoring Report, along with all other reports will serve the purpose of –

- Recording environmental compliance during the operational phase;
- Providing information to the Approving Authority and Competent Authorities; and
- Serve as supporting documentation on application for Environmental Clearance Certificate renewal[1].

1.2.2 DURATION & TIME FRAME

Operational monitoring has and will remain to be done over the entire operational period.

Bi-monthly monitoring is done by NAMAGRA, while the annual monitoring is done by Urban Green cc.

[1] Due on 29 January 2024 (ML142) and 20 October 2023 (Solar Farm), respectfully.

PART 2: ENVIRONMENTAL REPORTING

2.1 INTRODUCTION

This part of the Operational Monitoring Report provides a summary of the findings following the on-site inspection of 14 September 2023 and the corrections recommended for implementation by the Proponent.

2.2 FINDINGS

2.2.1 RECORD KEEPING

All records related to the implementation of the management plan (e.g. site instruction book, induction records, safety training completed and environmental management plan) were available from the on-site office.

2.2.2 SITE LAYOUT AND FOOTPRINT

Between January 2004 and January 2014, when the EIA was conducted, there was a change and increase in the layout of the site and the extent thereof.

Between 2013 to 2016, there was a minor increase to the north-eastern side of the mining pit, with a new test site to the north-western side of the prominent outcrop located to the south-east of the main mining pit.

During October and November 2018 the footprint of the site expanded slightly to the south-west to make provision for the mining rock dump site and also to the far north-east to provide for additional land for storage of stock. During the same time three new test sites was opened-up to the south-eastern side of the prominent outcrop located to the south-east of the main mining pit.

Between 2018 to 2022 the larger site and footprint has remained fairly unchanged. As previously reported, an increase in footprint and additional road was planned, which was implemented since the previous monitoring visit (August 2022). The road and test sites are located adjacent east of the existing mining pit uphill.

The construction of the mentioned road and new test pits was done following the heritage impact assessment concluding that no heritage and/or archaeological finds are located within this area. This potential impact is accordingly listed as *'green'* having no negative impact and complying with the listed mitigations.

2.2.3 SURFACE & GROUNDWATER (Section 3.4 of EMP)

Neither the EIA Report nor the EMP Report makes any notice of the baseline of the geological and hydrological conditions of the site with relevance to potential pollution of surface and/or underground water sources.

The site does not host any visible natural water bodies nor does the site fall within a prominent river catchment area.

(i) Potential Pollution

Potential sources of pollutants identified on-site are the workshop with wash-bay, temporary mining waste dump site, the septic tank at the ablution facility and machinery throughout the site.

Management of hazardous substance is crucial considering the nature of the activity. The permanent above ground fuel facilities in the mining area are properly maintained to standard. The temporary fuel facility was removed from site (flagged *'green'*). No spillages of any nature were found at the fuel storage facilities or workshop and/or larger site. The method of emptying and storage of used oil at the workshop is well maintained without any negative implications (flagged '*green*'). A research project is currently underway whereby sawdust is used in a process to abstract oil and grease from the polluted sand. Once the research concluded positive the method will be applied to clean polluted soil instead of removing and dumping of polluted soil, thereby solving the problem instead of shifting the problem.

The concrete wastewater holding tank is in good condition and does not show any signs of leakage and/or seepage. The remains of the old septic tank that was flagged during the site visit of 2021 has been cleaned-up and removed from site and dumped at the Karibib Town Council Dump site. The activity is accordingly flagged as '*green'*.

Apart from the security guard remaining on-site 24/7 no other person is residing on-site. All personnel are transported to the mine and back to Karibib Town on a daily basis. As a result the kitchen, sleeping courters and ablutions, apart from the toilets are no longer in use. The particular component is accordingly flagged *'green'.*

The mining waste dump that has been sorted and cleaned up remains within a clean and neat condition (flagged as *'green'*). The remainder of the site is considering *'green'* with respect to successful compliance.

All stationary vehicles and machinery were equipped with drip trays, which are emptied at the workshop at the dedicated used oil reclamation facility (flagged as *'green'*).

This status of the site from a pollution perspective is excellent and well maintained and is accordingly flagged as *'green'*.

(ii) Water Demand & Supply

Water for mining operations is trucked-in from the NAMWATER Pipeline take-off along the MR77 and stored on-site, while water for human consumption purpose is obtained from a borehole owned and managed by the Farm owner.

Monthly consumption over the last 12 months showed a slight increase, mainly as a result of increased activities, but still similar to the years prior to the COVID pandemic, when operations ceased for certain times. Neither NAMWATER nor the farm owner has indicated any emergencies or caution to be applied.

Rainwater collects within the mining pit during the rainy season, but is seasonal in nature and artificial. Since the previous monitoring inspection (August 2023) water surfacing from below within the deepest section of the mining pit was recorded. Both the collected rainwater and water surfacing from below are used when available for purposes of mining operations to alleviate pressure on the other sources.

This potential impact is accordingly listed as *'green'* having no negative impact and complying with the listed mitigations.

This status remains the same as per the past 5 years.

2.2.4 FAUNA AND FLORA (Section 3.4 of EMP)

The EIA Report defines the area as having a low diversity and endemism of birds, amphibians, plants and large mammals.

Considering the nature of the activity, no fauna & flora exists within the footprint of the operational areas. Local indigenous flora and expected fauna exists on the periphery of the operational areas and along the main access road to the mining area.

The construction of the new road and test sites up the hill eastwards from the existing mining pit and to the south-west of the larger mining area has resulted in removal of local and indigenous flora and is expected to further increase as the test pits increase in footprint. Considering the low diversity and endemism of birds, amphibians and plants, the impact is localised and small. The area affected by the road and test pits was kept to the necessary minimum to avoid any unnecessary destruction and removal of habitat.

From the site visit conducted, no evidence of any harm to the fauna within the affected area was observed. Various birds, lizards and dassie was observed along the newly constructed road. This potential impact is accordingly listed as *'green'* complying with the listed mitigations.

Although unavoidable destruction was caused for purpose of operational expansion, the overall status remains the same as per the previous monitoring.

2.2.5 VISUAL AND SENSE OF PLACE (Section 3.4 of EMP)

The sense of place since conducting the EIA in January 2014 was defined by the mining activities at the particular time, which has not expanded towards the south, i.e., in the direction of the Etusus Lodge.

The fact that the mining site is located within and surrounded with prominent outcrops, which has apart from a few test sites (south-eastern side of the prominent outcrop located to the south-east of the main mine pit) been in pristine condition, has provided effective screening from other receptors.

The recent expansions uphill east of the mining pit and to the south-west of the larger mining area are all still effectively screened by the mountainous terrain, having no negative visual impact.

Since the previous monitoring, dated August 2022, this potential impact remains *'green'*.

2.2.6 ARCHAEOLOGY AND HERITAGE (Section 3.4 of EMP)

Contrary to the EIA Report (2014), which indicated that there are no known areas of heritage and cultural importance in the mining area, bushmen paintings were discovered during July 2022 outside of the active mining area to the north-eastern side of the main mining area.

NAMAGRA has been informed of the archaeological find by the landowner and requested to proceed with the required registration of the site as a heritage site. During 2022 a heritage impact assessment was undertaken considering the larger mine area, during which time the bushman painting was investigated and recorded (Appendix C). As per the recommendations of the study, the site was excluded from the future mining area and a marble wall constructed to restrict access from the access road to the heritage site.

Registration of the archaeological find with the National Heritage Council has been done by the land owner with the assistance of Mr. Manfred D !Gaeb, Deputy Director – Arts and Creative Industries, Ministry of Education, Arts and Culture.

Considering the find which was unharmed and fact that the area was set out as part of the restricted area, the archaeological status remains *'green'*.

2.2.7 HEALTH, SAFETY AND SECURITY (Section 3.4 of EMP)

(i) Health

The EIA Report list 'air quality' and resulting impact on human health due to fugitive dust as the important factor having potential health implications. Other safety concerns such as general health and noise impacts during operations are equally important.

Considering the nature of the activity and resulting large volumes of mining dust on-site, protective clothing and gear is used by all personnel, especially during times of high winds (i.e. August to October).

During the time of the visit (September) no dust impact existed, mainly as a result of no winds on the day. Other mitigations listed within the EMP were applied, as observed. No matter relating to the health of any of the personnel was recorded over the last 12 months.

During 2017 a study was undertaken by Mr. Bernardo, a student from UNAM to characterise and establish the extent of radioactive materials and assess the potential radiation risk. This study concluded that the concentrations and total gamma dose rates are lower than the world average values (see Appendix A). During 2018 an asbestos health assessment was undertaken by Momentum/OCSA, which concluded that the no asbestos fibres were detected within the samples collected (see Appendix B).

Drinking water points are provided throughout the site, which is essential to the personnel during the summer times when high temperatures occur.

This potential impact is accordingly listed as *'green',* having no negative impact.

This status remains the same as per the previous monitoring, i.e., *'green'*.

(ii) Safety

Personnel and visitors' safety on-site, as well as traffic safety along access roads are crucial to achieving zero incidences and are accordingly well documented within the EMP.

All personnel are equipped with full safety gear and safety equipment, while the applicable safety signs are displayed throughout the site where appropriate. Fire extinguishers are provided where required and daily safety is frequently covered as part of the training and toolbox talks. A full time safety officer trained in basic first aid is available on-site with medical kit.

The severity of winds should constantly be monitored, and operations stopped when visibility deteriorates. The mining pit and steep slopes are fenced off and fences are well maintained. Training on on-site safety and safe handling of machines and equipment should remain a topic at all sessions and toolbox talks.

From the site visit and observations all mitigations as applicable was adhered to and implemented. This potential impact is accordingly listed as *'green'* complying with the listed mitigations.

This status remains the same as per the previous monitoring, i.e., *'green'*.

(iii) Security

The mining area is located far from any urban areas or related higher populated activities. The fact that the mine is hidden by the surrounding outcrops and located far from any other human activity makes the site from a security point of few very safe.

From the site visit it can be recorded that access to the larger mine area is controlled via access gate and fence, while access to the mining site itself is controlled with boom and security guard.

This potential impact is accordingly listed as *'green'* complying with the listed mitigations.

This status remains the same as per the previous monitoring, i.e., *'green'*.

2.2.8 WASTE MANAGEMENT (Section 3.4 of EMP)

Considering the activities of different kind taking place on site, different types of waste is generated and require specific management, as highlighted by the EIA Report (January 2014).

The waste management plan focusing on reduce, reuse, recycling and segregation of waste types is still applied and kept operational. Mining waste material is stored at the waste material dump site, which is well managed and maintained. Processing of smaller waste material into aggregate and stones for a variety of uses is also done on-site, which reduces the volume of waste material and generate further income from available material.

Waste of a hazardous nature (i.e., used oil, diesel, polluted soil, old machine parts, etc.) is stored within dedicated areas as per the type and recycling potential thereof, which is removed from site to the applicable dump site or collected for reuse by external contractors.

From the on-site observation all waste types are well managed and shows no signs of any negative impact. This potential impact is accordingly listed as *'green'* complying with the listed mitigations.

This status remains the same as per the previous monitoring, i.e., *'green'*.

2.2.9 SUSTAINABLE PRACTISES

Namagra's harvesting of rainwater and reuse to supplement the intake of raw water from NAMWATER, as well as the on-site solar energy plant are both activities contributing to minimizing the mine's carbon footprint and contributing to sustainable practices.

The mining pit did not contain any rainwater at the time of visiting the site, although some underground water surfaced within the lowest point of the main mining pit. These waters are pumped and stored at an open-air reservoir for reuse at the mining activities.

This potential impact is accordingly listed as *'green'* complying with the listed mitigations.

This status remains the same as per the previous monitoring, dated August 2022.

2.3 ACTION/S REQUIRED

It is recommended that mobile toilet facilities be provided closer to where the personnel are working, which would also contribute to more productive working hours. The missing fire extinguisher at the fuel depot should be replaced.

2.4 CONCLUSION

The mining area is well maintained in line with the requirements of the Environmental Management Plan and international best practise.

SITE PHOTOS

Photo 1 – View of larger mining area. The entire mining area is well layout providing for save and easy operations without risking any personnel health and/or safety.

Photo 2 – View of turn-off to Namagra ML126 from the MR77 district road. Turn-off is shared with Etuses Lodge and roads are well maintained. District road MR77 requires attention from the side of the Ministry of Works and Transport.

Photo 3 – View of the internal road and turn offs to Namagra ML126 (to the right) and Etusis Lodge (to the left). Internal roads are in good condition and well maintained.

Photo 4 – View of signing in on arrival at site as part of health and safety induction being done.

Photo 5 – View of marble wall constructed along the entrance road to the mine to restrict access to the adjacent restricted area (i.e., heritage remains – bushman paintings).

Photo 6 – View of well-maintained entrance road into the mining area.

Photo 7 – View of internal entrance gate to mine, which is controlled.

Photo 8 – View of a sign at the entrance directing all visitors to report to the workshop/site office.

Photo 9 – View of workshop, within a neat and tidy state.

Photo 10 – View of experimental area where sawdust is used to clean polluted soil.

Photo 11 – View of storage tank for used oils and diesel, which is removed by external contractor for reuse.

Photo 12 – View of smaller diesel drums stored at stockyard.

Photo 13 – View of notice board, fire extinguisher and first aid kit at the workshop.

Photo 14 – View of medical stretcher available at the workshop.

Photo 15 – View of store room at workshop, within a tidy and neat state.

Photo 16 – View of warning signs at workshop.

Photo 17 – View of oil spill kit at the workshop.

Photo 18 - View of waste recycling drums at the workshop, which is collected by external contractor.

Photo 19 – View of staff accommodation, eating area and kitchen, and ablutions, which is kept within a clean and tidy state. The ablutions are used by the on-site personnel on a daily basis.

Photo 20 – View of tidy and neat personnel eating area.

Photo 21 – View of fire extinguisher at personnel kitchen and eating area.

Photo 22 – View of drip tray underneath a stationary construction vehicle.

Photo 23 - View of fire extinguisher on one of the construction vehicles.

Photo 24 - View of water tanker with which water is transported to site.

Photo 25 – View of newly constructed back-up generator and diesel storage area.

Photo 26 - View of safety statistics and safety signs on-site.

Photo 27 – View of fire extinguisher available on-site.

Photo 28 - View of process area which is well maintained and organised.

Photo 29 – View of one of the drink water points provided to ensure that personnel remain hydrated.

Photo 30 – View of new test pit located to the south-western edge of the larger mining area.

Photo 31 - View of one of the new test pits up the hill to the east of the main mining pit area.

Photo 32 – View of the newly constructed road providing access to the newly opened test pits located to the east of the main mining pit area.

Photo 33 – View of fenced-in and controlled access to explosives holding area.

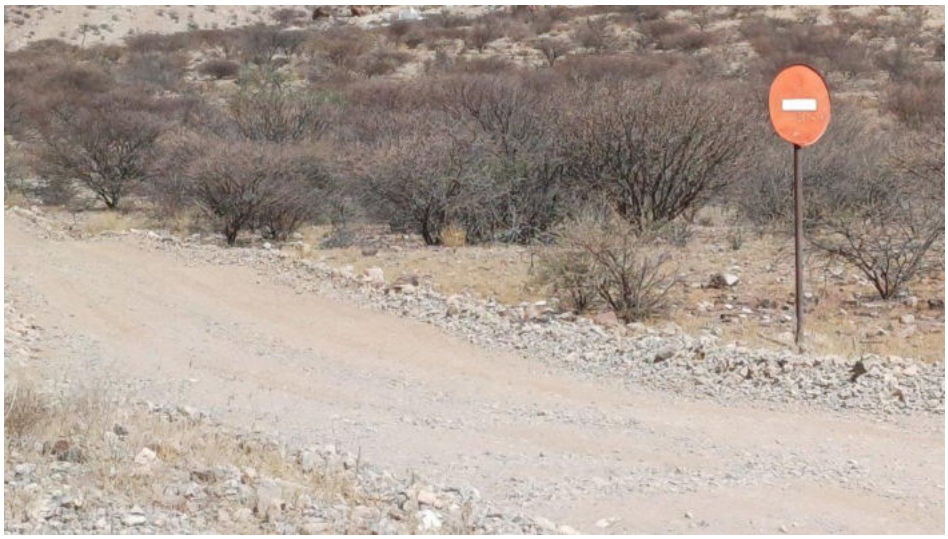

Photo 34 – View of road sign indicated restricted and no access.