



Republic of the Philippines
Department of Environment and Natural Resources
MINES AND GEOSCIENCES BUREAU
MIMAROPA Region

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January 23, 2023

MR. TEODORO G. BERNARDINO

Marcopper Mining Corporation
4th Floor, 2283 Pasong Tamo Ext., Cor Lumbang Street,
Makati, Metro Manila 1231

**DENR MIMAROPA
RECORDS SECTION
RECEIVED**

FEB 14 2023

☐ INCOMING ☐ OUTGOING _____
BY: _____ DATE NO. _____
TIME: _____

Dear **Mr. T. G. Bernardino**:

This has reference to the 1st and 2nd Semester 2022 monitoring of the Marcopper Mining Corporation's (MMC) mine site located in the Province of Marinduque conducted by the technical personnel of this Office and Environmental Management Bureau MIMAROPA on March 27 to April 3, 2022 and November 7 to 13, 2022, respectively.

This Office is calling your attention to conduct immediate repair or remediation of the North Dam and Maguila-guila Waste Dumpsite due to its precarious condition. Further, we reiterate your commitment to repair the Maguila-Guila Siltation Dam as mentioned in your letter dated August 25, 2016.

Attached in Annex A are the recommendations based on the said monitoring for your information, reference, and appropriate action.

Your compliance is hereby enjoined.

Very truly yours,

GLENN MARCELO C. NOBLE
Regional Director

Enc.: As stated.

Cf: **HON. MA. ANTONIA YULO-LOYZAGA**
Secretary, DENR

HON. PRESBITERO J. VELASCO JR.
Governor, Marinduque

ENGR. TEODORICO A. SANDOVAL
OIC, Office of the MGB Director

HON. LORD ALLAN JAY Q. VELASCO
Representative, Lone District of Marinduque

DIR. LORMELYN E. CLAUDIO, CESO IV
Reg'l Executive Director, DENR-MIMAROPA

HON. MARISSA RED-MARTINEZ
Mayor, Sta. Cruz, Marinduque

DIR. JOE AMIL M. SALINO
Reg'l Director, EMB-MIMAROPA

HON. ARMI D. CARRION
Mayor, Boac, Marinduque

DIR. RUBEN L. CARANDANG
Director, OCD-MIMAROPA

HON. AUGUSTO LEO M. LIVELO
Mayor, Mogpog, Marinduque

**"MINING SHALL BE PRO-PEOPLE AND PRO-ENVIRONMENT
IN SUSTAINING WEALTH CREATION AND IMPROVED QUALITY OF LIFE"**

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MINES AND GEOSCIENCES BUREAU
MIMAROPA Region
2/7/2023

ANNEX A

MGB MIMAROPA's Recommendations Based on the 1st and 2nd Semesters 2022 Monitoring of the Mine Structures and Facilities of Marcopper Mining Corporation in the Province of Marinduque

A. Tapan and San Antonio Pits and North Dam Area

- a. Conduct of detailed geotechnical assessment on the integrity of the pit lakes that includes maximum water capacity and worst-case scenario-based computation;
- b. Continuous monitoring of slope instability indicators, such as seepages; cracks; and mass movements within and around the open pits;
- c. Identification of potential hazards on of the open pits including the effects of sudden progression of water levels and the acidity of pit lake water on downstream interests. This should be undertaken by personnel with appropriate technical expertise, preferably a geotechnical engineer/expert;
- d. Determination of the volume capacity of the two pits in preparation for safe dewatering, if needed, as proposed by the LGU of Boac, Marinduque; and
- e. Immediate repair and continuous maintenance of the sandbag dams and diversion channel.

B. Maguila-guila Creek

- a. Conduct of regular dredging of waste materials in Maguila-Guila Creek to prevent further transport of waste materials downstream; and
- b. Regularly conduct an assessment of the quality of water draining through the Maguila-guila Creek to ensure the safety of communities downstream.

C. Maguila-guila Mine Waste Dumpsite (Priority)

- a. Immediate implementation of appropriate slope stabilization and erosion control measures to minimize the transport of sediment/soil that adds up to the worsening condition of the Maguila-guila Dam, Maguila-guila Creek, and Mogpog River (Especially at the portion of Barangay Bocboc).

D. Upper Makulapnit Dam and Reservoir, Lower Makulapnit Siltation Pond and Bol River Culvert

- a. Conduct of detailed assessment of the integrity of dam structures including the determination of the reservoir's maximum water capacity and worst-case scenario-based computations;

- b. Conduct of regular monitoring on the presence of zones of weaknesses of the dam such as seepages, cracks, mass movements, and pore water pressure using dam monitoring tools such as extensometers and piezometers, among others;
- c. Identification of potential hazard on the dam. Perform modelling studies on dam break scenarios including the effects of sudden progression of water levels downstream of the dam; and
- d. Conduct research on how to decrease the reservoir's water level to lessen the risk of a dam breach/ failure. (An example is by increasing the flow rate of water coming out from the pipes of the bypass tunnel or making the water from the reservoir available to the community, for irrigation purposes, among others.) However, it is worth noting that the overflow of Upper Makulapnit eventually mixes and dilutes water coming from the Lower Makulapnit Siltation Pond and Bol River Culvert, which are both acidic and have low water qualities in general.

E. Maguila-guila Siltation Dam (Priority)

- a. Immediate repair of the whole structure, preferably restoration to its original condition, or modification of the spillway to control the flow of water;
- b. Undertake in-depth and detailed structural engineering studies to find a long-term solution in mitigating soil/sediment deposition downstream of Maguila-guila Creek/Mogpog River; and
- c. Regularly conduct an assessment of the quality of water draining through the Maguila-guila Creek to ensure the safety of communities downstream.

F. Decommissioned MMC Tailings Disposal Area and Causeway


- a. Conduct of regular monitoring of Calancan Bay; and
- b. Conduct of regular water and sediments sampling to determine any hazardous effect to the residents/communities;

G. Others

- a. Avail the technical expertise of competent persons in assessing the susceptibility and risk vulnerability of the mining area to seismic-related hazards due to the presence of the active Central Marinduque Fault;
- b. Regular monitoring and evaluation of all critical slopes specifically those at or near critical structures and premises including the river systems around the Marcopper mine area;
- c. Conduct of clearing of all access roads/trails leading to all MMC structures and facilities to facilitate repair/maintenance and monitoring;
- d. Renewal of the license or disposal of the radioactive materials stored within the premises of MMC; and

- e. Removal or disposal of the collapsed Conveyor Bridge (along the road between the mill and Bol River) to prevent possible hazards to commuters and passers-by.

PREPARED BY:



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MGB MIMAROPA

NOTED:



GLENN MARCELO C. NOBLE
Regional Director
MGB MIMAROPA

