

MEMORANDUM

FOR : **ROLAND A. DE JESUS**
OIC, Regional Director
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DENR- Region IV-B (MIMAROPA)

FROM : **ELMER B. BILLEDO, Ph.D.**
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SUBJECT : Ocular Inspection/investigation of Mining Structures/Facilities of Marcopper Mining Corporation after the October 20, 2006 Earthquake

DATE : **October 26, 2006**

BACKGROUND INFORMATION

In compliance with the directive of the DENR Secretary as requested by the Honorable Congressman Edmund O. Reyes and the Honorable Governor Carmencita O. Reyes, for the immediate inspection of the above subject, the undersigned conducted the inspection, together with Gerletino P. Baldos of the PENR Office last October 25, 2006. Representative from MR Holdings, Mr. Nestor Planas accompanied the team.

FINDINGS/OBSERVATIONS

Maguila-guila Siltation Dam

Neither manifestations of cracks nor structural deformations were observed along the crest of this dam. The tunnel face located below the crest show no signs of seepages. The tunnel is not clogged and that the river water discharges directly to this tunnel, however, the trash cage has missing metal elements.

Bol River Dam

The Bol River Dam appears stable and intact. River water flows without restraint.

San Antonio Pit

A marker for earthquake or mass movement (landslide) purposes strategically located at the southern berm of the pit did not indicate any movement as reported by the monitoring team of MR Holdings. GPS measurements were recorded for future reference. The walls of the pit appear stable.

Water level at the pit is recorded at 274.82 meters last October 23, 2006.

Tapian Pit

The water level at the pit last September 29, 2006 as reported by MR Holdings was 314.01 meters, while October 23, 2006 records show 313.66 meters. The 1 meter high difference was due to the typhoon Milenyo.

Lower Makulapnit Siltation Dam

The water level at the spillway is 10.16 centimeters high, and the velocity was measured at 0.5 meters/sec. The same measurement was recorded by previous monitoring team of MGB Region IVB (MIMAROPA), indicating no abnormal water discharge in the dam.

The crest of the earthdike is also undamaged by the October 20, 2006 earthquake. No seepages were noted below the crest of the lower Makulapnit Siltation Dam.

Upper Makulapnit Water Reservoir

Water is overflowing along the spillway, discharging at the Makulapnit River, thereby serving its purpose of draining the excess water. The wall of the spillway is underlain by moderately fractured but competent basaltic rocks.

The crest of the reservoir is also intact, no seepages were noted at the toe of the crest.

TUNNEL 310

Water is flowing freely from the Tapian pit towards Bol River and finally to Boac River, preventing the build-up of water at this pit.

RECOMMENDATIONS

In addition to the recommendations as stated by the Ramos et al. report dated October), 2006 and those cited by the 19?? USGS report, the following are likewise suggested:

Maguila-guila Siltation Dam and Lower Makulapnit Siltation Dam

In Maguila-guila dam, additional siltation dam should be constructed at the upper portin to contain large volume of silt coming from the waste dump.
Clearing of vegetation and other debris along the toe of these dams should be done o facilitate/easy monitoring of seepages.

Upper Makulapnit Water Reservoir

Verify geotechnical design of this dam, particularly the hydro-dynamics specifications and the slope stability analysis to determine the factor of safety of this dam.

As a whole, clearing of debris/materials along the spillways of all dams should be regularly undertaken.

CONCLUSION

The overall observation of the mining structures, as of the time of inspection, show neither manifestations of cracks/deformations nor seepages along the slopes and toe of the dams. Regular monitoring of these structures should be implemented and implementation of all recommendations stated in previous reports.

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