



## **LIME MASTER LIMITED**

### **Recover Low Quality Raw Materials and Rejected Limestone Products to Sell as Construction Materials (not implemented)**

#### **SUMMARY OF THE OPTION**

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Lime Master Co Ltd is located in Saraburi, Thailand and produces 99,000 tons of lime per year.

To produce 300 ton lime per day the company needs about 600 ton raw limestone. Approximately 5% of raw limestone is rejected for size or quality reasons, and approximately 5% of product is rejected due to low quality. This means that about 10,000 ton raw limestone and 5,000 ton lime is rejected each year. As a result, each year the company loses about US\$ 37,000 (@ US\$3.75 per ton) via rejected limestone, and US\$ 250,000 (@ US\$ 50 per ton) via rejected products. Besides monetary losses, 154,070 kWh electricity, 318,297 liters fuel oil, and 1,648 liters diesel oil are lost every year.

Rejected limestone usually originates from the supply side and is largely unavoidable. The demand for limestone is high, supplies are expected to be insufficient for the cement/lime industry in the near future, and there are only a limited number of authorized suppliers in Thailand. Therefore increasing cost, insufficient supply and deteriorating quality of limestone are common problems to lime producers. The Team recommended selling rejected raw limestone for reuse externally. The option has been partially implemented. The company recycles all rejected limestone by milling it into sizes required for construction work, and sells it as cheap construction material Potential income is US\$ 12,500 (10,000 ton rejected raw limestone X US\$ 1.25/ton).

Low quality products are mostly caused by faults in the production process or low quality limestone and are avoidable. The amount of rejected products can be minimized by maintenance and improvement of the production process, and by improving the classification of raw limestone to only select high quality limestone. The Team also recommended onsite reuse or selling of rejected lime products for reuse by external parties. This option has been partially implemented and rejected lime products are sold to manufacturers that do not require high quality limestone. Potential income is US\$ 125,000 (5,000 ton rejected raw limestone X US\$ 25/ton).

It is noted that the quantities of rejected raw limestone and rejected product are estimated only because there are no records kept of this as until recently this was considered a waste only. As a result, the potential income from selling the rejected materials and products are also estimated figures only. At time of writing of this case study, no data were yet available about the actual amounts of rejected materials and products sold.

#### **KEY WORDS**

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Cement, Thailand, Product Recovery, Raw Material Recovery



## FOR MORE INFORMATION

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