

## Aquatech Supplies Demineralized Water Treatment Plant in Madagascar

### The Facility

Ambatovy, located in Madagascar, is a world-class, large tonnage nickel project that is positioned to be among the world's biggest lateritic nickel mines. It is a life-long project with an annual design capacity of 60,000 metric tons of nickel and 5,600 metric tons of cobalt. The site is located approximately 50 miles east of the capital of Madagascar, Antananarivo, and near the city of Moramanga. This project will consist of an open-pit mining operation and an ore preparation plant at the mine site. The slurried laterite ore will then be delivered via pipeline to a process plant and refinery located directly south of the Port of Toamasina.

### Project Overview

Aquatech was awarded the contract from SNC-Lavalin Incorporated for supplying the Process and Demineralized Water Treatment Plant for portions of the Ambatovy Project. The contract is administered by SNC Lavalin, Inc. as agents for and on behalf of Dynatec Madagascar South Africa.

### Scope of Supply

The scope of supply for the Process Water Treatment Plant includes 1 x 100% Clarifier, followed by 8 Dual Media Filter Units to treat 2,800 m<sup>3</sup>/hr. The filtered water is stored in Process Water Storage Tanks, then used to supply the Demineralized Water Treatment Plant. The scope of supply for the Demineralized Water Treatment Plant includes 3 x 50% Strong Acid Cation Ion Exchange Units, 3 x 50% Strong Base Anion Ion Exchange Units, and 3 x 50% Mixed Bed Ion Exchange Polishers to produce 700 m<sup>3</sup>/hr of boiler feed quality water. The demineralized water is then stored in a Demineralized Water Storage Tank.



# PROJECT PROFILE SERIES #59

## DESIGN WATER ANALYSIS

Ca.....	4.7
Mg.....	2.7
Na.....	9.4
K.....	1.8
NH <sub>4</sub> - N.....	0
Barium.....	0.05
Strontium.....	0.04
HCO <sub>3</sub> .....	38
CO <sub>3</sub> .....	1.05
SO <sub>4</sub> .....	0.40
Cl.....	7.6
NO <sub>3</sub> .....	1.92
PO <sub>4</sub> .....	0.16
NO <sub>2</sub> .....	0.16
F.....	0.2
TDS.....	68.1

Silica.....	14.7
CO <sub>2</sub> .....	6.01
TSS.....	200
Total Iron.....	2.3
Total Manganese.....	0.06
Total Aluminum.....	0.5
Dissolved Oxygen.....	0
TOC.....	1
BOD.....	0
Total Lead.....	0.12
Total Nickel.....	0.005
Total Zinc.....	0.05
Total Antimony.....	0.001
Total Chromium.....	0.005
Total Selenium.....	0.0002
Total Thallium.....	0.02

## PROCESS FLOW DIAGRAM

Clarifier and Filter = 2,800 m<sup>3</sup>/hr  
 Demineralizer System = 700 m<sup>3</sup>/hr

