



**Project: ANDOOM LOAD STATION, SLOT FINAL DEWATERING DESIGN**

**Design and system installation**

**Location: Weipa, QLD**

**Client: Comalco Aluminium**

### **Highlights**

- Preliminary dewatering design
- Sizing of dewatering system
- Detailed design of dewatering well configuration
- Installation and testing of system

### **Background**

The collapse of a load station trench was attributed to high water table conditions which occurred during a cyclone. An investigation into means of maintaining the water table at a safe level was requested.

Comalco commissioned C. M. Jewell & Associates Pty Ltd to undertake the necessary field assessment and modelling of dewatering options, and then to install the dewatering system.

### **Hydrogeological Environment**

The superficial geology is unusual. Pisolithic bauxite gravels overlie lateritic clays with a distinctive pipe feature. The bulk hydraulic conductivity of the upper part of the profile is very high; estimates of up to 350 metres per day were made.

### **Scope**

The design capacity of pumping equipment required to maintain the water table at an artificial level was assessed in preliminary studies. Subsequently, detailed design and costing of a dewatering system employing twelve production wells was undertaken. The wells and a permanent airlift pumping system were installed in an intensive campaign prior to the onset of the wet season.