

# Case Study



The information in this case study is reprinted from the American Cyanamid AM-9 technical manual. AM-9 was American Cyanamid's acrylamide grout product. Avanti's AV-100 Chemical Grout matches the chemical formulation, usage and performance of AM-9.

## **Title:** Grouting Foundation for Dam Construction

**Location:** Geehi River, Snowy Mountains, New South Wales, Australia

**Owner:** Snowy Mountains Hydro-electric Authority

**Contractor:** Thiess Bros., Pty. Ltd.

**Subcontractor:** Glindermann & Kitching Pty. Ltd.

---

## **PROBLEM:**

A 300-foot rockfill dam with a central impervious core and a crest length of 870 feet was being built on a generally sound granite foundation, except on the upper right abutment where the rock was completely weathered to an in situ soil. Cement grouting was used to seal the joints in the sound foundation rock. However, because of the fine pore size of the weathered material, cement grouting was not sufficient to seal this area.

## **SOLUTION:**

Field testing indicated that AM-9 Chemical Grout would seal the fine pores and the weathered areas. It was decided to use this grout after filling any large voids or fissures with cement grout.

## **APPLICATION:**

Permeability tests were carried out to determine grouting rate and a gel time selected to allow pumping of the designed volume of AM-9 Chemical Grout. Gel times used varied from minutes to hours. Chemical grout takes were approximately 5 ¼ pounds of AM-9 Chemical Grout per foot of hole.

## **RESULTS:**

Permeability tests conducted after cement and chemical grouting indicated that permeability under the dam was reduced to a satisfactory value.