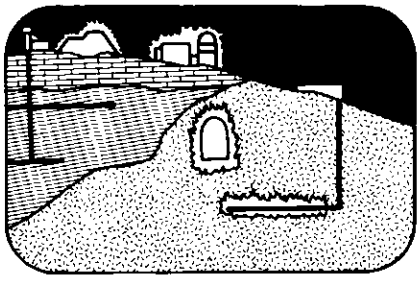
Nuclear Waste Disposal



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Introduction

It is perhaps most unfortunate that in the world of energy we have recently seen a strong polarization into the pro and anti nukes. It now seems that if you are involved with any aspect of the nuclear fuel cycle you are considered pro and if you refuse to be involved then its anti. The fact is that we have a rapidly increasing mass of nuclear garbage from both electricity production and weapons production. While many in our society wish to see a slow down in nuclear electricity production, few would agree that in the present situation we should cease all interest in nuclear weapons. The waste must be safely stored. Earth Scientists from almost the entire spectrum of our subject must become involved. We need quaternary geologists, hydro-geologists (or fluid-flow geologists), hydrothermal geologists, geophysicists, geochemicsts, plate tectonics experts, fracture experts, and one can go on. Man has never before faced the problem of burying garbage with a 10^7 year dangerous life.

The problem is not just nuclear. There are other industrial wastes, some with an infinite toxic life. And as global population reaches 10 billion next century, and hopefully as the global standard of life improves, the present problems will multiply at an alarming rate. We must begin work now.

At the Fredericton meeting of the CGU we attempted to bring together a group of workers who would consider a few of the basic questions. Some of these contributions are presented in this issue of Geoscience Canada.