In January 1983, a limited programme of tritium analyses were undertaken on selected water inflows in the No. 3 tunnel at the Donkin-Morien Project, Sydney Coalfield, Nova Scotia. After a brief review of tritium dating and conditions at the Donkin-Morien site, the results are discussed in relation to the potential age and source of the inflow water. The results indicate that the feeders are at least 'modern' in age (pre-1952), but because of the limited data available and the problems associated with the technique, they should only be used to supplement the analysis and interpretation of existing hydrological and hydrochemical data sets presently being collected.

INTRODUCTION

The Sydney Coalfield is located on Cape Breton Island which lies at the north-eastern end of Nova Scotia. During the late 1970's, an extensive drilling and geophysical programme by the Cape Breton Development Corporation (CBDC), defined an offshore coal resource block in the Donkin-Morien area of the coalfield, Figure 1. Subsequent feasibility studies resulted in the definition and implementation of the Donkin-Morien Project.

The initial phase of the Donkin-Morien project involves the development of two tunnels (Nos. 2 and 3) 3.5 km in length to intersect the Harbour seam.
Figure 1 - Plan of the Sydney Coalfield showing the Donkin-Morien mine site and resource block