

Tertiary basalt crops out over large areas throughout the region and within E.L. 7/74 they occupy approximately a third of the area. These rocks cap thin, freshwater clay, sand and conglomerate deposits of Tertiary age. The flows are mainly valley fill into eroded limestone synclinal areas and originated from numerous small volcanic centres. Two extensive basalt covered areas occur on the licence from Middlesex Plains to the Forth River and from Gads Hill/Lorinna to Liena.

Structurally the region consists of east-west/north-west trending Palaeozoic units bordered to the north and south by Precambrian units. Over the area of E.L. 7/74 the major east-west fold direction has had superimposed a north-west fracture and fold pattern which was probably active from the Ordovician to the Tertiary.

Cambrian rocks in the area were folded and had developed a mild regional schistosity before the beginning of the Ordovician. The Jukesian movement in late Cambrian time which caused this, probably also caused uplift of the Precambrian nucleus leading to the deposition of the Roland Conglomerate and Moina Sandstone. Later Tabberaberan movement was associated with folding and the intrusion of granites. Normal and thrust faulting in a mainly NW system affect most of the area. Normal NW faulting trend has probably been active since the Ordovician and the thrust faulting was post Tabberaberan.

5.0 EXPLORATION TARGETS AND METHODS

The main area of interest on the E.L. was the Shepherd and Murphy skarn deposits at Moina. Possible cassiterite-rich magnetite or pyrrhotite skarns were the immediate drilling targets. Stockwork and greisen tin-tungsten associations were also to be investigated. Regionally the area was thought to be prospective for similar skarns, with the wrigglyite of the Shepherd and Murphy area and Renison style sulphide mineralization as models. A regional airborne magnetic/radiometric survey was flown to locate similar magnetic features over E.L. 7/74 and other adjacent licences. The helicopter-borne survey was carried out by Geometrics International Corp. using 250 m line