1. Introduction

This is the first progress report to Aberfoyle Resources Ltd. on the M.Sc. study being carried out on the Upper Rhyolitic Sequence of the Hellyer Mine region. It contains a progress report on work already commenced, and a proposed program for future work.

The Hellyer massive sulphide deposit and the associated volcano-sedimentary sequence is hosted within the northern most exposures of the Cambrian Mt. Read Volcanic Belt of north west Tasmania. The Mt. Read belt has a sequence of felsic to intermediate and minor mafic volcanics and sediments, and are exposed from Elliot Bay in the south to the Hellyer area to the north. The belt also extends further to the north under the Tertiary basalt cover. The meridional extent of the belt is some 180km, with an east-west width varying between 10-15km. To the east, the Mt. Read Volcanic overly the Precambrian Tyennan nucleus, and are thought to occupy the eastern margin of the Dundas Trough. To the west, the belt is faulted against, and partially interfingers with Cambro-Ordovician Owen conglomerate. Within the stratigraphy of the Mt. Read Volcanics, the Hellyer deposit and associated volcano-sedimentary sequence has been assigned to the Dundas group (Corbett and Solomon 1986).

After McArthur (1986), the stratigraphy of the Hellyer area may be defined:

Unit	Thickness	Description
Upper Rhyolitic Sequence	500m	rhyolitic lithic/crystal volcaniclastics
Que River shale	100m	pyritic shales
Pillow lava sequence	220m	pillow basalts and associated hyaloclastites, sheet basalt, chert
Hanging wall volcaniclastic	10m	polymict breccias, ash shale
Hellyer mineralised sequence	40m	base metal sulphide, barite
Feldspar phyric sequence	100 + m	andesite lavas, volcaniclastics