



Source: New Zealand Meteorological Service

Figure 5-2: Wind Rose for Te Anau Airport (MOA)

5.4 Geology

The geological map that covers the Te Anau Basin (Geological Map 18 of New Zealand (Wakatipu)) shows that the Kepler Block is situated on terraced land comprising Quaternary aged outwash gravels deposited during the Pleistocene Glaciations. These outwash gravels are denoted Q3a on Figure 5-3 (next page). The Quaternary aged deposits are underlain by a thick Eocene to Pliocene sedimentary sequence that is preserved in the fault bounded Te Anau Basin. These are in turn underlain by Cretaceous to Eocene coal measures with interbedded oil shales and carbonaceous mudstones. The basement rocks of the area are formed of early Paleozoic to Cretaceous plutonic and gneissic rocks of Fiordland and Permian to Mesozoic Haast Schist (Turnbull 2000).

Situated to the east of Lake Manapouri are old meltwater channels that lie between moraine deposits and are evident across a large part of the Kepler Farm including the Kepler Block. The channels were occupied by the former Waiau River during the late Otira Glaciation as the Manapouri-Te Anau glaciers successively advanced and retreated. The larger channels are now occupied by elongated, raised mires including the Kepler Mire (MWH 2013).