

### Killenaule GWB: Summary of Initial Characterisation.

Hydrometric Area Local Authority		Associated surface water bodies	Associated terrestrial ecosystems	Area (km <sup>2</sup> )
16 – Suir S. Tipperary Co Co		Anner, Clashawley	None	100
<b>Topography</b>		This groundwater body occupies an area of slightly elevated topography with most areas over 100m OD. The highest elevations are to the northeast on the lower slopes of the Slieveardagh Hills. This reduces gradually to the southwest and west. There is quite a low drainage density in this area.		
<b>Geology and Aquifers</b>	Aquifer type(s)	PI – Poor Aquifer, generally unproductive except for local zones		
	Main aquifer lithologies	BE - Bregaun Flagstone Formation - Thick-bedded flaggy sandstones and siltstones KN - Killeshin Siltstone Formation - Muddy siltstone and silty mudstone		
	Key structures.	The extent of this groundwater body is defined by the unconformity between the Namurian and Westphalian rock units. There is not a high degree of faulting mapped in this area.		
	Key properties	No information is available on the hydrogeological properties of this groundwater body. Estimated transmissivities can be considered to range 1 – 6m <sup>2</sup> /d.		
	Thickness	Effective thickness is not expected to be large but the bedrock may permeable to depths of around 25m in some areas.		
<b>Overlying Strata</b>	Lithologies	Rock is close to surface over the majority of this area; to the southwest there are some deposits of limestone-derived till whose boundary may overlap with this groundwater body.		
	Thickness	Thickness of the subsoil is small, typically less than 3m.		
	% area aquifer near surface	85%		
	Vulnerability	EXTREME vulnerability except for some small areas of HIGH to the south.		
<b>Recharge</b>	Main recharge mechanisms	Most recharge is expected to occur at the peaks of the hills in this area and at areas of outcrop. Recharge is not expected to be very large, as the bedrock strata are not a major aquifer. A high percentage of potential recharge may run off to surface streams.		
	Est. recharge rates	<i>[Information will be added at a later date]</i>		
<b>Discharge</b>	Springs and large known abstractions	Laffansbridge (980), Coolmore		
	Main discharge mechanisms	Discharge from this groundwater body is to the associated surface water bodies. Discharge will increase at the lower elevations where the water table is closer to the ground surface. There may be some discharge to the surrounding Carboniferous aquifer along fractures that cross both groundwater bodies.		
	Hydrochemical Signature	The bedrock strata of this groundwater body are <b>Siliceous</b> . The limited data available show the water is 'very hard' with high electrical conductivity values.		
<b>Groundwater Flow Paths</b>		Groundwater flow paths in this area are considered to be short. The area of the groundwater body is small and the bedrock is not a major aquifer. It is likely that most groundwater flow circulates in the upper tens of metres, recharging and discharging in local zones. The age of the groundwater is considered to be young.		
<b>Groundwater &amp; surface water interactions</b>		Groundwater will discharge locally to streams and rivers crossing the aquifer and also to small springs and seeps. Owing to the poor productivity of the aquifers in this body it is unlikely that any major groundwater - surface water interactions occur. Baseflow to rivers and streams is likely to be relatively low.		
<b>Conceptual model</b>	This groundwater body is defined to the northeast by the boundary of the Suir River catchment and elsewhere by the extent of the Namurian shales. Most recharge is expected to occur in the elevated areas, especially to the northeast on the lower slopes of the Slieveardagh Hills. The main flow direction is considered to be to the south. The discharge from this groundwater body is to the rivers and also perhaps directly to the surrounding limestone aquifer.			
<b>Attachments</b>				
<b>Instrumentation</b>	Stream gauge: 16030 Borehole Hydrograph: none EPA Representative Monitoring boreholes: Coolmore (#36 – S220440)			
<b>Information Sources</b>				
<b>Disclaimer</b>	Note that all calculation and interpretations presented in this report represent estimations based on the information sources described above and established hydrogeological formulae			