

SHADOW SCRUTINY PANEL

DRAFT WATER RESOURCES (JERSEY) LAW 200-

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depth of, say 5 km, creates a mosaic of splintered rock which varies from place to place but which is always present to some extent. The degree to which the fractures store water and allow movement is conditioned eventually by depth ( weight of overburden ) but is affected by local factors such as intensity of fracturing. Given a connection along fractures the force driving water movement is head -- the pressure of the water above resulting from its weight. The direction of water movement is in the direction of least pressure in whatever direction this may be - upwards, eastwards, westwards, downwards it makes no difference. The pressure at any point is determined by the nature of the three dimensional fracture system and the relative forces of water head and containment.

Given these basic geological conditions, the members of the GWRG cannot accept the notion of *streams* of underground water. Such a phenomenon cannot exist at depth in Jersey. It is also the reason why water sources outside the bounds of the island are an irrelevancy. Our water does not come from France.

**3. The confusion created by use of a non-standard hydrogeological vocabulary by the members of the WDEG**

The concept of *streams* as used by the members of the WDEG is not valid hydrogeological usage in the context of Jersey and like areas of hard rock geology.

The expression *surface water* is used by the WDEG to mean what hydrogeologists understand by groundwater.

The general approach to the hydrogeochemical data by the WDEG is dismissive and this cannot be accepted. Not only is the BGS work in this area of high quality it uses a vast array of modern techniques that have proven their worth time and again. The way in which the WDEG talk about nitrates for instance shows a profound misunderstanding of soil chemistry.

**4. The lack of evidence to support sources of water outside the island.**

The pre-Mesozoic rocks of the Normanno-Breton Gulf and surrounding coasts of Brittany and Normandy reflect a long history of deformation and the area has become divided into a considerable number of different groundwater regimes separated by major faults and/or deep seated lines of shear. The Mesozoic and later Quaternary deposits occur in patchy, relatively thin deposits, which form no continuous outcrop. Neither of these two situations allow for an effective transfer of groundwater over any significant distance.

**5. The compelling evidence for pollution as revealed by the hydro-geochemical studies of the BGS**

The BGS present abundant evidence of a sort that the members of the GWRG would not seek to question. However, there are areas where more information would be desirable and others where points of detail require clarification. It would be hard to ignore all this data and rely on the unsupported *evidence by assertion* of the WDEG.