

Response to

Deputy Baudain's Questions of 23.11.2004

1. Use of desalination plant

The data quoted in the Jersey New water Works Company letter of August 17, 2004 is the same as the information quoted in the Environment Management Company Report of 2001 (supplied by Dep Baudains as evidence to the Scrutiny Panel, Exhibit E) for the years of overlap (1992-97).

The Water Quality Report, 2003 provided to the Panel at the hearings also suggests compliant nitrate levels (<50 mg/l) in raw water for much of the year 2003.

The periods of reported use also coincide with the periods (both in terms of year and time of year) of lowest near surface groundwater levels reported in the BGS report 'Jersey Groundwater, 2002'. These would also be periods of minimum stream flows and probably highest nitrate concentrations in raw water.

I therefore see no reason to question the data provided by the Water Company as it is consistent with a number of independent data sources and with interpretation of when dilution of raw water nitrates is most likely to be necessary. Perhaps the perception of the severity of the nitrate problem is a little severe as the 2003 Report indicates that 84% of samples in the distribution system complied with the 50 mg/l limit and the maximum recorded level was 55 mg/l

2. BGS Hydrogeological Map

This map published in 1992 is in the style of a series of Hydrogeological Maps which were published by the BGS at that time for various regions (usually those with major aquifers) throughout the United Kingdom. The main map is printed at a scale of 1:25000 on a base that provides a presentation of the highly reputable geological map of Jersey. Printed on top of this base are:

- Contours of depth to groundwater
- Contours of the level of the base of the St Ouen's Sand aquifer and the limits of saline intrusion.

These are standard representations and, provided the reader is aware that the groundwater level contours represent the interpretation of Jersey as a shallow fractured rock aquifer hydraulically continuous over the island, provide a good representation of the BGS understanding of that time.

The inset maps and histogram of groundwater quality and rainfall are also useful representations provided that again the representation of shallow groundwater is understood. Some information of the nature of the sample points represented would assist interpretation.

The sector of the map most open to comment is the inset titled 'SCHEMATIC CROSS SECTIONS DEMONSTRATING THE PRESENT STATE OF STRESS ON THE BEDROCK AQUIFER CAUSED BY CURRENT RATES OF GROUNDWATER ABSTRACTION'.

There is no acknowledgement that it is an interpretation to represent Jersey groundwater as a shallow (25-40m deep) groundwater body restricted to the zone of weathering and near surface fracturing. The interpretation which effectively treats Jersey as an isolated island rather than an area of land which for much (70-80%) of the past million years has been a hill on the coastal plain of nearby France is presented as a fact.

In summary the map is a useful representation of observation but does not clearly separate observational fact from interpretation.

Stuart Sutton (26.11.2004)