

GROUND WATER, HYDROCARBON CONTAMINATION

144. Hon Jim Scott to the Minister for Housing and Works representing the Minister for the Environment and Heritage

Further to question on notice No. 41 of August 15 2002 -

- (1) What levels of hydrocarbon contamination does the Minister consider an acceptable level in ground water?
- (2) What soil microbes are responsible for the breakdown of the hydrocarbon contamination found in the Jangardup bores COB3 and B?
- (3) What timescale will be required for soil microbial action to breakdown the hydrocarbon contamination?
- (4) Will the Minister table the DEP assessment of Cable Sands' proposal for the use of flocculant in co-disposal bores at its Jangardup mineral sands mine?
- (5) In the assessment did the DEP authorise Cable Sands to contaminate the ground water around the bores with hydrocarbons?
- (6) If not, why is the current hydrocarbon contamination not being treated as a pollution event?

Hon TOM STEPHENS replied:

- (1) Where contamination of a bore is suspected, a hydrocarbon concentration below 100mg/L would not warrant extraction of the contamination from the bore. In the Jangardup case, water testing by Cable Sands indicates that levels of hydrocarbons in bores COD3A and COD3B are now below detection levels, confirming the theory of that the contamination occurred during construction of the bore.
- (2) The Department of Environmental Protection advises that pseudomonas species of bacteria is the most likely microbe that degrades hydrocarbons in the soil.
- (3) Time scales to break down hydrocarbon contamination vary depending on the type of hydrocarbon, the concentration, soil type, oxygen availability, temperature, soil moisture and nutrient level. Accordingly, it may take weeks to years to degrade hydrocarbon contamination. The most recent results indicating that the contamination is below detection levels suggest that the breakdown has already occurred.
- (4) Flocculant is not used in co-disposal bores. The co-disposal bores around the dredge pond were installed to assess whether flocculant breakdown products from the co-disposed ground were entering the groundwater and moving away from the dredge pond. The Department of Environmental Protection approved the use of the flocculant on 3 April 1998 as part of a non-substantial change to the proposal, for which an assessment was made. I now table the approval letter and assessment. [See paper No 346.]
- (5) The bores around the dredge pond were installed to assess whether flocculant breakdown products from the tailings area were entering the ground water and moving away from the dredge pond. Results to date do not indicate this. As stated previously, grease used in the drilling of the bores was the likely cause of the contamination. A risk of possible hydrocarbon contamination from the drilling of the bores was known prior to drilling, however, it would have been a far greater risk to have not drilled the bores to monitor breakdown products. Therefore, the Department of Environmental Protection considered the risk of contamination to be acceptable, and the most recent results indicating that the contamination is below detection levels suggest that the breakdown has already occurred.
- (6) A hydrocarbon concentration below 100 mg/L would not warrant extraction of the contamination from the bore. This concentration is also consistent with the level of hydrocarbons that would be expect to be discharged from a typical oil and grease trap. It is for this reason that the contamination was not treated as a pollution incident.