

BORE WATER, CONTAMINATION

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

I refer to a report in *The West Australian* of Saturday, January 19 2002 concerning bore water contaminated with sulphuric acid in the Balcatta area and another report in *The West Australian* of Saturday, February 2 2002 on the same issue which reports the presence of arsenic and heavy metals in bore water -

- (1) What action has the DEP taken to identify the source of the contamination?
- (2) What is the source of the -
  - (a) acid contamination;
  - (b) arsenic contamination; and
  - (c) heavy metal contamination?
- (3) How widespread is the contamination?
- (4) What contaminants were found in the groundwater and at what levels were they?
- (5) Did the EPA or DEP assess the housing development, which is being blamed for part of the contamination problem?
- (6) Did either department identify the potential contamination problems from this housing development?
- (7) Who conducted the investigation that the State Government ordered into the groundwater contamination and will the Minister table the report?
- (8) If the investigation is not complete why has it taken so long and when is the expected completion date?

Hon TOM STEPHENS replied:

- (1) The Minister for the Environment and Heritage has advised me that the Department of Environmental Protection (DEP) has worked closely with the Department of Health and the City of Stirling to determine the source, extent and severity of the contamination issue. More than 700 domestic bores were tested for acidity, and water from 44 of these bores was chemically analysed for arsenic and heavy metals. Additional drilling has been carried out adjacent to peat stockpiles and excavated lakes considered to be potential sources of contamination. The DEP is also in the process of issuing statutory directions for removal of the peat stockpiles.
- (2) The groundwater acidity issue in a localised area in Stirling and Balcatta is caused by the exposure of naturally-occurring peat containing sulfide minerals to air. The chemical reaction between the sulfide minerals and oxygen from the air has released sulfuric acid, and allowed heavy metals and naturally occurring arsenic to leach into groundwater. Dewatering by the property developers is one of a number of factors that have allowed sulfide-rich peat to come into contact with air. Other contributing factors are: the excavation and stockpiling of peat on the development sites; dewatering to install sewage infrastructure; pumping from domestic and City of Stirling bores; excavation of artificial lakes within public open space, and; a very dry winter that has lead to a very low water table.
- (3) The area affected by groundwater acidity is bounded by Cedric, Poincare and Jones Streets, and Karrinyup Road in Stirling/Balcatta.
- (4) The contaminants found in the affected groundwater are heavy metals and arsenic. Arsenic is the only contaminant present in groundwater at levels of health concern in some bores.
- (5) The housing developments were informally assessed by the EPA.
- (6) The DEP identified the issue of residual soil contamination from former market gardens at the site. The Water and Rivers Commission identified the potential for acid sulfate soils to occur at the site, and imposed groundwater monitoring as a condition on licences issued for dewatering at the site.
- (7) Groundwater and soil sampling in the area has been carried out by the Water and Rivers Commission. A report on the investigations will be tabled.
- (8) The preliminary investigation into soil and groundwater acidity has been completed and a report was made available to the Minister for Environment and Heritage on 12 March 2002. There has not been a delay in preparing the report as field investigations have only recently been completed.