Dendrobium Extension Project SSD 8194

* 1. Having South 32 monitor and report on their own activities seems unwise.
  2. There is no public access into the Greater Sydney Water Catchment Area, so concerned scientists and citizens are unable to monitor/investigate changes in flow and level of watercourses in this protected area.

1. **The quality of water flowing into our drinking water reservoirs.**

By studying the **Berrima (Medway) Colliery**, which closed in 2013, Dr Ian Wright found that **when a mine closes:**

* + 1. water does end up in the cavernous mine void and starts to build up.
    2. this is inevitable when the pumps are decommissioned.
    3. the water starts reacting with the sulphur in the coal of the mine floor and walls making a weak sulphuric acid solution.
    4. this leaches other metals from the mine into the water. (NB. All coal has sulphur in it.)
       1. In the Berrima (Medway) mine Dr Wright found **excessive concentrations of nickel** (around 400 micrograms/litre) in water that flowed out of the mine and into the Wingecarribee River and into our drinking water. (about 2.5megalitres/day or an Olympic swimming pool).

The owners had to re-open the mine & take remedial action to stop the nickel entering our drinking water. Whether this is a permanent fix, nobody knows!

* + - 1. Please also refer to point (vii) which relates to the leaching of zinc into the water.
    1. As the possibility of contamination of our drinking water will continue for 100 or 200 years into the future (until the water table re-stabilises) this independent monitoring should continue for generations to come. We need to secure the quality of our drinking water for our children, grandchildren & great grandchildren.
    2. As it seems that South 32 reports on their own activities, I suggest that an independent monitor would be much better.
    3. In a study at the Clarence Colliery near the Lithgow Zig Zag Railway, Dr Wright and his team reported **zinc levels many times over the ANZECC guideline** at the Licence Discharge Point (LDP) and 1km and 20km downstream of the LDP. The wastewater from this mine discharges into the Wollangambe River, then to the Colo and Hawksbury Rivers.

**This is very alarming as it will happen every time a coal mine is closed. I believe it is common practice for a mine to dispose of unwanted water into a watercourse. This means that, as the water builds up in the mine, after it is closed, there is always a possibility that water containing leached heavy metals can flow into the associated watercourse, killing any water ecology and poisoning any drinking water downstream of the mine.**

1. The existing water discharge into Allan’s Creek, Unanderra will double. This is the same discharge point that was recently identified as exceeding safe levels of heavy metals.

As a citizen and resident of Wollongong I am extremely concerned about the quality and quantity of drinking water in the Avon Dam from which we get all our drinking water, and about increasing discharges of contaminated water into our watercourses.

I am equally concerned about the quality & quantity of drinking water in the rest of the Sydney Water Catchment Area as mining has been undertaken in many areas and these watercourses are all inter-connected to safeguard against drought, and what affects one will eventually affect all water in the catchment.

Resident of Wollongong.