

FACTSHEET – ABOUT MDL 3040 AND FOX RESOURCES

PART 2 - SEA WATER INTRUSION – Vs 3 – updated May 2021

Summary

The coal mine near Bundaberg proposed by Fox Resources is posing a serious risk of causing seawater intrusion into the aquifers North of Bundaberg and West of the Burnett River, the 'Kolan Burnett A Subarea of the Coastal Burnett Groundwater Area'.

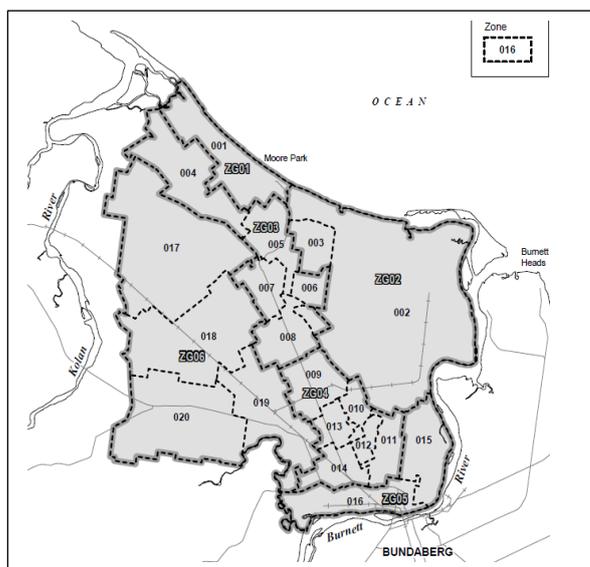
That will potentially render much if not all the ground water from Sharon to Avondale and out to the beach too salty to use for irrigation or town water.

Coal mines and groundwater

The application for a Mining Development Lease (MDL 3040) by Fox Resources (Fox) is for coking coal (see^{1C}). The coal is found in the Burrum Coal Measures, about 40m below the surface.

Given the shallow depth and the structure of the rock formations above it, mining is likely to be by open cut. This removes the overburden across a wide section and the area mined moves forward following the coal seams. Over the life of the mine, this creates a wide and deep trench which can stretch for 20 or 30km. This trench will cut through all layers above it, including aquifers.

However, an underground mine will need costly ongoing dewatering. Due to the shallow depth and the porous layers above, water from the aquifers will enter the mine in huge volumes. Both mining methods are likely to lead to seawater intrusion into aquifers.



Source - Kolan Burnett A Subarea of the Coastal Burnett Groundwater Area - Water Services, Department of Natural Resources, Mines and Energy,

Protecting Bundaberg groundwater from seawater intrusion since 1970

Water is the lifeblood of this agricultural area. Amongst the layers above the Burrum Coal Measures are the Elliott and Burrum aquifers. These provide irrigation water to 427 monitored bores and many non-monitored bores, as well as town water to Bundaberg.

These aquifers gradually slope down towards the sea and continue out under the sea. Rain enters the aquifers and water moves slowly downwards to the sea. As more bores are sunk and more water is pumped out than rain provides, the levels in the aquifers would eventually be drawn down to below sea level. This would cause sea water to seep into the aquifers and the water bores, making the water too salty for irrigation and domestic use.

Fifty-five years ago, this was recognised when seawater did start to intrude and bores turned salty. The Monduran dam was built and an extensive monitoring program was started. This program has now 650 monitoring bores across the Burnett basin.

Based on this, the Bundaberg Sub-artesian section of the Coastal Burnett Ground Water Management Scheme was created in 1970. This is now the 'Water Plan (Burnett Basin) 2014' and comes under the Queensland Water Act 2000. It is administered by the Department of Natural Resources, Mining and Energy from its Bundaberg office.¹

¹ Water Services, Department of Natural Resources, Mines and Energy, Bundaberg. Phone: 4131 2374 Email: waterservices.bundaberg@dnrme.qld.gov.au Website: www.dnrme.qld.gov.au or www.business.qld.gov.au

The plan aims to maintain water levels in the aquifers high enough to stop seawater coming in. That means balancing water coming into the aquifers with water taken out. The water levels further inland are maintained at higher levels than those closer near the sea to ensure a constant flow downwards and maintain enough pressure to keep seawater out.

This balance is measured by monitoring the water levels in 650 purpose-built water level monitoring bores. To maintain the balance, users of water bores are allocated annually announced entitlements. There are some 750 ground water entitlement holders, mainly for agriculture, but also for town water supply for Bundaberg city and surrounds.

The data can be found on Queensland Globe (<https://qldglobe.information.qld.gov.au>) For those familiar with Qld Globe: Open it and go to: Layers > Add layers > Groundwater > Groundwater Monitoring > Current water level water monitoring bores.

Effects of a coal mine: cutting off and reversing waterflows.

One effect of a long deep trench cut through aquifers, or long wide roadways just below them, is to cut off water that flows from higher area to lower areas. It finishes up in the pit or the roadways. In both cases it needs to be pumped out constantly.

A likely second effect of the likely depth of the pit and the relative flatness of the area, is that downstream water may reverse direction and will also be drawn into the pit or roadways. If existing entitlement holders continue to farm and use irrigation water, the water levels in the aquifers are most likely to be drawn down so far that seawater will come in.

The outstanding results of 55 years of protection are then likely to be destroyed and the high-quality irrigation and town water in this area is likely to be gone forever.

Recycling mining water is not an option

Mining companies elsewhere have promised to make water drained from the pit available to farmers by pumping it back into aquifers. However, water from coal mines is contaminated with toxic BTEX chemicals and heavy metals. Using contaminated water will damage the 'clean and green' image of local produce. Using it over any length of time will lead to a build-up of the pollutants to levels that kill crops.

Granting MDL 3040 will lead to serious economic and social damage

Fox has applied for a five-year term for MDL 3040. Under current legislation, this licence can be extended for another five years. This creates much uncertainty about the future of water supply and the general environment.

Uncertainty scares away new capital investments and permanent jobs. It reduces current market values of investments in agriculture, tourism, retirement and homes, and causes emotional stress. Given the permanent destruction caused by any form of coal mine, and the status of Fox Resources as a company without assets or staff, **this MDL must not be approved**. The relevant minister, Scott Stewart, has discretionary powers under the Water Act and the Mining Act to refuse approval. Bundaberg has enough uncertainty already.

What you can do to oppose this mine

- Join a local action group <https://www.facebook.com/CoalFreeWBB>
- Or email gladconscouncil@gmail.com
- Contact our local politicians, Stephen Bennett (Burnett) and Tom Smith (Bundaberg). They are here to represent you to government.

However, in the long term the law that was introduced in 2014 to protect land with high-value conservation, cultural, tourist or agricultural from mining needs to be changed as it is not effective.