

Submission to Senate Inquiry into the impact of mining on the Murray Darling Basin

by Cambooya Landcare Group Inc.

Affects of a mining operation in the Felton Valley, Queensland.

The Felton Valley is a site where a proposed mining operation is seeking approval to operate. Cambooya Landcare argues that mining operations on the Darling Downs would have serious consequences for agricultural production and for vital ecosystem services provided by the natural processes of the Murray Darling Basin. The Felton Valley case is particularly important as this proposed venture is potentially the first of many for the immediate area on the Darling Downs.

This submission will highlight the perceived inherent problems in allowing mining operations to proceed in such locations, including reduction in agricultural production capacity of prime agricultural lands, increased pressure on threatened ecosystems and species, and threats to the quality and supply of water from underground aquifers.

Physical description

The Felton Valley is located 30 km SW of Toowoomba, Queensland. The geological structure consists of basalt topped ridges overlying coal and Walloon sandstone. The valley's topsoil is a heavy alluvial self mulching black soil. Through the valley flows Hodgson Ck that is a permanent water course. There are a number of confined and unconfined (alluvial) aquifers, both of which are supplied by recharge through the fractured rock formations of the basalt ridges.

Agricultural production

The primary producers of the valley are involved in grain, dairy and livestock production. Over 300 people are currently employed in a 10km radius of the proposed mine site in agriculture or other rural industries classed as primary production. Within 20km radius there are also horse studs, extensive horticulture industries and a significant number of egg producers. There would be an immediate loss of those productive properties acquired under the successful granting of a mining lease, and dust and emissions resulting from mining and petro-chemical processing operations would significantly affect the industries within close proximity to the proposed mine site. This would especially apply to the vegetable growers and egg producers. Contamination issues will make them unable to continue in their present location. Primary production enterprises would be forcibly expelled from the Valley, resulting in loss of local productivity and employment opportunities with associated impacts on suppliers and markets.

The effect on prime agricultural land

Mining will affect the rich agricultural soils of the valley. Removal and stockpiling of topsoil rapidly reduces its quality through the destruction of its structure and loss of organic matter. Studies have shown that the bacterial populations, vital to maintaining healthy soil ecosystems, do not persist once the soil profile is disturbed. Even though mining operations are required to return and rehabilitate the land that they disturb there is currently no research or existing examples of successful rehabilitation of cropping lands. Case studies only exist for restoration of rangeland (often back to grassland pastures), woodlands and coastal heaths. Therefore, changing the land use from agricultural production to mining may result in significant short- and long-term limitations on the productive capacity of the Valley.

Sustainable land management

Cambooya Landcare, in partnership with landholders and regional NRM organisations and with funding from various sources including the Federal government (National Heritage Trust, Envirofund, Condamine Alliance Regional Investment Strategy to name a few), has invested over half a million dollars in improving and implementing sustainable farming systems and practices in the Valley. Investment priorities have included increasing and maintaining ground cover to conserve soil and prevent erosion through encouraging the adoption of conservation tillage and establishing perennial pasture, with associated benefits to water quality and the health of Hodgson Creek. An integral component of these projects is the in-kind contribution of participating land managers. Their financial contributions have averaged a ratio of 1:4 (i.e. for every dollar spent by government in the Valley, local landholders have spent \$4).

Effect on local aquifers and the Murray Darling Basin

Open-cut mining threatens vital underground aquifers and groundwater resources as the mining process must unavoidably cut through, dewater and potentially contaminate the aquifers. There is no process whereby destroyed aquifers can be rehabilitated. This would also have an undetermined effect on the wider Murray Darling Basin due to uncertainty regarding the extent of exchange between underground and surface water systems; in addition, an increasing number of mining operations, all destroying the aquifer layers, could be expected to have a cumulative effect on the hydrological functioning on the Basin. At the same time, if mining operations were restricted to the basalt ridges that act as the recharge sites for the aquifers, then the natural recharge process would be disrupted, destroying the functionality of the aquifers.

Mining operations have the potential to cause other damage to the local catchment and the wider Basin. With contaminated water stored on-site there is always the potential for pollution of groundwater and surface water resources, and floodplain soils in times of intense weather events as has occurred recently with major flooding in central and North-west Queensland.

The proposed mining operation in the Felton Valley will require 1000ML/y of water for Stage 1 increasing to 16 000ML/y at full scale. The water source is yet to be secured as there is insufficient water onsite, and all local water resources are fully allocated. Where this water will come from is currently unclear, perhaps SEQ or the Surat Basin coal seam gas water. Both water sources are problematic as they will require treatment due to their high salt content or high pathogen levels. If there are such problems for one mining operation then this would only increase with more operations being approved on the Darling Downs.

Environmental impacts

Across the Darling Downs are a number of rare and threatened species and ecosystems listed under the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth). An Identified Queensland Blue Grass community occurs on the boundary of the proposed mine site and the vulnerable Five-clawed Worm-skink (*Anomalopus machayi*) and endangered Grassland Earless Dragon (*Tympanocryptis pinguicolla*) have been positively identified within the site, as have endangered plant species such as *Raponticum australe* and *Picrus evae*. The ability for these species to survive relies on the connectivity of the landscape, not the setting aside of isolated pockets of land. Both the immediate impact of this mining proposal and the cumulative effect of a number of mining operations across the Darling Downs would seriously impact on the ability of the environment to sustain these critically endangered species.

In addition, as the natural world provides a range of ecosystem services, there is serious concern and scientific evidence that the deterioration of its ability to provide those services would directly impact on the ability of the agricultural operations in the valley to continue to operate sustainably.

Social disruption

The proposed mining operation for the Felton Valley would affect more than 220 households that live within a 12 km radius of proposed mine site. Some of these families have lived and farmed in the valley for up to 6 generations and represent an important knowledge bank in terms of sustainable farming in the region. The community that enjoys a quiet but productive rural lifestyle would have a large open-cut mine, petrochemical plant and power station located in the middle of the valley. In addition, the mining company will employ up to 600 workers during construction and under full production looks to employ 125 full-time workers. This would impact on the social structure of the rural community by either significantly increasing the local population or having the presence of a large transient population.

Health impacts of a mine on the wider community

The physical impacts of an open cut mine would directly affect those living in close proximity to the site. Well documented effects including respiratory conditions and mental illnesses would most likely occur from the dust and noise that would affect those downwind on a daily basis. There will be significant increases in traffic in the valley with the movement of the workforce and transport of the product to regional markets.

Other areas likely to be effected

The Felton Valley is only one example where the productivity and sustainable functioning of the catchment as well as social cohesiveness is under threat from mining operations within the Murray Darling Basin. The majority of the Darling Downs is covered by mining permits, including prime cropping country such as the Haystack, Jimbour, Brookstead and Bongen regions.

The Felton Valley provides an example of the effects that are likely to occur if mining leases are granted within the Murray Darling Basin. There would long lasting cumulative effects on the natural environment including underground water aquifers, water quality, soil quality and endangered species. There would also be long term impacts on the social and economic structure of the local Felton Valley community including lost agricultural production, social upheaval and the detrimental effects on health. For these reasons Cambooya Landcare opposes any mining operation on the Darling Downs.

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