NSW FARMERS ASSOCIATION

Orange Branch

Submission by LFB Resources NL

To seek development consent for the construction and operation of the McPhillamys Gold Project, a greenfield open cut gold mine and associated water supply pipeline in the Central West of New South Wales

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Executive Summary

NSW Farmers' Orange Branch has been monitoring the proposal to construct a Gold Mine near Kings Plains in the Blayney Shire, known as McPhillamys Gold Project.

NSW Farmers is Australia's largest state farming organisation and the peak representative body for farm business in NSW. Agriculture in NSW is worth approximately $13 billion annually. The sector employs over 66 000 people, and 70% of the NSW land mass is managed by farmers who are world leaders in sustainable food and fibre production.

It is the opinion of the Local Orange Branch they neither oppose nor support the proposal to construct a Gold Mine at Kings Plains, by LFB Resources NL, a 100% subsidiary of Regis Resources, but are making comment on the project's Environmental Impact Statement.

In the time that we have had to review the Environmental Impact statement, with limited resources, we have identified a number of issues which will impact on members' properties that are adjoining the site, and the potential impact on agriculture and communities downstream on the Belubula River system, particularly downstream of Carcoar dam. There are also concerns about the importation of salt into the Belubula River headwaters.

All of these concerns will be outlined in the following report and a request for further impact work to be undertaken and considered before any approval for the project can be given. Some suggested solutions have also been provided which may be considered by the reviewers.

Introduction

The Orange Branch of NSW Farmers has been asked by local members to investigated the proposal to construct a Gold Mine near Kings Plains in the Blayney Shire, known as McPhillamys Gold Project.

The Branch has considered whether the site is classed as Prime Agricultural Land and the impact the loss of Prime Agricultural Land would have on the local rural community. There is also concern about the potential impact on neighbours and landholders downstream from the proposed site, particularly on the Belubula River system. The following discussion brings together the concerns of the rural community and suggests strict conditions be placed on the development if it is to be approved.

This report will be broken down into individual concerns from the members in a number of areas including the loss of prime agricultural land, long term salinity issues on the Belubula River system and major effects on the irrigation industry, downstream of Carcoar dam during the mines life, many of which have not been highlighted in the EIS.

This report will focus on agricultural issues as this is the core focus of the Orange Branch of the Association. This is not to say that there are many broader community issues, but these will be left to others to outline. The report does not support nor oppose the project but does raise some serious concerns about the project and its impact on the Belubula River system which we do not believe have been taken into account with the current approval process. It also provides some potential options that should be considered if consent is to be given to the project.

Land Class and Impact on Agricultural Production

NSW Farmers considers development premised upon 'no net loss' to agriculture to be critical to rural economies and communities.

NSW Farmers advocates for recognition of the importance of agricultural land use and submits that planning policies must implement frameworks that promote rather than restrict food and fibre production in all parts of NSW. Access to land for agricultural use is one of the primary issues facing agriculture in NSW. Pressure from urban expansion, environmental restrictions and conflict between agriculture and the extractive industries has led to serious declines in the amount of land in productive use across the state.

Farm held land in NSW collectively represents over a $40 billion investment in real property. In 2017–18, the gross value of agricultural production in New South Wales was $13 billion, which was 23 per cent of the total gross value of agricultural production in Australia ($59 billion). Feeding and clothing a projected Australian population of 42 million by 2050 represents a significant challenge. Our ability to meet that challenge will hinge largely on whether sufficient land and water resources are available for agricultural production.

When undergoing strategic planning in NSW it must be remembered the scarcity of good soil and reliable water on the Australian continent. Many Australians are not aware of this rarity, and this is evidenced by a planning system which has allowed, large scale mining, low density housing, extractive industries and poorly planned environmental restrictions to permanently alienate some of our most productive land.

In addition, the Department of Planning and Environment describes Biophysical Strategic Agricultural Land (BSAL) as land with high quality soil and water resources capable of sustaining high levels of productivity. DPE also point out the critical role sustaining the State's $13 billion agricultural industry.

It is clear that the project represents a large impact on the state's BSAL asset base as a result of direct impact of the project, and the flow on impacts on water allocations below Carcoar Dam. NSW Farmers would prefer that productive agricultural land, including BSAL and associated water supplies, be protected.

NSW Farmers submits that land to be converted from agricultural use to mining or industry development needs clear, credible and significant economic and social justification at the very least.

In the analysis of the proposed site, the mine development project area consists of 2,513 hectares, of which 1812 hectares is Mining lease. Of the project area, most is in the Land and Soils Capability Class of 4 (932 Ha) and Land and Soils Capability Class of 5 (1491 ha). The remaining 90 ha is class 6 and 7. The current Land and Soils Capability Class 4 and 5 is of reasonable high quality for grazing. The soils are generally acid in nature.

There would be an expected reduction in agricultural output from sheep and cattle grazing, of approximately 2.5% in the Blayney Shire, given the amount of other land use practices across the Shire, as outlined in the Impact on Agriculture section below.

Impact on Agriculture output

The report states "The financial impact to the agricultural industry income of the proposed disturbed land in the mine project area was calculated to be a reduction of $406,193 /year during the mine life and $95,373 / year upon rehabilitation, which equates to approximately 1% and 0.2% respectively, of the total $42.7 million of income from agriculture within the Blayney LGA. NSW Farmers questions the accuracy of this statement.

Blayney shire consists of approximately of 152,500 Hectares. The proposed mine development project area is 2,513 hectares or 1.6 percent of the Shire. The EIS does not provide enough evidence to suggest much of the area outside the disturbance area will be used for grazing purposes during operations, given the largescale tree planting which is already underway. It is difficult to understand that if 1.6% of the shires land is being taken out of production, that less than one percent of the total shire value is being reduced.

To compound the concerns over this calculation, the Shire has a number of areas of native vegetation, including the proposed property to be purchased for offset, which has limited agricultural output. The Shire has a large rural residential area, particularly in the northern section, which has very limited agricultural output. There are also industrial and urban areas, within the Shire, where there is no agricultural output as well as 600 kilometres of shire road. There is also Newcrest's Cadia Valley Operations within the Shire, which has two very large tailings dams plus, a massive waste rock emplacement, a large open cut pit, two large areas of subsidence and a very large area for processing, which have also been taken out of agricultural production.

In taking all this into account, it is estimated the loss of agricultural grazing production from the area would be much closer to $1 million annually. This does not take into account the loss of irrigation production in the Blayney, Cabonne and Cowra Shires, which will be discussed later in

this report or the added cost to provide water to stock downstream of the mine site with the reduction in Belubula river flows. The reduced water availability is expected to cost agriculture several million dollars in lost production on an annual basis. It is suggested that modelling be undertaken by the proponent on the impact to the irrigation industry and made public before any determination is made on the project.

Surface Water Impact

NSW Farmers has concerns with the impact of surface water flows and some of the modelling on the impact on irrigators downstream of Carcoar Dam.

Table 25, taken from the water report indicates the 50 percentile take from surface flows is expected to be 242 megalitres. While this is the 50 percentile figure, the 5 percentile figure is 2,399 megalitres, which is expect to happen once every twenty years, which is about the mine life, construction and rehabilitation timeframe, so a reasonable probability it will occur during this time. These extraction figures appear in table 25, listed below.

Table 25 Modelled Inflow to Lake Carcoar for Streamflow Impact

Percentage of Time Flow is Greater Than the Modelled Inflow	Existing Modelled Inflow (ML/year)	With Project Modelled Inflow (ML/year)	Decreased Modelled Inflow Due to Maximum Project Extent (ML/year)
95%	1,463	1,402	61
90%	1,941	1,861	80
80%	2,408	2,308	100
70%	3,056	2,929	127
60%	3,645	3,494	151
50%	5,836	5,594	242
40%	7,917	7,590	327
30%	13,975	13,397	578
20%	24,995	23,961	1,034
10%	42,296	40,546	1,750
5%	57,984	55,585	2,399

The only reference in the report to irrigators downstream of Carcoar dam, on irrigators is the following paragraph, taken from the surface water report.

> The Belubula River downstream of Carcoar Dam is managed under the conditions set out in the *Water Sharing Plan for the Belubula Regulated River Water Source 2012*. The total issued share component of general security, high security and domestic and stock water access licences from the Belubula River regulated water source was 23,771 unit shares in the 2017 to 2018 period (Burrell et al., 2019). In the 2013 to 2018 period, the average annual water usage from the Belubula River regulated water source was 3,853 ML/year (Burrell et al., 2013 – 2019). A predicted reduction of 61 ML/year inflow to Lake Carcoar due to the project surface water 'take' equates to 0.3% of the total issued share component of the Belubula River downstream of Carcoar Dam or 1.6% of the average annual water usage.

Surface water report (P104)

It is the opinion that modelling the impact on the 95 percentile is inadequate and this will be discussed below.

NSW Farmers also has concerns about the amount of runoff that is expected to occur. In the modelling provided, it suggests the 50 percentile figure is 242 megalitres and has based many of its calculations around this figure. The reports also contain analysis that the harvestable rights are 218 megalitres a year. NSW Water's calculator would indicate that the average runoff expected from the site is 2,180 megalitres to come up with this figure of harvestable rights. If NSW Water's figure is correct, with their harvestable rights calculator, then the impact on the irrigation industry would be substaintial. The information from the report above states 3,853 megalitres on average was used between 2013 and 2018 below Carcoar dam. This would contribute to a 56% loss in irrigation downstream of Carcoar dam. A major analysis should be undertaken by the proponent and made public on the impact on the Belubula system before an assessment on the project is made.

Ground Water

On Groundwater, the EIS states "Based on the results of the groundwater model, the maximum take of groundwater as a result of open cut mining which will need to be accounted for by water access licences (WALs) is 890 ML/yr, which is predicted occur in around mining Year 2. The ongoing groundwater inflow to the pit void which will need to be accounted for by WALs post mining is predicted to be around 200 ML/yr."

The company has indicated that it will use this water licence for a large proportion of the projects life. This would be expected to reduce the pressure in the springs in the headwaters of the Belubula River, and have an impact on flows downstream of the mine site for the duration of the project. It is projected that this will remove around 9,000 megalitres of groundwater from the headwaters of the Belebula River system. There are also the centuries that it will take to fill the pit up which will further reduce the spring flows, with around 200 megalitres in

expected loss until equilibrium is achieved. None of the modelling appears to take into account the impact of the springs on flows in the river from the site and the surrounding area. These spring both feed both local farm dams and also the river. It would be expected that construction of the mine would as a minimum have a negative impact on many farm dams that surround the site for centuries to come, as well as flows on the Belubula River.

A potential remedy to the impact of a reduction in the groundwater available in the headwaters, is a water pipeline for stock from Carcoar Dam to the affected landholders, as discussed in the surface water section.

Harvestable water rights

NSW Farmers also questions the harvestable water rights. Under the NSW legislation, land users are allowed to harvest 10% of the runoff. According to Water NSW website, "Rural landholders in NSW can build dams on minor streams and capture 10 per cent of the average regional rainfall run-off on land in the Central and Eastern Divisions."

In the report, the average expected runoff appears to be calculated as 2180 megalitres, to gain a harvestable right of 218 megalitres. NSW Farmers has used the dam calculator to confirm this figure. There is a question about the use of harvestable rights on a river as opposed to a minor stream as stated in the Water NSW rules. This needs to be clarified in the final report. This also brings into question Table 25, which indicates more than 90% of the time flows are below the 2180 megalitre level, yet NSW Water calculates this as the average flow from the site to obtain the harvestable rights figure.

Water Licences

The report indicates there are approximately 260 megalitres of unregulated water licences above Carcoar dam. The proponent has also indicated that they will use the harvestable rights from the site, which appear to be 218 megalitres. The proponent has also indicated they are talking with two of the three licence holders in the unregulated section of the Belubula River, above Carcoar dam. The extraction of this water is only permitted under certain licence conditions and NSW Farmers questions whether the licence restrictions would have to be modified if the proponent was to purchase the surface water licences.

The proponent has also applied for 890 megalitres of groundwater licence each year.

If the calculator is correct, and NSW Farmers has no reason to doubt its accuracy, Water NSW believes 2,180 megalitres currently leaves the site as runoff on an annual basis. The proponent would therefore need to have water licences for 2180 megalitres of water annually and can only secure about 500 megalitres of water between harvestable rights and unregulated entitlements. There would therefore have to be a transfer of 1680 megalitres from downstream of Carcoar dam. The following discuss outlines the concerns and impact on the irrigation industry on the lower Belubula River.

Impact on Irrigation Water allocations on the Belubula River

The writer of the surface water report has used the lowest 5 percentile inflow into Carcoar dam to highlight a supposed minimal impact on the irrigation industry. The writer indicates that a 4% decrease in inflows to Carcoar dam will only have a 1.6% impact on irrigators.

This ignores the other 95 percent of inflows and its impact on the Belubula river irrigators. The consultant at an open day in Blayney on Wednesday 16th October stated on their modelling, the 2016 year would have seen approximately 1,500 megalitres withheld from Carcoar dam and stored on site. This equates to nearly 38% of water use in the Belubula River during a calendar year on the figures provided above and not 1.6% as stated in the report.

It is also important to note how water is allocated in the Belubula and other rivers in NSW in examining the inflows and effects on water allocations. Water is allocated for environmental purposes, for transmission losses along the river, evaporation from the storage and high security stock and domestic licences first. Any remaining water is then allocated as general security irrigation water. Inflows from downstream of Carcoar dam are also taken into account and in the latest allocation report equate to about a quarter of the flows during the summer period.

Given the larger inflows are where the major irrigation allocations are made, it would be expected that an impact in the order of 10 to15% of annual allocation reduction may well be closer to the real figure. The proponent must be required to undertake full modelling; taking into account all potential inflow outcomes and the factors mentioned above when undertaking irrigation allocations analysis and provide far more structured modelling on the take of water from the river system and its impact on irrigators. The loss of agricultural production also needs to be highlighted from across the Belubula River system and not just on the mine site as currently appears in the report. A reduction of 10 to 15% in annual allocations would equate to

several million dollars in agricultural losses in the lower Belubula River system and have a significant impact on the township of Canowindra.

As it has been shown in Table 25 from the EIS, if a one in twenty year event occurs during the mine life, 2,399 megalitres would be stored on site. No other water user can extract more water than their licence in a particular year and we urge in any approval process that the mine should have 2,399 megalitres of licence to cover maximum extraction from the system in any one year and not an average figure. As a minimum, the 2180 megalitres which Water NSW believes runs off the site annually should be used as the licence requirement.

Given there may be substantial impacts on irrigation from the extraction from the mine site, a comprehensive report should be compiled on the impact and not the extremely limited analysis that has been provided. To alleviate any potential impact, which as demonstrated by a 2016 rain event would be substantial, the proponent should be required to contribute (fifty percent of the cost) to a water harvesting scheme as proposed by Central Tablelands Water to move water from Lake Rowlands to Carcoar Dam. This pipeline would increase the amount of storage Central Tablelands can hold but could also guarantee current irrigation allocations to the Belubula system. This would minimize, if not negate the impact on irrigators downstream of Carcoar Dam if the mine was to proceed. There could also be a water harvesting scheme placed on Cowriga Creek, with the water piped to Carcoar dam, for town and irrigation use.

There are also concerns about the transfer of high security water from downstream of Carcoar dam to upstream as shown in the draft water sharing plan.

Minister's note.

The Department of Industry - Water is considering an option to allow limited conversion of regulated river (high security) entitlements from downstream regulated river water sources to access licences in connected upstream unregulated water sources. This would enable some additional water to be taken in upstream areas without affecting water availability in the downstream storage/s, but may need to be subject to an assessment of potential local impacts of any such trade on the environment and access to water by other water users, and may be limited in scope.

This is a new concept that is yet to be discussed with stakeholders (including the Lachlan and Belubula Stakeholder Advisory Panel). As such, no provisions to facilitate it have been included within this draft amended plan, other than an amendment provision within Part 12. If pursued, new provisions will need to be incorporated into the plan.

More information will be prepared for additional stakeholder consultation before this issue is formally considered, however early stakeholder feedback on the concept is welcome.

Draft Lachlan water sharing plan

In discussion with Lachlan Valley Water, they responded to the Minister's note on the draft plan as follows:

"LVW strongly recommends that the proposal to allow conversion of regulated river entitlements to entitlements in upstream unregulated water sources should not be approved unless the analysis of any proposed conversion can clearly demonstrate no negative impact on the water source or upstream licence holders, and that any proposal must be subject to detailed consultation with existing licence holders in the upstream water source." (Lachlan Valley Water)

NSW Farmers asks if any such consultation has been undertaken not only with upstream licence holders but also with producers who use the river for stock and domestic purposes and a water harvesting scheme be constructed.

It is proposed that a solution to the Stock and domestic water users and the three licence holders is a water pipeline from Carcoar dam to all affected landholders upstream of this dam be constructed before any extraction commences. While two of the licence holders are in discussion with the proponent, there is also a third licence holder that needs to be considered in any determination. This should minimize the impact of the onsite water extraction, particularly in the drier years. NSW Farmers does appreciate that the proponent is going to pipe water that falls above the site around the mine area and return these flows to the Belubula River through internal pipelines.

Tailings dam salt issues

NSW Farmers is also concerned at the amount of salt which will be imported to the headwaters of the Belubula River system over the proposed life of the mine. The Belubula system is already suffering from salinity issues. There are already dryland salinity issues across much of the catchment, with this salt leaching into the river system during wet periods.

The report says there will be water brought in via the pipeline at 1000 EC, which is safe for stock to drink but not for human consumption. The report does not state how much salt will be brought in during the life of the mine. Given the expected evaporation of this water, the salt will be deposited in the tailings dam in highly concentrated levels. The reports also state the tailings dam will be sealed and lined with clay. The report states the water will move underground about half a metre a year towards the Belubula River System and it will take centuries for it to move back into the system, because of the lining used. While this is credible evidence, the report also states that the tailings dam will be rehabilitated with a layer of topsoil and may be returned to grazing or other uses.

The major concern is that this salt will rise to the surface of the tailings dam, suspended in water, as it will become a giant bathtub during wetter periods, given the extremely slow water movements projected in the report. The report also states all natural flows will be returned to the river after the mine closure, including all the runoff from the mine site, except the mine pit. Once the tailings dam is saturated, this water will come into the Belubula system in the same way as dryland salinity is currently impacting on the catchment. This would see a large rise in salt levels above Carcoar dam and potentially impact on water quality shortly after the mines closure and rehabilitation and not the centuries through ground water movement. This salt may have major ramifications for the health of the Belubula River system and the Lachlan River system. This could also have a big impact on the rehabilitated area as high salt levels will impact on the shallow layer of topsoil.

A potential solution to this issue would be to lower the salt levels in the water leaving the coal mines and power station sources. The report indicates it will be a blend of water, including some highly concentrated salt water from the Mt Piper power station. It is suggested that all the water is treated by the desalination plant to bring it to an acceptable level, at a small fraction of the salt level that is proposed to be brought into the mine. If the proponent is not willing to reduce the salt level, then major analysis of the potential impact of this salt should be undertaken before any final decision is made on the mines future.

Conclusion

The NSW Farmers Association is neither in favour nor against the proposed mine at King Plains. The Association does however have a number of concerns which need to be addressed before any approval is provided by the NSW Government. These include the economic impact on the irrigation industry downstream of Carcoar dam, the impact on water flows on neighbours downstream of the mine in the Belubula River system for stock and domestic purposes, the extraction of 890 megalitres a year of ground water from the headwaters of the Belubula system, the amount of runoff that is being projected to occur, the transfer of water allocations from below Carcoar dam to the mine and the purchase of agriculture unregulated licences from upstream of Carcoar dam to the mine. The report also only states the impact on agriculture to be $406,193, when the real impact on agricultural production will be in the many millions, if water allocations along the Belubula river system are taken into account as well as the loss of water for livestock production and irrigation on the surrounding properties. There have also been a number of solutions provided to mitigate many of these concerns.