Appendix U

Economic Assessment Addendum

REGIS RESOURCES LTD

Gillespie Economics

Environmental and Resource Economics: Environmental Planning and Assessment

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13 August 2020

Nicole Armit
EMM
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Dear Nicole

Re: Economic Assessment of the Amended McPhillamys Gold Project

In response to issues raised in submissions, and further detailed mine planning and design, Regis Resources Limited has made a number of refinements to the McPhillamys Gold Project.

Gillespie Economics has undertaken an Economic Assessment of the amended project in Attachment 1. This focuses on a cost benefit analysis of the amended project in comparison to the Environmental Impact Statement (EIS) project, holding all variables constant apart from those that change as a result of the revised production schedule and the reassessment of the environmental, social and cultural impacts.

The amended project has a similar net production benefit to the EIS project i.e. $141M present value (at 7% discount rate) compared to $143M for EIS project. The higher capital costs and lower revenue of the amended project (relative to the EIS project) are partly offset by lower operating costs and lower offset, compensation and mitigation costs.

The net social benefit of the amended project to NSW is estimated at $139M present value (at 7% discount rate) ($231M with employment benefits included) compared to $141M for the EIS project ($232M with employment benefits included). The net social benefit of the amended project to NSW is not materially different to the EIS project.

However, with recent significant increases in the forecast gold price, the net social benefits of the amended project are likely to be significantly greater than estimated. Adoption of conservative, contemporary gold price forecasts, results in the net social benefit of the amended project increasing to $244M present value (at 7% discount rate) ($336M with employment benefits included).

Regards

Dr Rob Gillespie

ATTACHMENT 1 – AMENDED PROJECT ECONOMIC ASSESSMENT

1 Introduction

1.1 Background

LFB Resources NL is seeking State significant development consent under Division 4.7 of Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) to develop and operate a greenfield open cut gold mine, associated mine infrastructure and a water supply pipeline in Central West NSW. LFB Resources NL is a 100% owned subsidiary of Regis Resources Limited (herein referred to as Regis).

The McPhillamys Gold Project (the project) is comprised of two key components; the mine site where the ore will be extracted, processed and gold produced for distribution to the market (the mine development), and an associated water pipeline which will enable the supply of water from approximately 90 km away near Lithgow to the mine site (the pipeline development). The mine development is around 8 km north-east of Blayney, within the Blayney and Cabonne local government areas (LGAs).

Up to 8.5 Million tonnes per annum (Mtpa) of ore will be extracted from the McPhillamys gold deposit over a total project life of 15 years. The mine development will include a conventional carbon-in-leach processing facility, waste rock emplacement, an engineered tailings storage facility (TSF) and associated mine infrastructure including workshops, administration buildings, roads, water management infrastructure, laydown and hardstand areas, and soil stockpiles.

In accordance with the requirements of the EP&A Act, the NSW *Environmental Planning & Assessment Regulation 2000* (EP&A Regulation) and the Secretary's Environmental Assessment Requirements (SEARs) for the project, an Environmental Impact Statement (EIS) was prepared to assess the potential environmental, economic and social impacts of the project. The development application and accompanying EIS was submitted to the NSW Department of Planning, Industry and Environment (DPIE) and subsequently publicly exhibited for six weeks, from 12 September 2019 to 24 October 2019. During this exhibition period Regis received submissions from government agencies, the community, businesses and other organisations regarding varying aspects of the project.

In response to issues raised in submissions received, as well as a result of further detailed mine planning and design, Regis has made a number of refinements to the project. Accordingly, an Amendment Report has been prepared by EMM Consulting Pty Ltd (EMM 2020a) to outline the changes to the project that have been made since the public exhibition of the EIS and to assess the potential impacts of the amended project, compared to those that were presented in the EIS. This letter report forms part of the Amendment Report and presents an assessment of the Economic Impacts of the amended project.

1.2 Project Amendment Overview

A summary of the key amendments to the project since the exhibition of the EIS are summarised below and described in detail in Chapter 2 of the Amendment Report (EMM 2020a):

- **Site access** – a new location for the site access intersection off the Mid Western Highway is proposed, approximately 1 km east of the original location assessed in the EIS, in response to feedback from Transport for NSW (TfNSW, former Roads and Maritime Services) and the community. A new alignment is subsequently proposed for the site access road to the mine administration and infrastructure area.

- **Mine and waste rock emplacement schedule** – revision of the mine schedule and the subsequent construction sequence of the waste rock emplacement has been undertaken, in

particular consideration of predicted noise levels in Kings Plains. This achieved a reduction in predicted noise levels at nearby residences while extending the construction timeframe for the southern amenity bund.

- **Pit amenity bund** – the size of the pit amenity bund has been reduced as a result of optimisation of the open cut pit design and the improved location of exit ramps for haul trucks.

- **Tailings Storage Facility (TSF)** – amendments to the design include changes to the embankment design and construction timing, the TSF footprint, and the TSF post closure landform.

- **Water management system** – the secondary water management facility (WMF) has been removed from the water management system resulting in an avoidance of impacts to a potential item of historic heritage (MGP 23 - Hallwood Farm Complex (Hallwood)). The size of the WMFs has also been revised to achieve a reduced likelihood of discharge from the storages within the operational water management system as part of a revised nil discharge design.

- **Mine administration and infrastructure area** – the layout of this area has been revised and optimised.

- **Mine development project area** – a very small change has been made to the mine development project area along the eastern boundary (an additional 1 ha, or 0.04% change), to accommodate the required clean water management system. The change takes the project area from 2,513 hectares (ha) to 2,514 ha.

Some amendments to the pipeline development have also been made, as follows:

- **Pipeline route –** has been amended for a section of the corridor west of Bathurst, primarily in consideration of land access and potential impacts to biodiversity. Two options for the amended pipeline route have been included and assessed in the amended project; the northern option and the southern option. As shown in Figure 1.3, the pipeline alignment changes approximately 3 km west of pumping station facility No. 4. The new alignment continues for around 3 km, where it then splits into two options before re-joining the original route. The northern option is approximately 11 km long from where the two options split, and the southern option is approximately 6 km long, before re-joining the original alignment. The amended section of the pipeline route is therefore around 14 km long if the northern option is adopted, and approximately 9 km if the southern option is constructed.

- **Pipeline corridor/disturbance footprint –** Pipeline corridor has been differentiated from the disturbance footprint with small changes to the pipeline corridor disturbance footprint made in consideration of biodiversity impacts. While the alignment of pipeline sections outside the realigned options hasn't changed, there have been minor variations in the width of the corridor to provide flexibility in the detailed design and subsequent construction phases of the project.

- **Pumping station facilities –** pumping station facility No.3 has been relocated from the vicinity of Energy Australia's Mount Piper Power Station (MPPS), to approximately 4.3 km to the west and adjacent to Pipers Flat Road.

No amendments have been made to other key aspects of the project as presented in the EIS for which approval is sought, such as the proposed mining method, operating hours, annual ore extraction rate of up to 8.5 Mtpa, annual ore processing rate (up to 7 Mtpa), employee numbers, and rehabilitation methods and outcomes.

2 Economic Assessment Methods

In accordance with the NSW Government (2015) *Guideline for the economic assessment of mining and coal seam gas proposals* the Economic Assessment prepared for the EIS comprised:

- A cost benefit analysis (CBA) which is the primary way that economists evaluate the net benefits of projects and policies, provide economic justification for a project and address the public interest.

- A local effects analysis (LEA) using a methodology developed by the NSW Government (2015), to assess some of the impacts of the Project in the locality, specifically:

    - net employment to existing residents;
    - non-labour project expenditure; and
    - environmental and social impacts on the local community.

- A supplementary LEA, using traditional input-output (IO) analysis to assess the broader economic activity project footprint in relation to output, value-added, income and employment.

This report focuses on the CBA of the amended project relative to the CBA reported in the EIS. The amended project does not materially change the employment and expenditure driven components of the LEA, or the supplementary LEA, and so a revised LEA has not been undertaken. The externality component of the LEA is addressed as part of the CBA analysis of the amended project.

3 COST BENEFIT ANALYSIS

3.1 Introduction

The revised mine plan has potential consequences for the estimated net production benefits of the project, as well as the indirect benefits and environmental, social and cultural impacts.

3.2 Net Production Benefits

The main impact of the amended project is a change in the production schedule and hence changes in the magnitude and timing of some costs and revenues. Figure 3.1 provides a comparison of the product gold profile of the amended project and the EIS project.

Figure 3.1 – Gold Production Schedule of the EIS Project and Amended Project

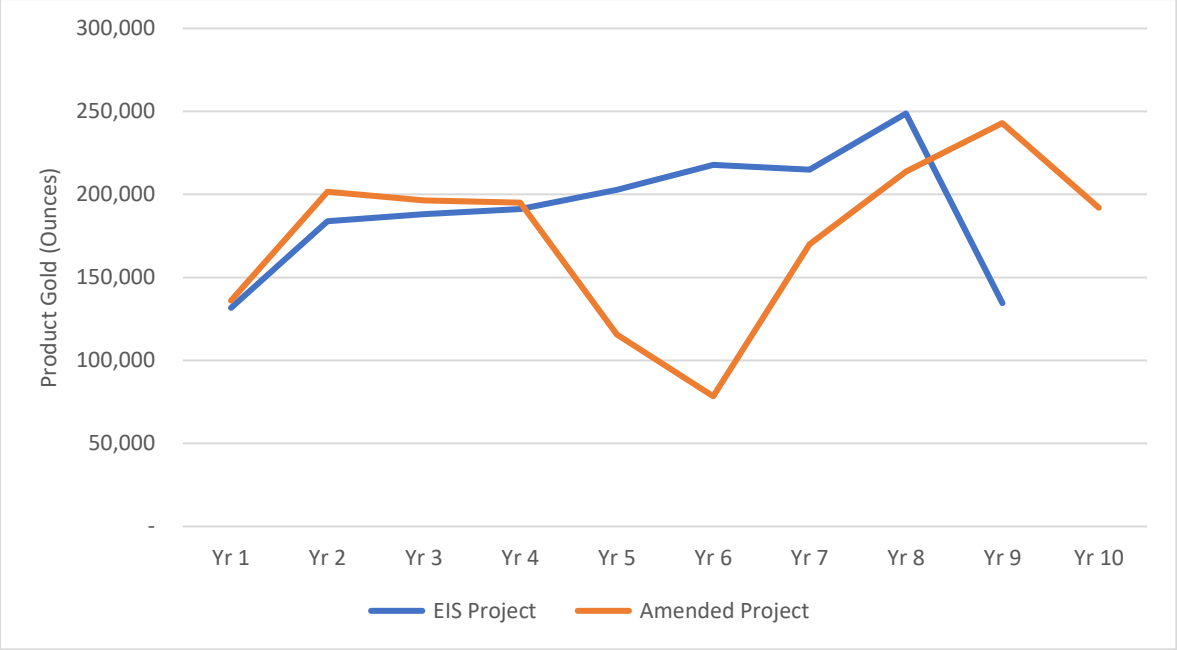

Table 3.1 provides a summary of the net production benefits of the EIS project and the amended project holding all variables constant apart from those that change as a result of the revised production schedule and the reassessment of the environmental, social and cultural impacts.

The Economic Assessment of the EIS project indicated a net production benefit to NSW of $143M present value at 7% discount rate. While the amended project has changed the production schedule as well as the timing and magnitude of revenues and costs, it has a similar net production benefit, estimated at $141M present value at 7% discount rate. The higher capital costs and lower revenue of the amended project (relative to the EIS project) are partly offset by lower operating costs and lower offset, compensation and mitigation costs (see Section 3.4).

Table 3.1 NSW Net Production Benefits ($M Net Present Value at 7% Discount Rate)

Production Benefits	EIS Project	Amended Project	Amended Project with Revised Gold Price
Royalties	$47	$46	$56
Company tax	$31	$33	$63
Net producer surplus	$65	$63	$128
Total	**$143**	**$141**	**$247**

As indicated in the Economic Assessment of the EIS project, the assumed gold price and exchange rate over the life of the project is a major driver of the CBA results. In the Economic Assessment of the EIS project, the gold price and AUD:USD exchange rate was USD 1,320 and 0.75, respectively. This was based on the average of a number of bank forecasts. Since that time, the forecast gold price has increased considerably. Table 3.2 and Table 3.3 contain a summary of January 2020 (pre-Covid) forecasts and June 2020 (post-Covid forecasts), respectively, sourced from Bloomberg Limited Partnership.

Conservatively applying the average annual January 2020 forecasts i.e. gold price of USD 1,485 and AUD:USD exchange rate of 0.71, the net production benefits of the amended project would be $247M present value at 7% discount rate.

3.3 Indirect Benefits

The Economic Assessment of the EIS project included wage benefits of employment of $32M and nonmarket benefits of employment of $60M. These were based on employment levels in the EIS project which do not change materially with the amended project. Consequently, the estimate of these potential benefits remains unchanged.

Table 3.2 - Economic Parameters January 2020 - Pre COVID

Date	Concensus	US$ Gold/Oz Assumptions					FX Assumptions					A$ Gold/Oz Assumptions				
02/01/20		FY19	FY20	FY21	FY22	FY23	FY24	FY19	FY20	FY21	FY22	FY23	FY24	FY19	FY20	FY21	FY22	FY23	FY24
	Median		1,500	1,550	1,600	1,413	1,413		0.70	0.72	0.73	0.73	0.71		2,143	2,153	2,192	1,935	1,989
	Mean		1,482	1,528	1,589	1,413	1,413		0.69	0.71	0.73	0.74	0.70		2,148	2,152	2,177	1,909	2,018
	High		1,575	1,800	1,900	1,500	1,500		0.77	0.80	0.78	0.80	0.75		2,045	2,250	2,436	1,875	2,000
	Low		1,274	1,350	1,300	1,325	1,325		0.60	0.65	0.70	0.70	0.65		2,123	2,077	1,857	1,893	2,038
	Forward								0.71	0.71	0.71	0.71	0.71						
	Count		14	11	5	2	-		35	23	11	7	3						
	Low - Annually		**1,274**	**1,350**	**1,300**	**1,325**	**1,325**		**0.60**	**0.65**	**0.70**	**0.70**	**0.65**		**2,123**	**2,077**	**1,857**	**1,893**	**2,038**
	Low - Interval				**1,274**						**0.60**						**1,857**		
	Mean - Annually		**1,482**	**1,528**	**1,589**	**1,413**	**1,413**		**0.69**	**0.71**	**0.73**	**0.74**	**0.70**		**2,148**	**2,152**	**2,177**	**1,909**	**2,018**
	Mean - Interval				**1,485**						**0.71**						**2,081**		
	High - Annually		**1,575**	**1,800**	**1,900**	**1,500**	**1,500**		**0.77**	**0.80**	**0.78**	**0.80**	**0.75**		**2,045**	**2,250**	**2,436**	**1,875**	**2,000**
	High - Interval				**1,900**						**0.80**						**2,436**		
Spot At 5/1/2020					**1,524**						**0.702**						**2,171**		

Table 3.3 - Economic Parameters June 2020 - Post COVID

Date	Concensus	US$ Gold/Oz Assumptions					FX Assumptions					A$ Gold/Oz Assumptions				
06/07/20		FY19	FY20	FY21	FY22	FY23	FY24	FY19	FY20	FY21	FY22	FY23	FY24	FY19	FY20	FY21	FY22	FY23	FY24
	Median		1,680	1,744	1,624	1,643	1,664		0.68	0.71	0.73	0.74	0.70		2,471	2,456	2,224	2,220	2,377
	Mean		1,680	1,752	1,737	1,824	2,007		0.68	0.71	0.72	0.72	0.71		2,471	2,467	2,413	2,533	2,827
	High		1,820	2,128	2,600	2,800	3,200		0.73	0.80	0.78	0.75	0.75		2,493	2,659	3,333	3,733	4,267
	Low		1,595	1,500	1,525	1,600	1,500		0.61	0.64	0.65	0.67	0.68		2,616	2,344	2,346	2,388	2,206
	Forward								0.69	0.69	0.69	0.69	0.69						
	Count		15	15	10	6	4		62	42	20	13	7						
	Low - Annually		**1,595**	**1,500**	**1,525**	**1,600**	**1,500**		**0.61**	**0.64**	**0.65**	**0.67**	**0.68**		**2,616**	**2,344**	**2,346**	**2,388**	**2,206**
	Low - Interval				**1,500**						**0.61**						**2,206**		
	Mean - Annually		**1,680**	**1,752**	**1,737**	**1,824**	**2,007**		**0.68**	**0.71**	**0.72**	**0.72**	**0.71**		**2,471**	**2,467**	**2,413**	**2,533**	**2,827**
	Mean - Interval				**1,800**						**0.71**						**2,542**		
	High - Annually		**1,820**	**2,128**	**2,600**	**2,800**	**3,200**		**0.73**	**0.80**	**0.78**	**0.75**	**0.75**		**2,493**	**2,659**	**3,333**	**3,733**	**4,267**
	High - Interval				**3,200**						**0.80**						**4,267**		
Spot At 6/7/2020					**1,788**						**0.695**						**2,573**		

3.4 Environmental, Social and Cultural Costs of the Amended Project

Many of the environmental, social and cultural costs of the EIS project and amended project are internalised into the above estimates of net production benefits. This is because the offset, mitigation and compensation costs for these impacts are borne by Regis. Notwithstanding, Table 3.4 provides a summary of the environmental, social and cultural costs included in the capital costs of the EIS project as well as other costs not borne by Regis, and how these have changed with the amended project.

Table 3.4- Summary of Environmental, Social and Cultural Impacts of the Amended Project

	EIS Project	**Amended Project**	**Difference**
Costs to Regis			
Surface WALs	198 WAL units required at cost of $198,000	186 WAL units required at cost of $186,000	-$12,000
Groundwater WALs	905 WAL units required at cost of $588,250	580 WAL units required at cost of $377,000	-$211,250
Noise mitigation*			
Significantly impacted receptors	None	None	
Moderately impacted receptors	15 Moderately impacted landholders with mitigation costs at $240,000	1 Moderately impacted property but mitigation being paid for 15 landholders at cost of $750,000	+$510,000
Visual	69 impacted properties with mitigation costs at $840,000	69 impacted properties** with mitigation costs at $808,696	-$31,304
Biodiversity Offsets - mine and pipeline	$20,468,289	$16,576,356	-$3,891,933
Road transport	No adverse impacts on surrounding road network. Costs of the access intersection included in capital costs	No adverse impacts on surrounding road network. Costs of the alternative access included in capital costs	No material change in cost
Sub- Total	***$22,334,539***	***$18,698,052***	***-$3,636,487***
Other Costs			
Aboriginal heritage	23 sites directly impacted by mine. 10 indirectly impacted by mine and 7 impacted by pipeline	27 sites directly impacted and 3 indirectly by mine. 7 impacted by northern pipeline option or 8 impacted by southern pipeline option	+4 sites directly impacted by the mine -7 sites indirectly impacted +1 sites impacted by southern pipeline option
Historic heritage	8 locally significant sites (1 with potential of higher significance) directly impacted, 4 indirectly impacted - cost of $2,207,197	13 locally significant sites directly impacted, 1 indirectly impacted - cost of $2,575,063	-1 site of potentially higher value impacted +3 reclassified from indirectly to directly impacted +3 indirectly impacted +$367,866
GHG	Damage costs of Scope 1 and 2 emissions to NSW - $28,343	Damage costs of Scope 1 and 2 emissions to NSW - $36,832	Additional emissions +$8,484
Sub- Total	***$2,235,545***	***$2,611,895***	***+$376,351***
Total	**$24,570,084**	**$21,309,947**	**-$3,260,137**

*The costs to the amended project of noise mitigation far exceed those of just noise attenuation for individual properties. This includes mining equipment noise suppression costs, the pit amenity bund, keyway cut at pit exit, cost to place waste on mine schedule in a non-conventional manner, etc. Mining equipment noise suppression costs alone are estimated at around $10M.

**15 of these properties have already been accounted for under noise impacts mitigation costs.

The amended project will result in a reduction of surface and groundwater impacts and hence the cost associated with these impacts has reduced. The cost associated with surface water impacts has been

conservatively based on the predicted reduction in median annual flow to Carcoar Dam, downstream of the mine development project area.

The amended project will also result in a reduction in the number of properties moderately impacted by noise from 15 to one. However, all properties previously identified as being moderately impacted will continue to receive mitigation/compensation (that is, Regis are continuing the process of developing negotiated agreements with these landholders). The overall cost of mitigation/compensation has been increased, based on more detailed estimates obtained by Regis since public exhibition on the possible costs of the mitigation works.

The number of properties visually impacted remains the same, although the total estimated costs of mitigation/compensation measures has decreased because mitigation for 15 of these properties is included under noise mitigation costs.

The biodiversity impacts of the amended project have reduced due to a slight reduction in disturbance footprint and a new government method for the assessment of biodiversity offsets. The biodiversity impacts and offsets for the amended project have been assessed using the Biodiversity Assessment Method (OEH, 2017), in accordance with the *Biodiversity Conservation Act 2016*. The assessment for the EIS project was undertaken in accordance with the assessment method in place at the time (the Framework for Biodiversity Assessment (OEH, 2014)).

There are no material changes to the costs associated with road transport, although it is noted that the access to the amended project has been relocated approximately 1km east of the location proposed in the EIS.

The number of Aboriginal heritage sites impacted directly has increased by four and the number of sites indirectly impacted has reduced by seven. For the pipeline, if the southern pipeline option is adopted there will be one additional Aboriginal site impacted.

The project design for the amended project now avoids impacts on an item identified has potentially holding historic heritage significance. Three sites previously identified as being indirectly impacted have been reclassified as directly impacted and three additional sites adjacent to the disturbance footprint are conservatively assumed to now be directly impacted by the amended project.

Greenhouse gas emissions from the amended project have increased slightly.

Overall, the offset, mitigation and compensation costs associated with amended project (and borne by Regis) have reduced by $3.6M. This reduction is incorporated into the estimate of net production benefits of the amended project (above).

Other quantifiable costs, not borne by the proponent, have increased slightly. Unquantified Aboriginal heritage impacts have increased slightly.

3.5 Net Social Benefits to NSW of the Revised Project

Based on the above analysis, the net social impacts of the EIS project and amended project, and difference between them is summarised in Table 3.5. The net social benefit of the amended project to NSW is estimated $139M present value (at 7% discount rate) ($231M with employment benefits included) compared to $141M for the EIS project ($232 with employment benefits included). The net social benefit of the amended project to NSW is not materially different to the EIS project.

However, with recent significant increases in the forecast gold price, the net social benefits of the amended project are likely to be significantly greater than estimated. Adoption of conservative,

contemporary gold price forecasts, results in the net social benefit of the amended project increasing to $244M present value (at 7% discount rate) ($336M with employment benefits included).

Table 3.5 –Net Social Benefits of the Amended Project to NSW ($M Net Present Value at 7% Discount Rate)

Costs and Benefits	EIS Project	Amended Project	Amended Project with Revised Gold Price
Net Production Benefits			
Royalties	$47	$46	$56
Company tax	$31	$33	$63
Net producer surplus	$65	$63	$128
Sub-total	**$143**	**$141**	**$247**
Additional benefits			
Wage benefits to employment	$32	$32	$32
Non-market benefits of employment	$60	$60	$60
Economic benefits to existing landholders			
Economic benefits to suppliers			
Sub-total	***$92***	***$92***	***$92***
Environmental, social and cultural impacts			
Agriculture	Reflected in land costs which are included in opportunity costs of land and development costs		
Surface water	WAL cost included in development costs. No material residual impacts		
Groundwater	WAL cost included in development costs. No material residual impacts		
Air quality	No material impacts		
Noise and vibration	At receiver mitigation/compensation costs included in development costs. No material residual impacts		
Ecology and biodiversity	Some loss of values but offset. Cost of offsets included in development costs		
Aboriginal heritage	33 sites impacted by mine, 7 by pipeline. Not quantified	30 sites impacted by mine, 7 or 8 impacted by pipeline. Not quantified	
Historic heritage	$2	$3	
Transport and traffic	No material impacts. Costs of access upgrade included in development costs		
Visual amenity	Cost of mitigation/compensation measures for impacted properties included in development costs		
Greenhouse gas	$0*	$0**	
Net public infrastructure costs	No material impacts		
Loss of surplus to other industries	No material impacts		
Total	**$2**	**$3**	
NET SOCIAL BENEFITS – including employment benefits	**$232**	**$231**	**$336**
NET SOCIAL BENEFITS – excluding employment benefits	**$141**	**$139**	**$244**

* cost of $28,348

** cost of $36,832