Davis Langdon
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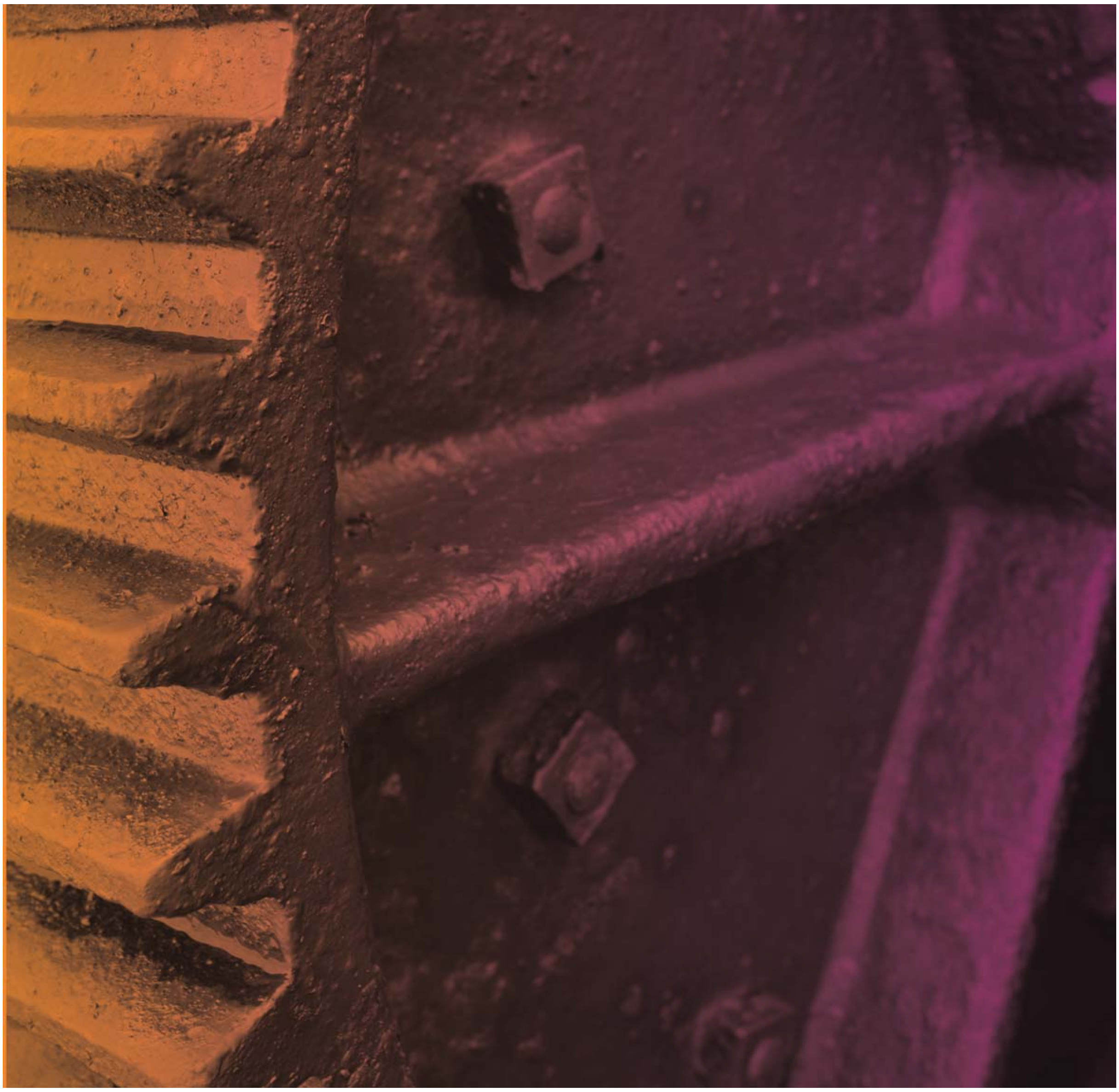
Rixs Creek Extension Project
Bloomfield Collieries Pty Ltd
6th May 2016

Capital Investment Value

Quantity Surveyors Report



Revision 3 – 6th May 2016
Prepared for – Bloomfield Collieries Pty Ltd – ABN: 76000106972

Capital Investment Value

Quantity Surveyors Report

Client: Bloomfield Collieries Pty Ltd

ABN: 76000106972

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6th May 2016

Job No.: 60289290

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Quality Information

Document Capital Investment Value

Ref 60289290

Date 6th May 2016

Prepared by Colin Dodd

Reviewed by Vlad Kiselev

Revision History

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
	14-Sep-2015	Client Issue	Kevin Henson Associate	
1	18-Mar-2016	Client Issue - Revised Fleet Forecast	Colin Dodd Associate	
2	30-Mar-2016	Client Issue - Incorporation of Comments	Colin Dodd Associate	
3	06-May-2016	Inclusion of Revised Fleet Forecast	Colin Dodd Associate	

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1.0 Project Proposal/Brief

1.1 Project Specifics

Rix's Creek is an open cut coal mine located 5 km northwest of Singleton in the Hunter Valley, New South Wales (NSW). The facility is owned and operated by Bloomfield Collieries Pty Ltd. The Rix's Creek mine (the Mine) currently produces 1.5 million tonnes per annum (Mtpa) of product coal from its existing operations[1].

The client is seeking approval for the continuation of mining at Rix's creek (the Project). The continuation relates to the existing mining operations and the related activities across the mine.

1.2 Continuation Plans

The proposed continuation of mining operations at the Mine involves mining all remaining open cut resources in Pit 3 and mining the remaining open cut resource associated with the circa 1870's underground mines in Pit 1. Mining will continue in a North Westerly direction in Pit 3 associated with an application for a mining purposes lease (MLA No 487) which allows the expansion of the existing out of pit dump. Granting of MLA No 487 will allow the out of pit dump to stay at the present elevation and extend a further 600m to the west, which will reduce noise visual and air quality impacts to the neighbouring areas. The project will continue to utilise the existing Coal Handling Preparation Plant (CHPP) and existing mine access facilities.

In addition to the above the proposed continuation works includes the following elements:

- Extending open cut mining operations northwards of Pit 3 to recover an additional 32 million tonnes (Mt) of saleable coal over a period of 21 years;
- Increasing the maximum extraction rate of run-of-mine (ROM) coal from 2.5 Mt a year to 3.6 Mt a year;
- Extending the western boundary of the existing mining lease to accommodate the proposed out of pit overburden dump;
- Increasing the hours of operation of the coal handling and processing plant (CHPP) from 4.5 days a week to 7 days a week;
- Transporting up to 2.3 Mt of saleable coal a year via rail;
- Continued use of existing tailings emplacements;
- Construction and use of a second New England Highway underpass; and
- The progressive rehabilitation of the site.

2.0 Purpose of the Report

As a part of the Director Generals Environment Assessment Requirements (Section 78A(8A) of the Environmental Planning and Assessment Act 1979 an Environmental Impact Assessment is required (EIS) for the development which must meet the form and content requirements in Clauses 6 and 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000. It is a requirement that this EIS be accompanied by a report from a qualified Quantity Surveyor providing the following:

1. *An estimate of the capital investment value (as defined in Clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all the assumptions and components from which the capital investment value calculation is derived;*
2. *An estimate of the jobs that would be created during the construction and operational phases of the development;*
3. *Certification that the information provided is accurate at the date of preparation.*

[1] AECOM 2013, Preliminary Environmental impact Assessment – Rix's Creek Continuation of Mining Project.

3.0 Capital Investment Works

3.1 Continuation of Mine Northwards of Pit 3

The scope of works associated with the expansion of the open cut mine to the North of the existing Pit 3 is not considered as Capital Works instead this is construed as being an operational expansion due to the mining activities.

In accordance with the above it is not considered that there is any requirement for a Capital Works Cost Estimate associated with these activities.

3.2 Supplementary Plant & Equipment

The mine operations are ongoing and are heavily machine & plant dependant. Accordingly the continued operation of the mine will involve the use, the maintenance, the renewal and the expansion of the existing mine fleet.

The mine currently operates with a fleet make up as follows:-

- 3 x Large Excavators, Liebherr 9800, Hitachi 5500 and Hitachi 3600
- 2 x Large Front End Loaders, Caterpillar 994
- 17 x Large Rear Dump Trucks, Caterpillar 793 and 789

This fleet mines all the overburden and coal to meet current requirements. To achieve these levels of production the mine operates a 5 day x 24 hour roster system with sufficient employees to man 3 of the large loading tools and all of the Rear Dump Trucks. This schedule is typically to have each of the Excavators set up in different overburden mining benches with the Front End Loaders moving between the required coal mining benches. The mines current manning levels and Rear Dump Truck numbers means typically 2 Excavators and 1 Front End Loader is operated, each shift, to achieve current production levels.

To achieve the increased production levels of the Rixs Creek Continuation Project the mine will be required to increase the operations to 3 Excavators and 1 Front End Loader per shift. In order to facilitate the following additional equipment will be required

Table 1 - Fleet Expansion Requirements

Required Fleet Expansion	Estimated Cost Per Unit	Total
5 nr 793 Rear Dump Trucks	$5,520,000 each	$27,600,000
Total (excl. GST)	-	**$27,600,000**

The mines existing ancillary fleet will be sufficient when operated under a 7 day roster to support the above.

It should also be noted that investment in plant and equipment is scheduled to cease 10 years prior to the project completion which will therefore mean that the existing equipment at this time is deemed sufficient for the continuation of activities for a further 10 years and the depreciation of the same will result in minimal residual value.

3.3 Additional Noise Attenuation Measures

As part of the EIS Messer's Global Acoustics were commissioned to undertake an environmental noise assessment. The assessment identifies the requirement for the modification of operations to meet more stringent noise criteria but as operational considerations the majority of these requirements are not subject the requirements for inclusion within a CIV estimate.

Within the report it was identified that the attenuation of plant and equipment would cost circa $8.3 million. However the client has subsequently acquired the Integra facility which adjoins the site and has the capacity to utilise resource from the Bloomfield facility also owned and operated by the mine. Any retrofitting of attenuation would now be undertaken as an operational cost with the scheduled maintenance of the same giving consideration to the attenuation capabilities of the Bloomfield and Integra plant. As this is captured in the operational costs (refer to section 4 of this report) then this requires no further consideration in the CIV estimate.

To supplement the above it was identified and that the shielding of the propagation path with the formation of a bund, utilising the overburden, along the haul road would be a feasible option as would the provision of supplementary attenuation to CCP walls.

This formation of the bund would be undertaken during daily operations utilising the site overburden and as such has no capital value impact on the CIV estimate. However the shielding of the CCP walls has been estimated as circa $680,000 in the Global Acoustics report. This is considered as a capital outlay and has been captured in the CIV estimate.

Table 2 – Attenuation Measures

Attenuation	Capital Investment	Total
CCP Plant Wall Attenuation	$680,000	$680,000
Formation of bund for attenuation of haul road	Operational Expenditure	$Nil
Total (excl. GST)	-	**$680,000**

3.4 Expansion of the Overburden Dump

The expansion of the Overburden Dump relates to the utilisation of the space allocation associated with land owned by the mine whose acquisition is not covered by the current report.

All associated works on the land relate to operational procedures and involve no capital investment and as such it is not considered that there any requirement for a Capital Works Cost Estimate associated with these activities

3.5 Increasing Operations to 7 Days per Week

In order to expand the operations of the mine to 7 days there will be a requirement for additional resource which will have an operational expense to the operator. The cost associated with these works will be incurred as an operational expenditure and not a capital outlay. Accordingly the scope of reporting the social and economic impact of the same has been captured by Messer's KPMG as a part of their own contributory report prepared as a requirement of the EIS.

The study covers the expected impact of labour and employment within the region. As Quantity Surveyors and Construction Specialists, Davis Langdon can only make reference to the same, deferring to the expertise offered therein.

3.6 Continued use of existing tailings emplacements

Tailings are fine particles generally containing a high proportion of non-coal material, including clays and other materials. These are stored in emplacements for the life of the project prior to rehabilitation. Each emplacement has a design life which incorporates a final decommissioning and final rehabilitation stage all of which are captured in the operational expenditure of the mine.

Again the calculation of the associated operational costs has been captured by Messer's KPMG in a separate economic report.

3.7 Proposed Rail Loop & Loading Facility

The rail loop and rail loading facility is the subject of separate development consent. As such, and in full accordance with clause 3 of the EP&A Regulations as referenced in the DGRs, there is no comment contained herein as part of this CIV report.

3.8 Additional Road Crossing (Cut & Cover Tunnel)

The development proposal includes the requirement to construct a new access road and road crossing in order to maintain adequate access to the facility.

The proposal is to mimic the existing cut and cover access tunnel that was constructed to serve the development. This was completed in 2012.

In order to provide a reasonable order of construction costs for the proposed access infrastructure works, the design of the existing access way and the final statement of account from Messer's Fernandes Construction Pty Ltd has been obtained and utilised as a basis of the cost plan. Further consideration was given to the proposed start date of the project and the associated commercial implication calculated utilising the Building Price Index (BPI).

To establish the base line and escalate the construction costs of the existing tunnel the base date of November 2012 was assumed. The BPI (EBA) as at the base date was 172.8. Initially escalating the construction cost to the current date of May 2016, the BPI (EBA) is forecast to be 195.8, therefore, presenting a forecast increase in construction cost to date of 13.3%.

The final Fernandes Construction costs as at November 2012 were $5,142,222. The SKM costs for the design management and administration of the project was $456,060.

Whilst the proposal for the new crossing is to mirror the scope as per the original crossing consideration needs to be given to the following items in the cost estimate:

1. Development of Detailed Design
2. Post Contract Design Management & Administration – Included as per the SKM costs from the original project.
3. Authority Fees
4. Escalation from the revised base date to construction start date has been excluded as the CIV is based on costs at the date of the valuation.
5. A provision for design contingencies in recognition of the current stage of the design in line with estimating principals.
6. Construction stage risks associated with current unknown conditions attributable to the different location on the New England Highway and any traffic and road abnormalities that this will bring.

As a consequence of the above the current estimate for the construction of the new access road/cut & cover tunnel is as follows:

Table 3 – Estimated Cost for Concept Design to Provide Access Road/Cut & Cover Tunnel

Element	Change	Amount ($)
Construction Works		
Fernandes Construction Final Account		$5,142,222.00
SKM Contract Administration		$456,060.00
Sub-Total - Base Date November 2012		$5,598,282.00
Escalation to current Date	13.3%	$744,571.51
Total Escalated Construction Costs		**$6,342,853.51**
Design & Authorities		
Design	7%	$443,999.75
Project Management	SKM Costs Incl Above	-
Authority Fees	5%	$317,142.68
Design & Authority Sub-Total		**$761,142.42**
Total Development Cost		**$7,103,995.93**
Contingency		
Construction Contingencies	10%	$710,399.59

Element	Change	Amount ($)
Design Contingencies	20%	$1,420,799.19
Contingency Sub-Total		**$9,235,194.70**
Escalation to Start	Excluded	
Total (excl. GST)		**$9,235,194.70**

3.9 Site Rehabilitation

The mine operator considers the rehabilitation of the site over time to be an operational consideration of the mine. Notwithstanding this however as a part of the CIV it is considered that these costs represent a capital expenditure and as such should be identified separately (refer to Table 6).

With the above in mind the Mine Operator has subsequently provided an extract of the projected operational costs attributed to the phased rehabilitation works, as included in the operational calculations prepared by Messer's KPMG.

It has been identified that the rehabilitation works would consist of the following:

Table 4 – Estimate Cost of Rehabilitation Works

Proposed Rehabilitation Type	$/ha	ha	Total
Trees	$7,000.00	305	$2,135,000
Pasture	$4,500.00	920	$4,140,000
Total (excl. GST)	-	-	**$6,275,000**

4.0 Operational Costs

Whilst the definition of the ***Capital investment value*** of a development is stated as "including all costs necessary to establish and operate the project, including the design and construction of buildings, structures, associated infrastructure and fixed or mobile plant and equipment" further clarification has in this instance been sought from the Department of Planning & Environment. In response to which they have confirmed the intent is not to include the continued operational costs of the mine in undertaking its day to day activities.

With the above in mind we have identified from Messer's KPMG report a value of $705,400,000 which has been specifically referenced as operational expenditure. From this value we have extracted the rehabilitation costs that we would consider as a capital outlay and obligation imposed on the operator for the purpose of returning the site to its former purpose on cessation of operations. This cost is identified in Table 4 above.

By reference to the clarification we have therefore excluded the balance of this value from the CIV estimate.

5.0 Estimate of the Jobs Created

5.1 Socio Economic Impact

As previously mentioned, Messer's KPMG have been separately commissioned to undertake an economic assessment report as a part of the required DGR Environmental Impact Assessment.

This aforementioned report, dated 9th July 2015, includes the required socio economic impact assessment for the project. Accordingly Davis Langdon as construction specialists can only make reference to the same, deferring to the expertise offered therein, for the assessment of the jobs impacted and created by the continuation and expansion of the mining activities at Rix's Creek.

6.0 Summary CIV.

In summary we have determined the following with respect to the current CIV as required by the DGRs.

Table 5 – CIV Estimate Including all Capital & Operational Expenses

Capital Investment Value Summary		
Capital Expenditure	**Detail**	**Data Source**
Expansion of Mine	Operational Cost	NA
Supplementary Plant & Equipment	$27,600,000.00	Mine Operator Forecast.
Attenuation	$680,000.00	Global Acoustics Noise Report
Expansion of Overburden Dump	Operational Cost	Refer to KPMG Report
Increase Operations to 7 Day Week	Operational Cost	NA
Continued Use of Tailings Emplacements	Operational Cost	NA
Proposed Rail Loop	Separate development Application	NA
Cut & Cover Tunnel	$9,235,194.70	Actual Cost of existing at November 2012 escalated to date of valuation
Site Rehabilitation	$6,275,000.00	NA
Sub Total	**$43,790,194.70**	NA
Operational Expenditure		
Operational Expenditure	Excluded	***As per DP&E clarification email 4th February 2016***
Sub Total	**$Nil**	NA
Total CIV (excl. GST)	**$43,790,194.70**	NA