



Rix's Creek Lane
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AUSTRALIA

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22nd October 2014
Our Ref: GB\6919

Elle Donnelley
Planner
Mining Projects
Department of Planning & Environment

Dear Elle,

Re: Proposed Modification to Rix's Creek Open Cut Mine Maximum Consented Production Rate

I am writing to seek a modification of Rix's Creeks Development Consent DA 49/94 under section 75W of the *Environmental Planning and Assessment Act 1979* (as continued by the various transitional provision) and provide the supporting information in relation to this proposed modification.

Modification sought

The modification sought is to replace "fifteen (15) million bank cubic metres" in condition 4 of Schedule 2 of DA 49/94 with "sixteen (16.1) million bank cubic metres" for 2 years from determination of this modification application.

Background

Rix's Creek Mine Development Application No SSD 6300, lodged on the 3rd March 2014, for the Rix's Creek Mine Continuation Project, is planned to allow for maximum resource recovery from Coal Lease CL 352. To allow for this Rix's Creek Mine must invest in the mining equipment and employment levels to allow working of the life of mine overburden to saleable coal ratio of 10.48:1 (cubic metres overburden to tonnes saleable coal).

Until 2013 the Mine priority has been completion of the resource on the eastern side of the New England Highway (N.E.H.). This allowed for sufficient overburden dumping room and tailings emplacement area for the mines continued production, but did result in working yearly overburden ratios below the life of mine ratio. With this dumping room now secured Rix's Creek is putting plans in place to work at the life of mine ratio of 10.48:1

2013 production level was 13.7 million cubic metres of total material movement for 1.51 million tonnes of product coal at a ratio of 7.9:1. 2014 budget production is 15 million cubic metres of total material movement for 1.5 million saleable tonnes of product coal at a ratio of 8.79:1. Under the DA No SSD 6300 the average life of mine production level will be 17 million cubic metres of total material movement for 1.5 million saleable tonnes of product coal at a ratio of 10.48:1.

The increase from 2014 budget production levels to the average life of mine production level will be accomplished by the introduction of an 800t Liebherr 9800 Excavator and changing the mine roster hours. This increase is staged with the Excavator commencing production in January 2014 and mine roster hours to extend at granting of DA No SSD 6300.

Since commencement of production the 800t Excavator has been exceeding budgeted production targets, which could mean an overall material movement of 16.1 million bank cubic metres with 1.5 million saleable tonnes of product coal, for 2014. This development consent modification application is to vary the total material movement up from 15 million cubic metres to 16.1 million cubic metres with saleable coal production remaining at 1.5 million tonnes per annum. This increase

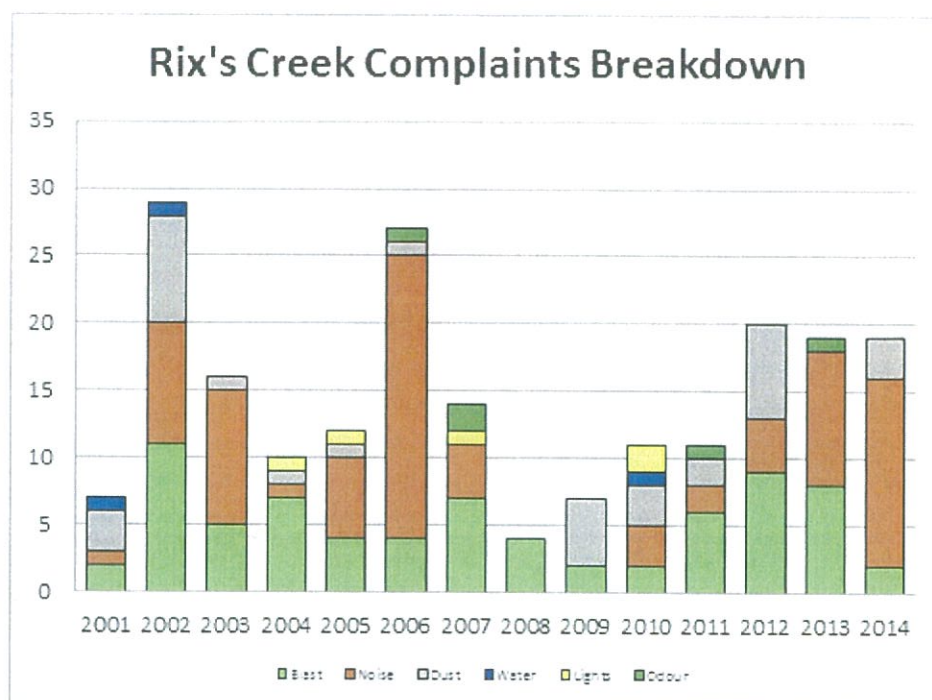
would be for 2014 and 2015 or granting of consent under application DA No SSD 6300 if granted beforehand.

Environmental Assessment of Proposed Modification

- Attached is the completed Department of Planning Application to modify a development consent.
- 2014/2015 Active Mining Area Plan. This plan shows the areas for coal and overburden production, overburden emplacement areas and rehabilitation landforms.
- All production is within the current M.O.P. approval areas. Production roster hours will be unchanged by this approval.
- No additional vegetation clearance will be required and no heritage areas will be disturbed.
- The majority of overburden will be placed in the North Pit void (eastern side of N.E.H.). The other two dumping areas accessed will be the existing West Pit in pit dump and Tailings Emplacement Area No 3 (South Pit) where capping of the tailings will commence.
- Overburden dumping as above will result in some additional areas reaching final landform levels. This will result in a small area of West Pit rehabilitation being extended as well as an area of North Pit rehabilitation being extended. These rehabilitated landforms are as approved in the current M.O.P. with rehabilitation completion remaining on M.O.P. schedule.
- Overburden and coal production will continue with the use of the existing machine fleet. This does include the January 2014 replacement of both Marion 305 Dragline and Hitachi 3600 Excavator by the Liebherr 9800 Excavator. The same rear dump trucks that serviced both the 305 Dragline and the 3600 Excavator are now utilized by the 9800 excavator.
- Overburden blasting will remain within normal yearly levels. 2013 and 2012 where higher than normal levels of blasting. This was due to the vibration restrictions associated with completion of the mining from the North Pit, in steeply dipping strata. A greater number of smaller blasts were required, in these instances. 2014 and 2015 revert to normal percentages of steeply dipping blasts so yearly blast numbers will fall back to the levels of pre-2012. The additional overburden production will come from within the normal blasted overburden inventory at Rix's Creek Mine. This inventory is normally at levels ranging from 1 million to 3 million blasted cubic metres of overburden and interburden.

Year	Blasts
2014	30 - first 6 months to end June
2014	55 - to end September
2013	96
2012	92
2011	62

- Rix's Creek Mine has complied with the E.P.A. airborne dust Pollution Reduction Programs (PRP). The Mine continues to be compliant with its development consent air quality conditions. At the most recent (2011) independent environmental audit Rix's Creek was found to be in compliance with its consent conditions. Additional air quality impacts from this application are contained in the previously supplied report by Todoroski Air Services.
- A noise report by Global Acoustics is attached. Rix's Creek has been operational, throughout the 2014 winter period, at this increased level of production. The mine has been compliant with its development consent noise conditions, the E.P.A. noise PRP negotiated noise conditions and has had the normal level of noise complaints, enquiries during this period. Since the implementation of the Rix's Creek Mine Noise Mitigation Plan there has been two noise complaints.



- 2014/2015 Active Mining Area Plan shows all production is within the current mining pit shell. Rix's Creek Mine operates with an approved Water Management Plan and Erosion and Sediment Control Plan. This application will have no additional impact on ground or surface water at Rix's Creek Mine.
- Rix's Creek Community Consultative Committee have been consulted on the proposed modification.

Conclusion

We believe that the Proposed Modification is justified on the grounds that it:

- Has minimal additional impact on the environment
- Has minimal social impact
- Is operating within areas which currently have consent
- Is proposed for a short term only
- Would allow the Rix's Creek Mine to continue the current level of production without short term production shutdowns
- Would avoid short term deleterious financial impacts on the Company.

Yours faithfully
RIX'S CREEK PTY LIMITED

G Bailey

Garry Bailey
GENERAL MANAGER MINING DEVELOPMENT

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17 October 2014

Rix's Creek
PO Box 4
East Maitland NSW 2323
Attention: Garry Bailey

Dear Garry,

Regarding: Potential Noise Impacts, Modification 6

1 INTRODUCTION

This letter provides a qualitative assessment of potential noise impacts associated with your Modification 6.

Discussed are:

- The proposal;
- Current noise performance; and
- Rix's Creek noise management.

2 THE PROPOSAL

There is no change proposed to the amount of plant operating on site, nor the areas in which they work. The change is that the amount of overburden moved in the calendar year 2014 is increased from 15 to 16.1 bank cubic metres. There would be no increase to product coal tonnes.

Of course movement of additional overburden needs additional dump volume; increased dump height (which creates volume) has the potential to be a noise issue. With regard to dump heights you have advised that they "will not be any higher than current levels" and that the increased volume results in them extending "200 metres towards the NEH at its existing height".

It is also planned to dump overburden to cap the South Pit tailings dam, however, you advise that this activity would be "at very low levels".

It has also been your advice that both the overburden dumping and capping of tailings are included in the current approved MOP. Neither of those activities represent any significant change to existing operations. Accordingly site noise emissions should be similar to present.

3 CURRENT PERFORMANCE

The proposal is to continue operations as they have been undertaken since January, when a new large excavator (Liebherr 9800) was added to the fleet, to the end of this calendar year

(2014). Accordingly it is relevant to review attended noise compliance monitoring data for the same period.

We have conducted monthly attended monitoring for the year to date and Rix's Creek has been in compliance at all times with approved criteria which are based on the Rix's Creek Pollution Reduction Program Assessment Report.

4 NOISE MANAGEMENT

It is considered part of best practice management to have attended monitoring conducted at night to determine if mining noise is in compliance with relevant limits, and, if found to be approaching or above those limits, that same person advises on noted noise sources so that effective controls can be implemented.

Also desirable in noise management is the ability to forecast atmospheric enhancement of mining noise to identify problems in advance so that noise impacts can be avoided. This information is also useful for attended monitoring personnel when determining where to concentrate their time in the field.

Both these noise management practices are implemented at Rix's Creek, as described in the attached document "Rix's Creek off-site attended noise mitigation plan" and represent current best practice.

5 SUMMARY

The proposal to move more overburden in 2014 does not require any change, it is merely a continuation of activities to date.

Noise performance for the year to date has been good, with compliance noted for all monthly attended monitoring.

Site noise management is best current practice.

6 OPINION

Based on the above it is my opinion that it is reasonable to expect Rix's Creek to maintain noise compliance for the remainder of 2014, even though continuation of current activities results in more overburden movement than originally planned.

I trust this information meets your requirements. If you have any questions or need further details please contact me.

Regards,



Tony Welbourne
Director

10 October 2014

Garry Bailey
General Manager of Mining Development
The Bloomfield Group
Via email: gbailey@bloomcoll.com.au

**RE: Air Quality Investigation for Rix's Creek Mine –
Increase of total movement of material from 15 MBCM to 16.1 MBCM**

Dear Garry,

Todoroski Air Sciences has assessed the potential for air quality impacts to arise due to the proposed increase of total movement of material from 15 million bank cubic metres (MBCM) to 16.1 MBCM at the Rix's Creek Mine.

Overview

Rix's Creek Mine is an open cut coal mine approximately 5 kilometres (km) north-west of Singleton in the Hunter Valley Coalfields of New South Wales (NSW) and currently produces approximately 1.5 million tonnes per annum (Mtpa) of product coal from its existing operations.

Recently with the commissioning of new mining equipment at the Rix's Creek Mine, a higher than expected production level has been achieved at the site. As such, the Rix's Creek Mine is seeking to increase the approved total movement of material from 15 MBCM to 16.1 MBCM which would contain the budgeted 2.8 million tonnes (Mt) of run-of-mine (ROM) coal.

This letter report provides a qualitative assessment of the potential change in air quality associated with the proposed increase in material movement at the site and focuses on the estimated change in dust emissions associated with the operation at the increased production level. Dust emission inventories representing a 15 MBCM and 16.1 MBCM scenario respectively have been developed for the existing operation at the Rix's Creek Mine and the resulting difference between the total estimated dust emissions has been assessed.

Emission Estimation

The rate of dust emission for the two scenarios has been calculated by analysing the various types of dust generating activities taking place at the Rix's Creek Mine and applying suitable emission factors. The emission factors applied are considered the most applicable and representative factors available for calculating the dust generation rates for the proposed activities. The emission factors were sourced mainly from studies supported by the US EPA and from Australian studies and site specific data where possible.

A summary of the total dust emissions from all significant dust generating activities for the two scenarios are presented in **Table 1**. Detailed dust emission inventories for the 15 MBCM to 16.1 MBCM scenarios are presented in **Table 2** and **Table 3** respectively.

Table 1: Summary of estimated change in dust emissions for Rix's Creek Mine

Scenario	Overburden (tonnes)	ROM coal (tonnes)	TSP (kg/year)
15 MBCM	33,391,304	2,608,696	1,505,810
16.1 MBCM	35,840,000	2,800,000	1,554,641
% Change	7%	7%	3.2%

The results in **Table 1** indicate that the estimated change in the potential dust emissions associated with increasing the total movement of material would result in an approximate increase of 3.2% of the estimated dust emissions associated with the operation of the entire mine. This change is considered minor and is unlikely to be discernible relative to the existing contribution from the site.

The estimated dust emissions for the Rix's Creek Mine reflect the application of best practice dust mitigation currently being implemented at the site in accordance with its Air Quality Management Plan and Pollution Reduction Program. Dust management practices are in place at the Rix's Creek Mine that respond to government and community concerns regarding the impacts of mining on regional air quality in the Hunter Valley.

These measures include implementation of best practice management techniques to reduce dust. Operational measures such as enforcing a cessation of particular operations during dry windy conditions, and managing blast emissions by its site specific forecasting system provide additional assistance in reducing the potential dust impacts.

The operation of dust mitigation and management measures commensurate with best practice is a key aspect of Rix's Creek Mine operations. Such measures can be seen in Rix's Creek's most recent Pollution Reduction Program. It should be noted that attainment of best practice requires ongoing improvement and thus the current best practice mitigation and dust management measures are likely to improve over time, as they are regularly assessed and updated through regular review of the air quality management plan.

Overall it can be expected that based on the estimated change to dust emissions for the site and with the ongoing active dust management measures in place, there is unlikely to be a noticeable change in the existing air quality surrounding the site associated with the proposed increase to the total movement of material.

Summary and Conclusions

This assessment has examined the likely air quality effects resulting from the proposed increase of the total amount of material handled from 15 MBCM to 16.1 MBCM at the Rix's Creek mine.

The assessment estimates that the increase in the total amount of material handled may generate up to 3.2% of the level of dust associated with the existing operation of the entire mine. This change is unlikely to be apparent relative to the existing contribution from the site. The Rix's Creek Mine would continue to operate with appropriate best practice controls and dust mitigation measures to ensure that dust levels from the site are minimised.

Therefore it is reasonable to conclude that the proposed change to the approved total amount of material handled is unlikely to cause any discernible additional impact at any surrounding sensitive receptor locations.



Please feel free to contact us if you need to discuss (or require clarification on) any aspect of this work.

Yours faithfully,

Todoroski Air Sciences

A handwritten signature in black ink, appearing to read 'Philip Henschke'.

Philip Henschke



Table 2: Emission inventory – 15 MBCM Scenario

ACTIVITY	TSP emission (kg/y)	Intensity	Units	Emission Factor	Units	Variable 1	Units	Variable 2	Units	Variable 3	Units	Variable 4	Units	Variable 5	Units	Variable 6	Units
OB - Dozers stripping topsoil	20,011	1,196	hours/year	16.7	kg/h	10	silt content in %	2	moisture content in %								
OB - Drilling	10,831	61,191	holes/year	0.59	kg/hole											70	% Control
OB - Blasting	33,939	134	blasts/year	253	kg/blast	10,981	Area of blast in square metres										
OB - Loading OB to haul truck	46,691	33,391,304	tonnes/year	0.00140	kg/t	1.181	average of (wind speed/	2	moisture content in %								
OB - Hauling to emplacement area - Pit 3	77,153	6,678,261	tonnes/year	0.077	kg/t	218	tonnes/load	5.2	km/return trip	3.3	kg/VKT	2.1	% silt content	275	Ave GMV (tonnes)	85	% Control
OB - Hauling to emplacement area - Pit 1	155,502	26,713,043	tonnes/year	0.039	kg/t	218	tonnes/load	2.6	km/return trip	3.3	kg/VKT	2.1	% silt content	275	Ave GMV (tonnes)	85	% Control
OB - Emplacing at area - Pit 3	9,338	6,678,261	tonnes/year	0.00140	kg/t	1.181	average of (wind speed/	2	moisture content in %								
OB - Emplacing at area - Pit 1	37,353	26,713,043	tonnes/year	0.00140	kg/t	1.181	average of (wind speed/	2	moisture content in %								
OB - Dozers in pit	65,222	3,897	hours/year	16.7	kg/h	10	silt content in %	2	moisture content in %								
OB - Dozers on dump and rehab	195,667	11,692	hours/year	16.7	kg/h	10	silt content in %	2	moisture content in %								
CL - Dozers ripping/pushing/clean-up	153,318	4,875	hours/year	31.4	kg/h	8	silt content in %	7.5	moisture content in %								
CL - Loading ROM coal to haul truck	134,827	2,608,696	tonnes/year	0.052	kg/t	7.5	moisture content in %										
CL - Hauling ROM to hopper - Pit 3	15,302	782,609	tonnes/year	0.130	kg/t	181	tonnes/load	7.8	km/return trip	3.0	kg/VKT	2.1	% silt content	234	Ave GMV (tonnes)	85	% Control
CL - Hauling ROM to hopper - Pit 1	30,669	1,826,087	tonnes/year	0.112	kg/t	181	tonnes/load	6.7	km/return trip	3.0	kg/VKT	2.1	% silt content	234	Ave GMV (tonnes)	85	% Control
CHPP - Unloading ROM to hopper	67,414	2,608,696	tonnes/year	0.052	kg/t	7.5	moisture content in %									50	% Control
CHPP - Rehandle ROM at hopper	6,741	260,870	tonnes/year	0.052	kg/t	7.5	moisture content in %									50	% Control
CHPP - Dozer pushing ROM coal	25,944	825	hours/year	31.4	kg/h	8	silt content in %	7.5	moisture content in %								
CHPP - Dozer pushing Product coal	5,501	825	hours/year	6.7	kg/h	3	silt content in %	10	moisture content in %								
CHPP - Loading Product to Truck	234	1,591,304	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %								
CHPP - Hauling Product to hopper	63,981	1,591,304	tonnes/year	0.268	kg/t	20	tonnes/load	3.6	km/return trip	1.5	kg/VKT	2.1	% silt content	48	Ave GMV (tonnes)	85	% Control
CHPP - Unloading Product to hopper	234	1,591,304	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %								
CHPP - Loading Product coal to stockpile	175	1,591,304	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %								
CHPP - Conveying product to train loadout	185	0.2	ha	3,504	kg/ha/year												25 % Control
CHPP - Loading Product coal to train	70	1,591,304	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %								70 % Control
CHPP - Loading rejects	149	1,017,391	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %								
CHPP - Hauling rejects	19,892	1,017,391	tonnes/year	0.130	kg/t	181	tonnes/load	7.8	km/return trip	3.0	kg/VKT	2.1	% silt content	234	Ave GMV (tonnes)	85	% Control
CHPP - Unloading rejects	149	1,017,391	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %								
WE - Overburden emplacement areas	154,176	44.0	ha	3,504	kg/ha/year												
WE - Open pit	119,136	34.0	ha	3,504	kg/ha/year												
WE - ROM stockpiles	2,763	1.6	ha	3,504	kg/ha/year											50	% Control
WE - Product stockpiles	5,798	3.3	ha	3,504	kg/ha/year											50	% Control
Grading roads	47,445	77,088	km	0.62	kg/VKT	8	speed of graders in km/h										
Total TSP emissions (kg/yr)	1,505,810																



Table 2: Emission inventory – 16.1 MBCM Scenario

ACTIVITY	TSP emission (kg/y)	Intensity	Units	Emission Factor	Units	Variable 1	Units	Variable 2	Units	Variable 3	Units	Variable 4	Units	Variable 5	Units	Variable 6	Units
OB - Dozers stripping topsoil	20,011	1,196	hours/year	16.7	kg/h	10	silt content in %	2	moisture content in %								
OB - Drilling	10,831	61,191	holes/year	0.59	kg/hole											70	% Control
OB - Blasting	33,939	134	blasts/year	253	kg/blast	10,981	Area of blast in square metres										
OB - Loading OB to haul truck	50,115	35,840,000	tonnes/year	0.00140	kg/t	1.181	average of (wind speed/	2	moisture content in %								
OB - Hauling to emplacement area - Pit 3	82,811	7,168,000	tonnes/year	0.077	kg/t	218	tonnes/load	5.2	km/return trip	3.3	kg/VKT	2.1	% silt content	275	Ave GMV (tonnes)	85	% Control
OB - Hauling to emplacement area - Pit 1	166,906	28,672,000	tonnes/year	0.039	kg/t	218	tonnes/load	2.6	km/return trip	3.3	kg/VKT	2.1	% silt content	275	Ave GMV (tonnes)	85	% Control
OB - Emplacing at area - Pit 3	10,023	7,168,000	tonnes/year	0.00140	kg/t	1.181	average of (wind speed/	2	moisture content in %								
OB - Emplacing at area - Pit 1	40,092	28,672,000	tonnes/year	0.00140	kg/t	1.181	average of (wind speed/	2	moisture content in %								
OB - Dozers in pit	65,222	3,897	hours/year	16.7	kg/h	10	silt content in %	2	moisture content in %								
OB - Dozers on dump and rehab	195,667	11,692	hours/year	16.7	kg/h	10	silt content in %	2	moisture content in %								
CL - Dozers ripping/pushing/clean-up	153,318	4,875	hours/year	31.4	kg/h	8	silt content in %	7.5	moisture content in %								
CL - Loading ROM coal to haul truck	144,715	2,800,000	tonnes/year	0.052	kg/t	7.5	moisture content in %										
CL - Hauling ROM to hopper - Pit 3	16,424	840,000	tonnes/year	0.130	kg/t	181	tonnes/load	7.8	km/return trip	3.0	kg/VKT	2.1	% silt content	234	Ave GMV (tonnes)	85	% Control
CL - Hauling ROM to hopper - Pit 1	32,918	1,960,000	tonnes/year	0.112	kg/t	181	tonnes/load	6.7	km/return trip	3.0	kg/VKT	2.1	% silt content	234	Ave GMV (tonnes)	85	% Control
CHPP - Unloading ROM to hopper	72,357	2,800,000	tonnes/year	0.052	kg/t	7.5	moisture content in %									50	% Control
CHPP - Rehandle ROM at hopper	7,236	280,000	tonnes/year	0.052	kg/t	7.5	moisture content in %									50	% Control
CHPP - Dozer pushing ROM coal	25,944	825	hours/year	31.4	kg/h	8	silt content in %	7.5	moisture content in %								
CHPP - Dozer pushing Product coal	5,501	825	hours/year	6.7	kg/h	3	silt content in %	10	moisture content in %								
CHPP - Loading Product to Truck	251	1,708,000	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %								
CHPP - Hauling Product to hopper	68,673	1,708,000	tonnes/year	0.268	kg/t	20	tonnes/load	3.6	km/return trip	1.5	kg/VKT	2.1	% silt content	48	Ave GMV (tonnes)	85	% Control
CHPP - Unloading Product to hopper	251	1,708,000	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %								
CHPP - Loading Product coal to stockpile	188	1,708,000	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %							25	% Control
CHPP - Conveying product to train loadout	185	0.2	ha	3,504	kg/ha/year											70	% Control
CHPP - Loading Product coal to train	75	1,708,000	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %							70	% Control
CHPP - Loading rejects	160	1,092,000	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %								
CHPP - Hauling rejects	21,351	1,092,000	tonnes/year	0.130	kg/t	181	tonnes/load	7.8	km/return trip	3.0	kg/VKT	2.1	% silt content	234	Ave GMV (tonnes)	85	% Control
CHPP - Unloading rejects	160	1,092,000	tonnes/year	0.00015	kg/t	1.181	average of (wind speed/	10	moisture content in %								
WE - Overburden emplacement areas	154,176	44.0	ha	3,504	kg/ha/year												
WE - Open pit	119,136	34.0	ha	3,504	kg/ha/year												
WE - ROM stockpiles	2,763	1.6	ha	3,504	kg/ha/year											50	% Control
WE - Product stockpiles	5,798	3.3	ha	3,504	kg/ha/year											50	% Control
Grading roads	47,445	77,088	km	0.62	kg/VKT	8	speed of graders in km/h										
Total TSP emissions (kg/yr)	1,554,641																

