

6 November 2013

Daniel Sullivan Hansen Bailey on behalf of Anglo American Metallurgical Coal

Re: Response to SKM Review Comments on the EA and PPR Air Quality Impact Assessments for the Drayton South Project.

Dear Daniel,

1 INTRODUCTION AND BACKGROUND

This letter is in response to the issues raised in the review of the Drayton South Air Quality and Greenhouse Gas Impact Assessment (AQIA), completed on behalf of Department of Planning and infrastructure (DP&I) by SKM (dated 4 October 2013). The peer review undertaken by SKM provided comment on a number of aspects of both the EA AQIA (**PAEHolmes 2012**) and the revised air quality modelling presented in the response to submissions (**Pacific Environment 2013**). A response to each is provided below.

2 ADEQUACY OF AIR QUALITY MODELLING

2.1 Comment 1 – Interpretation of impact assessment criterion

The review seeks clarification on the way in which the 50 μ g/m³ criterion has been interpreted; that is, project only or cumulative, and how the "150 μ g/m³ acquisition criteria" relates to the assessment of predicted impacts.

The 50 μ g/m³ criterion has been interpreted as a cumulative criterion, however modelling results are presented as both project alone and cumulative. Section 8.2 of the AQIA presents 24-hour PM₁₀ predictions for project alone impact. Section 8.3 of the AQIA presents cumulative 24-hour average impacts. Cumulative impact analysis is not presented for every receptor, rather representative receptors in key areas in the vicinity of the project are assessed. This is useful to inform the best possible locations where dust management and monitoring can be focused during operations. In both sections an analysis of the number of days exceeding 50 μ g/m³ is presented. Presenting predictions for project alone is useful as it provides an indication of which receptors are exceeding 50 μ g/m³ from the project alone, which obviously then also exceed 50 μ g/m³ cumulatively.

The concept of acquisition criteria is introduced in Table 8-4, however some explanatory text should have been provided. Acquisition criteria are referenced in contemporary project approvals and consent conditions issued by DP&I. Short-term criteria for property acquisition are outlined on the basis of predicted air quality, with an Applicant required to acquire land on request when the maximum 24-hour average PM_{10} level exceeds 50 µg/m³ (Proposal alone) and 150 µg/m³ (cumulatively) at any residence on privately-owned land or on more than 25% of any privately-owned land. Long term criteria for property acquisition (annual average PM_{10} , TSP, Dust Deposition) are the same as impact assessment criteria.

In conclusion, analysis is in three ways, as follows:

- Project alone maximum 24-hour PM₁₀ concentration and number of days over 50 μg/m³ presented to demonstrate project alone compliance with impact assessment criterion and for comparison against the DP&I acquisition criteria of 50 μg/m³.
- Cumulative number of days over 50 μg/m³ presented to demonstrate cumulative compliance with impact assessment criterion.
- > Cumulative number of days over 150 μ g/m³ presented for comparison against the DP&I cumulative acquisition criteria of 150 μ g/m³.

It is noted that the AQIA conclusions present a summary of residences that have the potential to experience dust concentrations above the impact assessment criteria. It is clarified that in Table 11-1 of the EA AQIA the residences shown are those where 24-hour PM_{10} concentrations above 50 μ g/m³ occurs due to the project alone. The reader should also refer to Section 8.3 of the EA AQIA for information related to cumulative 24-hour PM_{10} impacts.

2.2 Comment 2 - Model choice

The peer reviewer has agreed that the use of CALPUFF is appropriate. No response required.

2.3 Comment 3 – Choice of meteorological met year

The review seeks clarification on why 2005 was chosen for assessment and in particular why 2011 data were not used as a new meteorological station was installed in November 2010.

Firstly, the AQIA commenced in early 2011 and therefore a full year of 2011 meteorological data was not available. A detailed analysis of the available meteorological data found that the best available representative data was from 2005.

Furthermore, subsequent analysis of the 2011 meteorological data has identified an anomalous northnortheasterly wind component in autumn (see **Figure 2-1**). This wind direction does not appear in any other year, including more recent 2012 data. In addition, there is only 88% of data available for 2011 with data missing from mid-April through all of May.

On this basis, even if a full year of data were available, 2011 would not have been chosen as the representative year.





Figure 2-1: Annual and seasonal windroses for Saddlers Creek (Drayton South) for 2005, 2011 and 2012.

2.4 Comment 4 – TAPM set up

The review states that the TAPM grid centre coordinates (lat/long) do not match the presented UTM coordinates and that the grid centre coordinates do not match the project site. The reviewer seeks confirmation that this is simply a typographical error.

The grid centre information on page 25 Section 5.3 and Table E1 in Appendix F is a typographical error and does not represent an error in model set up. The model set up information as modelled is provided in **Table 2.1**.

TAPM (v 4.0.4)	
Number of grids (spacing)	30 km, 10 km, 3 km, 1km
Number of grid points	45 x 45 x 35
Year of analysis	January 2005 – December 2005
Centre of domain	32º20.5' S, 151º18' E (340.0014 km E, 6420.422km S)

Table 2.1: TAPM set up

The review has requested an explanation of the reason for using the 3km grid resolution TAPM as an input into CALMET instead of the TAPM grid run at 1km resolution.

The reviewer concludes that both points are *unlikely* to change the outcome of the assessment or are not significant to the outcome of the assessment.

However, to clarify, the 3km TAPM 3D.dat was used as an *initial guess field* for the CALMET modelling for the outer domain which was run at 2.5km grid spacing. The 1km TAPM grid would not have covered the CALMET outer domain and could not therefore have been used. The outer domain was chosen to cover a large area to maximise the number of surface station data that can be incorporated in the model.

It is also noted that, although the 3km TAPM 3D.dat was also included as an input for the inner CALMET modelling domain, this was only done to force the model to run. The hybrid model set up meant that the inclusion of the outer domain as an initial guess field negated the inclusion of TAPM 3D.dat, however a bug requires the file to be referenced. The configuration of this CALMET file setup has been reviewed by the developers of CALPUFF and they have confirmed that the outer nest is incorporated and not the TAPM 3D.dat.

The review states that the preferred modelling method is to make sure the model boundaries are as far away as possible from the central region of interest. The reviewer points out that the Project is located near the western edge of the 3km TAPM domain.

The reviewer does note that this is unlikely to change the outcome of the assessment.

A CALMET is a diagnostic model, boundary issues are not as significant for the meteorological model. Any influence of the terrain features to the west of the modelling domain would have been captured in both the TAPM and outer CALMET modelling, which was used as an initial guess field in CALMET.

Additionally, the reviewer notes that due to the use of onsite meteorological data, the location of the inner domain close to the western boundary is not significant and unlikely to change the outcomes of the assessment.



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2.5 Comment 5 - Moisture content

The reviewer states that the moisture content in Table 7.3 is 7.5% for coal which is inconsistent with the 9% value for moisture content for coal used in the emissions inventories in Appendix C.

The moisture content of 7.5% in Table 7.3 is a typographical error. The moisture content of 9% in Appendix C is correct and is used in emissions estimates for modelling. The moisture content of coal was confirmed by the client during the information gathering stage of the pre-feasibility study.

2.6 Comment 6 – Spatially varying background

The reviewer states that the spatially varying background grid produces some low background annual average PM_{10} concentrations in certain areas (i.e. $3\mu g/m^3$ monitoring site DF-05). The review goes on to state that the assumed background at key receptor areas are in sensible ranges and the approach therefore presents no significant issue.

Although the reviewer states that the approach presents no significant issue, some additional clarification on the approach is provided to explain the assumed lower "background" closer to mining sources.

The "spatially varying background" is perhaps a slightly misleading term. Instead, it could be described as a "spatially varying model calibration plus background". We know from experience that our model over predicts close to mining sources. This is demonstrated when we model existing mining operations for a past year (in this case 2005) and compare the model predictions to monitoring data collected in 2005 at each site in the domain.

The "background" from other sources is taken as the difference between predicted and measured. The difference between predicted and measured is small at monitoring locations close to mining (and sometimes negative), due to the tendency of the model to over predict the contribution from mining in the near field. The difference between predicted and measured is larger further away (the modelled contribution from mining is more accurate at distance).

The result of this, when applied as a varying background grid, is that lower concentrations are added to mining locations and higher concentrations are added further away. At distance, the adjustment better reflects the actual background ($\sim 11 - 13 \ \mu g/m^3$). At distances closer to mining, this therefore becomes a combination of varying background and model calibration.

2.7 Comment 7 – Emissions activities not included

The review notes that graders were not included in the emissions estimates and that emissions from hauling does not include the contribution of exhaust; brake wear and tyre wear.

For both points the reviewer concludes that these are unlikely to change the outcome of the assessment and are insignificant points.

We do clarify, however that no graders were included in the assessment as in pit haul roads will be maintained by Dozers, which have been accounted for in the inventory. All out of pit main roads will be maintained by sweepers which are a recommendation of the use of "Dust-A-Side" based on discussions with the supplier.

Also, the field testing completed to develop the emission factors for unpaved roads found that the wheel generated dust component dominated over the other components (vehicle exhaust, brake wear and tire wear). Therefore, our emissions estimates capture the vast majority of emissions, a point the reviewer makes when he says these additional emissions would be insignificant relative to emissions from the road surface.

2.8 Comment 8 – Tables 7.4 and Appendix C inconsistencies

The review identifies some inconsistency between emissions totals between the report and the appendices.

The emissions summary tables presented in Appendix C of the EA AQIA were from previous versions of the emissions inventory and do not reflect what has been modelled for the EA AQIA. Due to many changes to mine plans as the project progressed, there were a large number of iterations in both emissions estimates and modelling and unfortunately the tables in Appendix C were not updated by PAEHolmes prior to publishing the EA AQIA. Table 7.4 of the AQIA represents the emissions totals that were modelled. The correct tables are provided for the reviewer in **Appendix A** of this report. These emission inventories are those that the modelling files were based on and reflect the information in Table 7.3.

To re-assure the reviewer, we have provided evidence of the model inputs, showing the correct emissions totals generated for modelling (**Appendix B**).

2.9 Comment 9 – Random checks on emission calculations

The review identified an apparent error in the emissions calculations in Year 5 Dozers on Coal based on formula provided in Appendix C and moisture content in Table 7.3.

As discussed in **Section 2.5**, there was a typographical error in Table 7.3 and the correct moisture content for coal that has been adopted throughout the EA AQIA is 9%. In addition, Equation 5 in Appendix C had a minor typographical error with the moisture variable raised to the power of 1.4 instead of 1.3. In the final emissions inventories the correct equation was used (see below).

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The emission factor formula that was used in the final emission inventories for the modelling is provided below.

AP-42 11.9 Table 11.9-2

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E_{TSP} = 35.6 \times \frac{s^{1.2}}{M^{1.3}} (kg|hour)
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When the inputs of moisture content of 9% and silt content of 5% are used in the formula the emission factor is 14.1 kg/h which is consistent with the final inventories used in the modelling and shown in **Appendix A**.

2.10 Comment 10 – Inconsistencies in total waste and ROM coal movements between Table 7.2 and emission inventories in Appendix C

The review identifies some inconsistencies between material totals of overburden in Table 7.2 and the emission inventories in Appendix C. These include examples from Year 5 shown in a summary table below.

Activity	Table 7.2 (Mbcm)	Table 7.2 (Mt)	Table C.12-5 (Mł)
Overburden handled by excavator (Whynot)	9.81	22.6 (converted assuming 2.3 t/bcm)	9.2
ROM coal handled (Whynot)	-	2	1.5
Total waste (overburden)	38.13	87.7 (converted assuming 2.3 t/bcm)	49.6

The emissions summary tables presented in Appendix C of the EA AQIA were from previous versions of the emissions inventory and do not reflect what has been modelled for the EA AQIA. Due to many changes to mine plans as the project progressed, there were a large number of iterations in both emissions estimates and modelling and unfortunately the tables in Appendix C were not updated by PAEHolmes prior to publishing the EA AQIA. The values in Table 7.2 of the EA AQIA were correct and represent a summary of material handling that the final emission calculations were based on for modelling. The correct and final emission tables are provided for the reviewer in **Appendix A** of this report. It is noted that the conversion factor from Mbcm to Mt used in the EA AQIA was 2.4 which results in a higher waste volume than the 2.3 conversion factor assumed in the review (see **Table 2.2**).

Table 2.2: Comparison of modelled material movement

Activity	Table 7.2 (Mbcm)	Table 7.2 (Mt)	Table A.3 (tonnes)
Overburden handled by excavator (Whynot)	9.81	22.6 (converted assuming 2.3 t/bcm)	23.54 (converted assuming 2.4 t/bcm)
ROM coal handled (Whynot)	-	2	2,002,098
Total waste (overburden)	38.13	87.7 (converted assuming 2.3 t/bcm)	91.51 (converted assuming 2.4 t/bcm)

2.11 Comment 11 – Figure E3 predicted impacts were higher for Mine Plan 1 compared to Mine Plan 2

The review suggested that there is a typographical error in the labelling of Figure E3 in Appendix F.

The labelling in this figure is correct. Mine plans 1 for year 10 originally resulted in low emissions, however due to changes to the mine schedule in mine plan 2 v1 the impacts became greater. These impacts instigated further modifications to the mine scheduling which reduced impacts in mine plans 2 v2.

2.12 Comment 12 – Haul road source spacing

The review states that the sources along the haul routes are at approximately 1km spacing which is a large distance when representing a line source and unlikely to be representative of the actual pattern of dust concentrations along the haul routes.

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The review concludes that this issue is unlikely to affect the conclusions of the assessment as these sources are not close to sensitive receptors. The relatively large spacing for the main haul road was based on the commonly applied separation guidance of one-quarter the distance to the nearest receptor (**NZ MFE, 2004**). The distance to closest receptors from each end of the main haul road is 3 km to 4 km and on this basis, the separation distance is not unreasonable. For activities closer to receptors, it is preferable to increase the number of sources and for all in-pit sources, including hauling, the source separation distances were generally less than 1km.

2.13 Comment 13 – No modelled sources in active mining areas

The review states that there are no sources presented in Figure C-9 over active mining areas and seeks a clearer explanation.

The sources presented in Figure C-9 are only those for the adjusted out of pit hauling (replaced by a conveyor between Drayton South and coal processing at Drayton). The modelling results presented in Section 8.11 compare the predicted ground level concentrations from out of pit hauling with the conveyor option (replacing hauling sources only). As all other activities remain the same, only those sources that would change were presented for comparison, to investigate the reduction in impact that the change would make.

2.14 Comment 14 – model information was not available

The review has mentioned they could not assess the following model set up parameters:

- Landuse map
- Source allocation lists
- Modelled source dimensions

A landuse map is provided in **Figure 2-3** and the GEO.dat can be provided on request. The source allocation lists are provided in **Appendix C** and the modelled source dimensions are provided in **Table 2.3**.

	Table 2.3: Sour	ce dimensions	
Source type	Sigma Y (m)	Sigma Z (m)	Height (m)
Volume	10	2	2



3 BEST PRACTICE DUST MANAGEMENT

The review does not appear to have any issue with the consideration of best practice dust management and states that it is consistent with the current state of knowledge regarding measures to minimise particulate emissions from coal mine activities in Australia.

Recommendations provided by the reviewer will be considered for incorporation into the Air Quality Management Plans that will be prepared for the project on approval.

4 ADDITIONAL MEASURES

Recommendations provided by the reviewer will be considered for incorporation into the Air Quality Management Plans that will be prepared for the project on approval.

5 **RESPONSE TO SUBMISSIONS**

5.1 Comment 15 - Interpretation of impact assessment criterion

The review seeks clarification on the way in which the 50 μ g/m³ criterion has been interpreted as in comment 1.

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Please see response in **Section 2.1**.

5.2 Comment 16 & 17 – Choice of worst case years

The review states that due to inconsistencies between the material amounts in Table 7.2 in the October 2012 EA AQIA and the tables in Appendix C that the choice of Year 10 and Year 15 needs to be reconsidered as Year 5 would have the highest material handling and therefore potentially be considered 'worst-case'.

The inconsistencies between the material amounts in Table 7.2 have been clarified in **Section 2.10**. Although year 5 had a significant amount of material moved across the entire mine complex, it is the location of the material handling and movement that is important in terms of the impact on sensitive receptor locations south of the mine. Years 10 and 15 have higher waste movement from Redbank when compared to Year 5 which is why they are considered worst case years in terms of impact. The total waste movement for each mine area for years 5, 10 and 15 are highlighted in red in **Table 5.1** (Table 7.2 of AQIA). Comparison of these highlighted values shows that Year 5 relative to Years 10 and 15 are smaller in all pits except Blakefield. The reason for the higher total waste movement from the mine areas which have greater impacts compared to others. This analysis has led to several changes to the mine plans aimed at reduce impacts to sensitive receptors. Year 5 was found to be worst case year in earlier iterations of the mine plans, however once mine plan changes were made it was apparent that Year 10 and Year 15 were worst case (both in terms of total emission estimates and modelling of ground level concentrations) and therefore these years were the focus of the additional modelling.

Pit ID	Material re	emoved	Year 3	Year 5	Year 10	Year 15	Year 20	Year 27
		Dragline	10.41	7.14	11.01	10.29	11.51	7.04
		Excavator	2.81	9.81	10.05	8.62	17.79	0
Whynot	Waste (Mbcm)	Partings	0.34	0.46	0.66	0.54	0.86	0.07
		Total	13.56	17.41	21.72	19.45	30.15	7.11
	ROM coal (kT)	Total	1,553	2,002	3,072	2,369	3,938	551
		Dragline	5.52	9.31	4.59	2.2	0	0
	Wasto (Mhom)	Excavator	0.05	0.56	0.32	0	0	0
Blakefield	Waste (Mbcm)	Partings	0.07	0.08	0.04	0.03	0	0
		Total	5.64	9.96	4.95	2.20	0	0
	ROM coal (kT)	Total	722	815	292	98	564	0
		Dragline	0	0	0	0	0	0
	Waste (Mbcm)	Excavator	6.20	6.63	9.31	10	0	0
Redbank		Partings	0.32	0.38	0.36	0.34	0	0
		Total	6.53	7.02	9.66	10.71	0	0
	ROM coal (kT)	Total	1,226	1,436	2,480	1,389	900	0
		Dragline	0	0	0	2.67	3.18	0
	Wasto (Mhom)	Excavator	11.43	3.66	0	1.64	2.81	0
Houston	ston Waste (Mbcm)	Partings	0.16	0.08	0	0.07	0.12	0
		Total	11.59	3.74	0	4.39	6.12	0
	ROM coal (kT) Total		2,069	973	0	754	989	0
Total Waste	(Mbcm)	37.32	38.13	36.33	36.75	36.27	7.11	
Total ROM ((kT)		5,570	5,226	5,845	4,610	6,391	551

Table 5.1: Open cut and highwall ROM coal and waste production schedule (PAEHolmes 2012)

5.3 Comment 18 - Dozer calculations

The review states the calculation of Dozers on coal should be checked due to the apparent errors seen in tables of Appendix C of the EA AQIA.

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As discussed in the response in **Section 2.9** the calculated emissions from Dozers on coal are confirmed to be correct in the final emissions inventories and modelling that was undertaken.

5.4 Comment 19 – Reductions as a result of emission reductions

The review states that it seems reasonable that the 30% reduction in emissions compared to the original project should result in predicted annual concentration reductions of around 30% given that the most significant dust generating activities were targeted.

No response required.

5.5 Comment 20 – Moisture and Silt measurements

The review seeks clarification on how representative the single measurement values for silt and moisture are of long term values and recommend that the emission factors for activities that are sensitive to silt and moisture (dozers, hauling) should be verified if the project is approved.

Site specific measurements have been taken for silt and moisture in an effort to improve the accuracy of the emission factors used for the assessment. The reviewer acknowledges that this is the preferred approach for calculating emissions. However, the reviewer has two main issues with the site specific measurements taken.

- 1. That only a single sample was taken in February 2013 and in the three days preceding 62mm of rainfall was recorded.
- 2. That the measured values for silt were not in the range for which the emission factors were tested.

The two most significant activities for which these silt and moisture contents are important are:

- Dozers on overburden
- Hauling on unsealed roads.

Adopting the site specific silt and moisture contents for these two activities accounts for much of the emission reductions achieved for the revised modelling, in conjunction with the additional controls implemented.

Hauling

The review questions the representativeness of a single sample taken in February 2013. Additional samples were taken at Drayton on the 4th October 2013 (see **Table 5.2**) and the results were similar, suggesting the values used in the modelling are representative. The silt content for the October sampling ranged from 0.7% to 1% (not including North pit ring road, as the road is unused), compared to 0.4% measured in February. It is also noted that the results presented in **Table 5.2** include samples taken from a road treated with "Dustbloc" (Level 3 haul road) as well as roads treated with water.

The silt content of the main haul roads (0.4% - 1.1%) is lower than typical haul roads on coal mines in the Hunter Valley (~3%). Although the site specific results fall outside the range of silt contents for which the emission factor equation has been tested, it is still the most appropriate emission factor to use and site specific silt contents are preferable to using indicative values.

In summary, follow up sampling in October 2013 has obtained similar values to those measured previously. On this basis, the silt content adopted for emission estimates used in the revised modelling as part of the RTS are considered to be representative. Although the silt content falls outside the range tested for the emission factor equation, it is still considered to be the most appropriate approach for use in the assessment.

It is noted that moisture content is not a variable used in the emission factor equation for hauling and review comments related to rainfall prior to sampling are not therefore addressed for this activity. It is noted, however, that the moisture contents measured in February 2013 and in October 2013 are similar and there was little or no rainfall in the days preceding the October sampling.

Sample Number	Location	Silt fraction (% < 75 µg)	Moisture (%)
1	Level 3 haul road	0.7	0.9
2	Level 5 haul road	0.7	0.7
3	West haul road	1.6	0.7
4	North pit ring road	4.3	1.1
5	Haul road	1.1	1.4

Table 5.2: Recent silt and moisture samples taken at Drayton 4th October 2013

Dozers on overburden

The review questions the representativeness of a single sample taken in February 2013, with rainfall occurring in preceding days. Also the measured silt content falls outside the range for which the emission factor equation has been tested.

The measured silt content for active overburden at Drayton was 1.8% and the measured moisture content was 10.9%. No additional measurements have been taken at Drayton for this activity, however recent bulk samples of overburden have been tested for silt and moisture content at two mines in the Hunter Valley and one in the Gunnedah area, collected as part of a current ACARP project.

The average silt content obtained from these sites was 4.6%. Measurements ranged between 1.2% - and 9.6% with a standard deviation of 2.2. The site specific measurements at Drayton fall within these ranges and within two standard deviations of the mean. Accordingly it is considered that the site specific silt content obtained for Drayton Mine is appropriate for use in the model.

The average moisture content obtained from the other sites was 5.6%, ranging between 3.8% and 7.9% with a standard deviation of 1.3. Although the measurements at Drayton are higher than other sites, the difference isn't considered significant. If the average moisture content from measurements at these other sites were used in the emission inventory, the total site emissions would increase by less than 1%, an increase that would not change the conclusions or outcomes of the assessment.

The review highlights the need to verify the emission factors based on silt and moisture content measurements if the project is approved. The proponent commits to validating the emissions factors through additional silt and moisture testing, which can then feed into the air quality management for the site.

5.6 Concluding comment

Finally, the review seeks confirmation that the identified anomalies in the assessment (comments 15 to 20) should be addressed to confirm that there would be no more than one privately owned residence impacted by emissions from the project.

We have responded to each of the identified anomalies in comments 15 and 20 above and believe that the modelling results presented remain valid, the conclusions of the assessment do not change and only one privately owned residence is predicted to be impacted by emissions from the project, noting that this refers to project alone impacts.

Please let us know if you require any additional supporting information. We would be happy to discuss this with the reviewer as required.

Sincerely,

R. Kellezhan

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What Ill

Khalia Hill Atmospheric Scientist Pacific Environment Limited

6 REFERENCES

NZ MFE (2004). Good Practice Guide for Atmospheric Dispersion Modelling. New Zealand Ministry for the Environment, Wellington.

PAEHolmes (2012) "Drayton South Air Quality and Greenhouse Gas Impact Assessment", prepared for Hansen Baily on behalf of Anglo American Metallurgical Coal. October 2012

Pacific Environment (2013) "Drayton South modelling with revised assumptions", prepared for Hansen Baily on behalf of Anglo American Metallurgical Coal. April 2013



Appendix A. ESTIMATION OF DUST EMISSIONS



	TSP	1												
ACTIVITY	emissions	Intensity	units	Emission	units	Variable units	Variable	units	Variable	units	Variable	Inits Vari	units	Controls Units
	(kg/y)			factor										
WHYNOT														
Topsoil Removal & Site preparation - Dozers on Whynot	17,998	2,151		16.7		10 silt content in %		2 moisture content in %						50 % cont
Topsoil removal - Sh/Cx/FELs loading topsoil - Whynot	249	266,920		0.0019		1.57 average of (wind speed/2.2)^1.3 in m/s		2 moisture content in %						50 % cont
Topsoil removal - Hauling topsoil to emplacement area (east) - Whynot	2,513	133,460		0.075	kg/t	177 t/load		Vehicle gross mass (t)		km/return trip	3.85 kg	J/VKT	3 % silt content	75 % cont
Topsoil removal - Hauling topsoil to emplacement area (west) - Whynot	2,132	133,460		0.064		177 t/load		Vehicle gross mass (t)	2.9	km/return trip	3.85 kg	J/VKT	3 % silt content	75 % cont
Topsoil removal - Emplacing topsoil at emplacement area - Whynot	497	266,920		0.002	kg/t	1.57 average of (wind speed/2.2)^1.3 in m/s	2	2 moisture content in %						
OB - Drilling - Whynot	3,241		holes/y		kg/hole									70 % cont
OB - Blasting - Whynot	11,254		blasts/y		kg/blast	7427 Area of blast in square metres								
OB - Dozers on Dragline OB in-pit - Whynot	32,026	2,558		12.52		10 silt content in %		5 moisture content in %						
OB - Dragline removal of OB - Whynot	309,391			0.0297				5 moisture content in %						
OB - Dozers on Excavtor OB in-pit - Whynot	19,795	1,581		12.52		10 silt content in %		5 moisture content in %						
OB - Excavator loading OB to haul truck - Whynot	9,192			0.0014		1.57 average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %						
OB - Hauling excavator OB to emplacement area (east) - Whynot	63,508			0.075		177 t/load		Vehicle gross mass (t)		km/return trip	3.85 kg		3 % silt content	75 % cont
OB - Hauling excavator OB to emplacement area (west) - Whynot	53,870			0.064		177 t/load		Vehicle gross mass (t)	2.9	km/return trip	3.85 kg	J/VKT	3 % silt content	75 % cont
OB - Dozers on OB haul roads (east) - Whynot	4,489	359		12.52		10 silt content in %		5 moisture content in %						
OB - Dozers on OB haul roads (west) - Whynot	4,489	359		12.52		10 silt content in %		5 moisture content in %						
OB - Emplacing excavator OB at emplacement area - Whynot	9,192			0.0014		1.57 average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %						
OB - Dozers on OB emplacement area - Whynot	51,822			12.52		10 silt content in %		5 moisture content in %						
OB - Dozers in-pit ancillary tasks - Whynot	40,247			12.52		10 silt content in %		5 moisture content in %						
OB - Dozers ripping/pushing/clean-up Partings - Whynot	17,538	1,401		12.52		10 silt content in %		5 moisture content in %						
OB - Loading partings to haul trucks - Whynot	1,110			0.0014		1.57 average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %						
OB - Hauling partings to emplacement area (east) - Whynot	7,672	407,436		0.075		177 t/load		Vehicle gross mass (t)		km/return trip	3.85 kg		3 % silt content	75 % cont
OB - Hauling partings to emplacement area (west) - Whynot	6,508	407,436		0.064		177 t/load		Vehicle gross mass (t)	2.9	km/return trip	3.85 kg	J/VKT	3 % silt content	75 % cont
OB - Emplacing Partings at emplacement area - Whynot	1,110		t/y	0.0014		1.57 average of (wind speed/2.2)^1.3 in m/s	2.5	5 moisture content in %						
CL - Drilling coal - Whynot	1,617		holes/y		kg/hole									70 % cont
CL - Blasting coal - Whynot	6,496		blasts/y		kg/blast	7427 Area of blast in square metres								
CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot	58,257	4,127		14.116		5 silt content in %	9	9 moisture content in %						
CL - Sh/Cx/FCLs loading open coal to trucks - Whynot	64,492			0.042		9 moisture content in %								
CL - Hauling open coal in-pit roads (east) - Whynot	17,539	776,491		0.090		70 t/load		Vehicle gross mass (t)		km/return trip	2.18 kg		3 % silt content	75 % cont
CL - Hauling open coal to ROM pad (east) - Whynot	99,999	776,491		0.86		70 t/load		Vehicle gross mass (t)		km/return trip	2.18 kg		3 % silt content	85 % cont
CL - Hauling open coal in-pit roads (middle) - Whynot	14,888	776,491		0.077		70 t/load		Vehicle gross mass (t)		km/return trip	2.18 kg		3 % silt content	75 % cont
CL - Hauling open coal to ROM pad (middle) - Whynot	91,283	776,491		0.78		70 t/load	65.0	Vehicle gross mass (t)	25	km/return trip	2.18 kg	J/VKT	3 % silt content	85 % cont
CL - Unloading ROM to ROM stockpiles/hopper - Whynot	4,659			0.01										70 [°] % cont
CL - Handle coal at CHPP - Whynot	326			0.0002		1.46 average of (wind speed/2.2)^1.3 in m/s	9	9 moisture content in %						
CL - Rehandle ROM coal at stockpiles/hopper - Whynot	1,553	155,298	t/y	0.01	kg/t									
BLAKEFIELD														
Topsoil removeal & site preparation - Dozers on Blakefield	7,537		h/y	16.7		10 silt content in %		2 moisture content in %						50 % cont
Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield	65	69,522	t/y	0.0019		1.57 average of (wind speed/2.2)^1.3 in m/s		2 moisture content in %						50 % cont
Topsoil removal - Hauling topsoil to emplacement area - Blakefield	1,057	69,522	t/y	0.061		177 t/truck load		Vehicle gross mass (t)	2.8	km/return trip	3.85 kg	J/VKT	3 % silt content	75 % cont
Topsoil removal - Emplacing topsoil at emplacement area - Blakefield	129	69,522	t/y	0.0019		1.57 average of (wind speed/2.2)^1.3 in m/s	2	2 moisture content in %	_					
OB - Drilling - Blakefield	1,424		holes/y		kg/hole									70 % cont
OB - Blasting for excavator removal - Blakefield	4,946		blasts/y		kg/blast	7427 Area of blast in square metres			_					
OB - Dozers on Dragline OB in-pit - Blakefield	16,743	1,337		12.52		10 silt content in %		5 moisture content in %	_					
OB - Dragline removal of OB - Blakefield	163,950				kg/m3 (l			5 moisture content in %						
OB - Dozers on Excavator OB in-pit - Blakefield	367		h/y	12.52		10 silt content in %		5 moisture content in %						
OB - Excavator loading OB to haul truck - Blakefield	170			0.0014		1.57 average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %						
OB - Hauling to emplacement area - Blakefield	1,901	125,090		0.061		177 t/load		Vehicle gross mass (t)	2.8	km/return trip	3.85 kg	J/VKT	3 % silt content	75 % cont
OB - Dozers on OB haul roads - Blakefield	166		h/y	12.52		10 silt content in %		5 moisture content in %						
OB - Emplacing at emplacement area - Blakefield	170			0.00136		1.57 average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %						
OB - Dozers on OB emplacement area - Blakefield	17,110			12.52		10 silt content in %		5 moisture content in %	_					
OB - Dozers in-pit ancillary tasks - Blakefield	18,720			12.52		10 silt content in %		5 moisture content in %						
OB - Dozers ripping/pushing/clean-up Partings - Blakefield	603		h/y	12.52		10 silt content in %		5 moisture content in %						
OB - Loading partings to trucks - Blakefield	229			0.0014		1.57 average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %						
OB - Hauling partings to epmlacement area - Blakefield	2,553	167,953		0.061		177 t/load		Vehicle gross mass (t)	2.8	km/return trip	3.85 kg	J/VKT	3 % silt content	75 % cont
OB - Emplacing partings at emplacement area - Blakefield	229	167,953		0.0014		1.57 average of (wind speed/2.2)^1.3 in m/s	2.5	5 moisture content in %						
CL - Drilling coal - Blakefield	752		holes/y		kg/hole									70 % cont
CL - Blasting coal - Blakefield	3,021		blasts/y		kg/blast	7427 Area of blast in square metres								
CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield	12,496	885		14.116		5 silt content in %	9	9 moisture content in %	_					
CL - Sh/Cx/FCLs loading open coal to trucks - Blakefield	29,997	722,327		0.042		9 moisture content in %								
CL - Hauling open coal in-pits roads - Blakefield	8,220	722,327		0.046		70 t/load		Vehicle gross mass (t)		km/return trip	2.18 kg		3 % silt content	75 % cont
CL - Hauling open coal to ROM pad - Blakefield	107,765			0.99		70 t/load	65.0	Vehicle gross mass (t)	31.9	km/return trip	2.18 kg)/VKT	3 % silt content	85 % cont
CL - Unloading ROM to ROM stockpiles/hopper - Blakefield	2,167	722,327		0.010										70 [°] % cont
CL - Handle coal at CHPP - Blakefield	152			0.0002		1.46 average of (wind speed/2.2)^1.3 in m/s	9	9 moisture content in %						
CL - Rehandle ROM coal at stockpiles/hopper - Blakefield	722	72,233	t/y	0.01	kġ/t									



Land Control Control <thcontrol< th=""> <thcontrol< th=""> <thcont< th=""><th></th><th>TSP</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>(</th></thcont<></thcontrol<></thcontrol<>		TSP															(
Description Distribution Distribution </th <th>ACTIVITY</th> <th></th> <th>Intensity</th> <th></th> <th>Emission</th> <th></th> <th>Variable units</th> <th>Variable</th> <th>e units</th> <th>Variable</th> <th></th> <th>Variable</th> <th>Jnits V</th> <th>ariable</th> <th>Units</th> <th>Controls</th> <th>Units</th>	ACTIVITY		Intensity		Emission		Variable units	Variable	e units	Variable		Variable	Jnits V	ariable	Units	Controls	Units
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Inspontence Inspontence Construction Construction <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2.6</td> <td>km/return trin</td> <td>3.85 k</td> <td></td> <td>3 0</td> <td>% silt content</td> <td></td> <td></td>										2.6	km/return trin	3.85 k		3 0	% silt content		
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00 - Corrent participants 31.79 2.38 V/ 12.52 V/ 12.55 V/ 12.55<	OB - Emplacing at emplacement area - Redbank	20,289					1.57 average of (wind speed/2.2)^1.3 in m/s	2.	5 moisture content in %								
Displan Displan <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>																	
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0.9. England 1.002 77.213 V/V 0.0014 V/V <th0.0014< th=""> V/V 0.0014</th0.0014<>																	
C. Detrog Coll - Redowing 1,227 7,228 hold by 12 1,227 7,228 hold by 12 All an official installor notice 9 Notice Control 10 Notice Contro										2.1	kin/return trip	5.65 K		3 -	is sit content	/5	
CL - Besching coll - Redbark 51.29 30 Distric/L (L - Doter myophychalychalychalychalychalychalychalycha							1.57 average of (wind speed/2.2) 1.5 in m/s	2	5 moisture content III %							70	% control
C - Doces rpmg/public/decarue Rolline J - R							7427 Area of blast in square metres										
CL - Haung open coal Prober prods - Redback 33.6 (my)reat mpt 3.8 (my)reat mpt		41,392			14.116	kg/h		9	9 moisture content in %								
CL - Handing Open cale box Park - Bachank 100,114 1,226,181 U/V 0.098 V/V 70 (bad 65.0 Verkice press mask (V) 31.4 km/return trp 2.18 kg/V/F 30 % at content 65.0 Verkice press mask (V) 31.4 km/return trp 2.18 kg/V/F 30 % at content 65.0 Verkice press mask (V) 31.4 km/return trp 2.18 kg/V/F 30 % at content 65.0 Verkice press mask (V) 31.4 km/return trp 2.18 kg/V/F 30 % at content 65.0 Verkice press mask (V) 31.4 km/return trp 2.18 kg/V/F 30 % at content 65.0 40 % at content 6 4 4 4 50 % at content 60.0 50.0	CL - Sh/Cx/FCLs loading open coal to trucks - Redbank	50,920		t/y	0.042	kg/t	9 moisture content in %										
CL - Undersdig ROM to ROM tockleskylopper - Restank 3,679 1,226,181 V/V 0.001 kg/t emage of (und speed/2,2)*1.3 m/s emage																	% control
CL - Hande Coll at CUPP - Redurat 257 1,226,123 U/V 0.002 Life Average 0 (wind speed/2.2)*1.3 in m/s 9 moture content n.% 1 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>70 t/load</td><td>65.0</td><td>Vehicle gross mass (t)</td><td>31.4</td><td>km/return trip</td><td>2.18 kg</td><td>g/VKT</td><td>3 9</td><td>% silt content</td><td></td><td>% control</td></t<>							70 t/load	65.0	Vehicle gross mass (t)	31.4	km/return trip	2.18 kg	g/VKT	3 9	% silt content		% control
C1 - Relands ROM coll at lockples/hoper - Relands 1.226 122 1																70	% control
HOUSTON Image: Control in the second of the se							1.46 average of (wind speed/2.2)^1.3 in m/s		9 moisture content in %								
Toppale Removal - Dozers // Exclusion strapping toppal - Houston 11.98 10 10 10 <th< td=""><td></td><td>1,220</td><td>122,018</td><td>t/y</td><td>0.01</td><td>kg/t</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>		1,220	122,018	t/y	0.01	kg/t											
Toposite moval - SVEX/FELs bading toposit - Houston 157 168,277 V/V 0.005 kp/t 1.57 swarage of (wnd speed/2.2)*1.3 m/s 2 mosture content n % 0 0 50% kc d Toposite moval - Emplexing topo 14 emplexement area - Houston 3.13 168,277 V/V 0.005 kg/t 1.57 warage of (wnd speed/2.2)*1.3 m/s 2 mosture content n % 0 3.55 kg/t 3% site content 7% 0 0 % site content 7% 0		14 930	1 784	h/v	16.7	ka/h	10 silt content in %		2 moisture content in %							50	% control
Topposi removal. Hauling topol to emplacement area - Houston 2,304 166,27 V/V 0.0019 kg/t 1.77 versace low 220.0 Venck graps mass (t) 2.5 km/return trp 3.85 kg/VKT 3 % site content 70 % or 0.8 - Diffing for excavator removal - Houston 2,444 13.80 holes/y 0.0019 kg/t 1.57 versace of (kins sequel 2):13 m kg/s 2 mosture content in % 0<																	
OB OB Origing for excavator removal - Houston 2.444 13.807 Tobes yr 1.14 1.15 1.15 1.15 1.15 1.15 1.15 1.15 1.15 1.14 1.15 1.14 1.14 1.14 1.15 1.15 1.14 1.15 1.14 1.15<					0.055	kg/t				2.5	km/return trip	3.85 kg	g/VKT	3 9	% silt content		% control
OB Basking for excavator removal - Houston 8,466 60 basking for excavator Removal - Houston 8,466 60 bestary 7427 Area of bisk in square metres 0 <							1.57 average of (wind speed/2.2)^1.3 in m/s		2 moisture content in %								
OB Description 80,503 6,429 Ny 1.03 kt content in % 2.57 mosture content in % Image of the service of th																70	% control
OB Excavator bading OB to hall truck + Houston 37,381 27,413,H44 V/V 0.0014 kg/t 157 average of (wind speed/2.2)^1.3 in m/s 2.5 mosture content n % 0 n			00														
OB Hauling to emplacement area - Houston 375,562 27,431,844 UV 0.035 kg/t 177 Ubad 229.0 Vehice gross mass (t) 2.5 moltre content in the second s																	
OB - Dozers on OB hallrads - Houston 36.511 2.916 N/Y 1.02 kg /n 1.03 kg content in % 2.5 mosture content in % 2.6 mosture content in % 2.5 mosture content in % 2.5 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2.5</td> <td>km (noturn trin</td> <td>2.95 1/2</td> <td></td> <td>2 0</td> <td>/ cilt contont</td> <td>75</td> <td>9/ control</td>										2.5	km (noturn trin	2.95 1/2		2 0	/ cilt contont	75	9/ control
OB - Emplacing at emplacement area - Houston 37,381 27,431,844 V/v 0.0014 kg/t 1.57 average of (wind speed/2.2)^1.3 in m/s 2.5 mosture content in %										2.5	kin/return trip	5.05 K		5	76 SIL COTLETI	/3	
DB - Dozers on OB emplacement area - Houston 80,503 6,429 N/v 12.52 kg/h 10 % content in % 2.5 moisture content in % Image: Content in %																	
OB Dozers in-pit ancillary tasks - Houston 53.61 4.282 h/y 10.9it content in % 2.5 mosture content in % Image: Content in %																	
DB - Dozers ripping/pushing/clean-up Partings - Houston 9,285 9,245 V/V 10.58 content in % 2.5 mosture content in % 2.5 mosture content in % 10.58 mosture content in % 10.							10 silt content in %	2.	5 moisture content in %								
DB - Hauling partings to epmlacement area - Houston 5,335 389,649 t/y 0.055 kg/t 177 (Vloat 229.0 Vehicle gross mass (t) 2.5 km/retum trip 3.85 kg/VKT 3 % silt content 75 % cc OB - Emplacing partings at emplacement area - Houston 5313 389,649 t/y 0.0014 kg/t 1.57 average of (wind speed/2.2)^1.3 in m/s 2.5 km/retum trip 3.85 kg/VKT 3 % silt content 75 % cc CL - Ozers ripping/pushing/clean-up ROM In-pit - Houston 85,913 2,068,809 t/y 0.0014 kg/t 9 moisture content in % - <			742	h/y													
DB - Emplaining sate emplacement area - Houston 531 389,649 f/y 0.014 kg/t 1.57 average of (wind speed/2.2)^1.3 in m/s 2.5 mosture content in % Image: Content in % </td <td></td>																	
CL - Dozers ripping/ushing/clean-up ROM in-pit - Houston 82,989 5,879 N/y 11.11 kg/h 5,00 site content in % 9 moisture content in % 10 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.5</td><td>km/return trip</td><td>3.85 kg</td><td>g/VKT</td><td>3 9</td><td>% silt content</td><td>75</td><td>% control</td></th<>										2.5	km/return trip	3.85 kg	g/VKT	3 9	% silt content	75	% control
CL - Shy(Cx)FCLs leading open coal to trucks - Houston 85,913 2,068,809 V/y 0.042 kg/t 9.0 moisture content in % Image: content																	
CL - Hauling open coal in-pits roads (east) - Houston 18,108 1,034,404 t/y 0.070 kg/t 70 t/load 65.0 Vehicle gross mass (t) 2.2 km/return trip 2.18 kg/VKT 3 % sit content 75 % cc CL - Hauling open coal in-pits roads (west) - Houston 13,577 1,034,404 t/y 0.033 kg/t 70 t/load 65.0 Vehicle gross mass (t) 1.7 km/return trip 2.18 kg/VKT 3 % sit content 75 % cc CL - Hauling open coal to ROM pad (west) - Houston 128,743 1,034,404 t/y 0.88 kg/t 70 t/load 65.0 Vehicle gross mass (t) 2.6 km/return trip 2.18 kg/VKT 3 % sit content 75 % cc CL - Hauling open coal to ROM pad (west) - Houston 136,628 1,034,404 t/y 0.88 kg/t 70 t/load 65.0 Vehicle gross mass (t) 2.8.2 km/return trip 2.18 kg/VKT 3 % sit content 78 % cc CL - Hauling open coal to ROM pad (west) - Houston 6,206 2,068,809 t/y 0.01 kg/t 1.46 average of (wind speed/2.2)^1.3 in m/s 9 moisture content in % 2.8.2 km/return trip 2.18 kg/VKT 3 % sit content 8 % cc CL - Hauling open coal to CMP Advests 2,068,809 t/y 0.01 kg/t									9 moisture content in %								
CL - Hauling open coal in-pits roads (west) - Houston 13,577 1,034,404 t/y 0.053 kg/t 70 t/load 65.0 Vehicle gross mass (t) 1.7 km/returm trip 2.18 kg/V/T 3 % sit content 75 % cc CL - Hauling open coal to ROM pad (west) - Houston 126,78 1,034,404 t/y 0.88 kg/t 70 t/load 65.0 Vehicle gross mass (t) 2.6.6 km/returm trip 2.18 kg/V/T 3 % sit content 85 % cc CL - Hauling open coal to ROM pad (west) - Houston 16,628 1,034,404 t/y 0.88 kg/t 70 t/load 65.0 Vehicle gross mass (t) 2.8.2 km/returm trip 2.18 kg/V/T 3 % sit content 85 % cc CL - Hauling open coal to ROM pad (west) - Houston 6,206 2.068,809 t/y 0.01 kg/t - <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>65.0</td><td>Vehicle gross mass (t)</td><td>2.2</td><td>km/return trin</td><td>2 1 8 1/2</td><td>1///KT</td><td>2 0</td><td>% silt content</td><td>75</td><td>% control</td></t<>								65.0	Vehicle gross mass (t)	2.2	km/return trin	2 1 8 1/2	1///KT	2 0	% silt content	75	% control
CL - Hauling open coal to ROM pad (east) - Houston 128,743 1,034,404 t/y 0.83 kg/t 70 t/load 65.0 Vehicle gross mass (t) 26.6 kg/VKT 3 % silt content 85 % cc CL - Hauling open coal to ROM pad (west) - Houston 136,628 1,034,404 t/y 0.88 kg/t 70 t/load 65.0 Vehicle gross mass (t) 28.2 kg/VKT 3 % silt content 85 % cc CL - Hauling ROM to ROM backpies/hopper - Houston 6,206 2,068,809 t/y 0.01 kg/t 80 70																	% control
CL - Hauling open coal to ROM pad (west) - Houston 136,628 1,034,404 t/y 0.88 kg/t 70 t/load 65.0 Vehicle gross mass (t) 28.2 km/return trip 21.8 kg/VKT 3 % silt content 85 % cc CL - Hauling open coal to ROM stockpiles/hopper - Houston 6,206 2,068,809 t/y 0.010 kg/t 1.46 average of (wind speed/2.2)^1.3 in m/s 9 moisture content in % 6 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>% control</td></td<>																	% control
CL - Unloading ROM to ROM stockpiles/hopper - Houston 6,206 2,068,809 t/y 0.01 kg/t - - - - 70 % cd CL - Handle coal at CHPP - Houston 4.34 2,068,809 t/y 0.000 kg/t 1.46 average of (wind speed/2.2)^1.3 in m/s 9 moisture content in %																	% control
CL - Darbandle ROM coal at stockpiles/hopper - Houston 2,069 206,881 t/y 0.01 kg/t Image: specific conditions of the specific condi	CL - Unloading ROM to ROM stockpiles/hopper - Houston	6,206	2,068,809	t/y												70	% control
ROM/REJECTS HANDLING Image: Charles and the state of the							1.46 average of (wind speed/2.2)^1.3 in m/s	9	9 moisture content in %								
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile 81,371 5,765 h/y 14.12 kg/h 5 sitt content in % 9 moisture content in % 6 I <th< td=""><td></td><td>2,069</td><td>206,881</td><td>t/y</td><td>0.01</td><td>kg/t</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>		2,069	206,881	t/y	0.01	kg/t											
CL - Loading rejects 1,392,575 t/y Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Rejects very wet therefore no dust Image: Cl - Transporting rejects Image: Cl - Transportin		01.07		5.6		lie (b	D aith an athread in O/										
CL - Transporting rejects 68,280 1,392,575 t/y 0.20 kg/t 91 t/load 117.9 Vehicle gross mass (t) 6.2 km/return trip 2.85 kg/VKT 3 % silt content 75 % cc CL - Unloading rejects - 1,392,575 t/y Rejects very wet here/re no dust -<									9 moisture content in %								
CL - Juniaging rejects - 1,392,575 t/y Rejects very wet therefore no dust -								117.0	Vehicle gross mass (+)	6.2	km/return trin	2.85 1/2	1/VKT	3 0	% silt content	75	% control
PRODUCT COAL O <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>117.9</td><td>venicie gross mass (t)</td><td>0.2</td><td>Kin/return trip</td><td>2.05 K</td><td>9/ 1/11</td><td>5</td><td>70 Sile Concelle</td><td>/3</td><td>70 CONCION</td></t<>								117.9	venicie gross mass (t)	0.2	Kin/return trip	2.05 K	9/ 1/11	5	70 Sile Concelle	/3	70 CONCION
CL - Loading product stockpile 405 3,409,398 t/y 0.0002 kg/t 1.46 average of (wind speed/2.2)^1.3 in m/s 11 moisture content in % 25 % cc			2,552,575	51		,											
		405	3,409,398	t/y	0.0002	kg/t	1.46 average of (wind speed/2.2)^1.3 in m/s	1	1 moisture content in %							25	% control
CL - Loading product coal to trains 540 3,409,398 t/y 0.0002 kg/t 1.46 [*] average of (wind speed/2.2)^1.3 in m/s 11 [*] moisture content in %		540			0.0002	kg/t		1	1 moisture content in %								



ACTIVITY	TSP emissions (kg/y)	Intensity	units	Emission factor units	Variable 1	units	Variable 2	units	Variable 3	units	Variable 4	Units	Variable 5	Units	Controls	Units
WIND EROSION																
WE - OB dump & disturbed area - Whynot - Uncontrolled	221,206	63	ha	0.4 kg/ha/h	8760	h/y										
WE - OB dump & disturbed area - Whynot - Controlled	12,289	7	ha	0.4 kg/ha/h	8760	h/y									50	% control
WE - OB dump& disturbed area - Blakefield - Uncontrolled	56,404	16	ha	0.4 kg/ha/h	8760	h/y										
WE - OB dump& disturbed area - Blakefield - Controlled	3,134	2	ha	0.4 kg/ha/h	8760	h/y									50	% control
WE - OB dump& disturbed area - Redbank - Uncontrolled	205,960	59	ha	0.4 kg/ha/h	8760	h/y										
WE - OB dump& disturbed area - Redbank - Controlled	11,442	7	ha	0.4 kg/ha/h	8760	h/y									50	% control
WE - OB dump& disturbed area - Houston - Uncontrolled	212,828	61	ha	0.4 kg/ha/h	8760	h/y										
WE - OB dump& disturbed area - Houston- Controlled	11,824	7	ha	0.4 kg/ha/h	8760	h/y									50	% control
WE - Open mining area - Whynot	122,477	35	ha	0.4 kg/ha/h	8760	h/y										
WE - Open mining area - Blakefield	31,900	9	ha	0.4 kg/ha/h	8760	h/y										
WE - Open mining area - Redbank	134,430	38	ha	0.4 kg/ha/h	8760	h/y										
WE - Open mining area - Houston	77,224	22	ha	0.4 kg/ha/h	8760	h/y										
WE - ROM stockpiles	7,358	6	ha	0.4 kg/ha/h	8760	h/y									65	% control
WE - Product stockpiles	52,560	15	ha	0.4 kg/ha/h	8760	h/y										



ACTIVITY	TSP emissions (kg/y)	Intensity	units	Emission factor	units	Variable 1	units	Variable 2	units	Variable 3	units	Variable 4	Units	Variable 5	Units	Controls Units
WHYNOT																
Topsoil Removal & Site preparation - Dozers on Whynot	17,998	2,151		16.7			ilt content in %		moisture content in %							50 % control
Topsoil removal - Sh/Cx/FELs loading topsoil - Whynot	251	266,920		0.0019			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							50 % control
Topsoil removal - Hauling topsoil to emplacement area (east) - Whynot	2,513	133,460		0.075		177 [°] t			Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 % control
Topsoil removal - Hauling topsoil to emplacement area (west) - Whynot Topsoil removal - Emplacing topsoil at emplacement area - Whynot	2,132	133,460		0.064		177 t			Vehicle gross mass (t) moisture content in %	2.9	km/return trip	3.85	kg/VKT	3	% silt content	75 % control
OB - Drilling - Whynot	3,241	266,920	t/y holes/y	0.0019	kg/t kg/hole	1.59 8	average of (wind speed/2.2)^1.3 in m/s	2	moisture content in %							70 % control
OB - Blasting - Whynot	11,254		blasts/v		kg/hole kg/blast	7427	Area of blast in square metres									70 70 concror
OB - Dozers on Dragline OB in-pit - Whynot	32,026	2,558		12.52			ilt content in %	2.5	moisture content in %							
OB - Dragline removal of OB - Whynot	309,391	10,411,741			kq/m3 (loo		Irop distance in m		moisture content in %							
OB - Dozers on Excavtor OB in-pit - Whynot	19,795	1,581	h/y	12.52			ilt content in %	2.5	moisture content in %							
OB - Excavator loading OB to haul truck - Whynot	9,288	6,745,377	t/y	0.0014	kg/t	1.59 a	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %							
OB - Hauling excavator OB to emplacement area (east) - Whynot	63,508	3,372,688		0.075		177 t			Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 [°] % control
OB - Hauling excavator OB to emplacement area (west) - Whynot	53,870			0.064		177 t			Vehicle gross mass (t)	2.9	km/return trip	3.85	kg/VKT	3	% silt content	75 [°] % control
OB - Dozers on OB haul roads (east) - Whynot	4,489	359		12.52			ilt content in %		moisture content in %							
OB - Dozers on OB haul roads (west) - Whynot	4,489	359		12.52			ilt content in %		moisture content in %							
OB - Emplacing excavator OB at emplacement area - Whynot	9,288			0.0014			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Dozers on OB emplacement area - Whynot OB - Dozers in-pit ancillary tasks - Whynot	51,822 40,247	4,139 3,214		12.52 H			ilt content in % ilt content in %		moisture content in % moisture content in %							
OB - Dozers in-pit ancillary tasks - whynot OB - Dozers ripping/pushing/clean-up Partings - Whynot	40,247	3,214		12.52			ill content in %		moisture content in %							
OB - Dozers ripping/pushing/clean-up Partings - whynot OB - Loading partings to haul trucks - Whynot	17,538	814,871		0.0014			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Hauling partings to emplacement area (east) - Whynot	7,672	407,436		0.0014		1.59 a			Vehicle gross mass (t)	35	km/return trip	3.85	kq/VKT	3	% silt content	75 [°] % control
OB - Hauling partings to emplacement area (west) - Whynot	6,508	407,436		0.064		177 t			Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 % control
OB - Emplacing Partings at emplacement area - Whynot	1,122	814,871		0.0014			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
CL - Drilling coal - Whynot	1,617		holes/y	0.59												70 % control
CL - Blasting coal - Whynot	6,496	46	blasts/y	141	kg/blast	7427	Area of blast in square metres									
CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot	58,257	4,127		14.116			ilt content in %	9	moisture content in %							
CL - Sh/Cx/FCLs loading open coal to trucks - Whynot	64,492			0.042			noisture content in %									
CL - Hauling open coal in-pit roads (east) - Whynot	17,539	776,491		0.090			/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 [°] % control
CL - Hauling open coal to ROM pad (east) - Whynot	99,999	776,491		0.859			/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	85 % control
CL - Hauling open coal in-pit roads (middle) - Whynot	14,888	776,491		0.077			/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 % control
CL - Hauling open coal to ROM pad (middle) - Whynot	91,283	776,491		0.78		70 t	/load	65.0	Vehicle gross mass (t)	25	km/return trip	2.18	kg/VKT	3	% silt content	85 % control
CL - Unloading ROM to ROM stockpiles/hopper - Whynot CL - Handle coal at CHPP - Whynot	4,659	1,552,982		0.010		1.40		0	and lateral an attach in Or							70 % control
CL - Handle coal at CHPP - Whynot CL - Rehandle ROM coal at stockpiles/hopper - Whynot	326	1,552,982 155,298		0.0002		1.46 a	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %							
BLAKEFIELD	1,555	133,290	U/ Y	0.01	ky/t											
Site preparation - Dozers on Blakefield	7,537	901	h/y	16.7	ka/h	10	ilt content in %	2	moisture content in %							50 % control
Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield	65	69,522		0.0019			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							50 % control
Topsoil removal - Hauling topsoil to emplacement area - Blakefield	1,057	69,522		0.061			/truck load		Vehicle gross mass (t)	2.8	km/return trip	3.85	ka/VKT	3	% silt content	75 [°] % control
Topsoil removal - Emplacing topsoil at emplacement area - Blakefield	131	69,522		0.0019			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Drilling - Blakefield	1,424		holes/y		kg/hole											70 % control
OB - Blasting for excavator removal - Blakefield	4,946		blasts/y		kg/blast		Area of blast in square metres									
OB - Dozers on Dragline OB in-pit - Blakefield	16,743	1,337		12.52			ilt content in %		moisture content in %							
OB - Dragline removal of OB - Blakefield	163,950				kg/m3 (loo		Irop distance in m		moisture content in %							
OB - Dozers on Excavator OB in-pit - Blakefield	367		h/y	12.52			ilt content in %		moisture content in %							
OB - Excavator loading OB to haul truck - Blakefield	172	125,090		0.0014			average of (wind speed/2.2)^1.3 in m/s		moisture content in %		I was from the second second	2.05	1		0/ - 11	75 0/
OB - Hauling to emplacement area - Blakefield OB - Dozers on OB haul roads - Blakefield	1,901	125,090		0.061		177 t	/load		Vehicle gross mass (t) moisture content in %	2.8	km/return trip	3.85	kg/VKT	3	% silt content	75 % control
OB - Dozers on OB haul roads - Blakefield OB - Emplacing at emplacement area - Blakefield	166		h/y	12.52 k			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Emplacing at emplacement area - Blakefield OB - Dozers on OB emplacement area -Blakefield	172	125,090		12.52			silt content in %		moisture content in %							
OB - Dozers in-pit ancillary tasks - Blakefield	18,720	1,300		12.52			ilt content in %		moisture content in %							
OB - Dozers ripping/pushing/clean-up Partings - Blakefield	603		h/y	12.52			ilt content in %		moisture content in %							
OB - Loading partings to trucks - Blakefield	231			0.0014			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Hauling partings to ephlacement area - Blakefield	2,553	167,953		0.061		177 t			Vehicle gross mass (t)	2.8	km/return trip	3.85	kq/VKT	3	% silt content	75 [°] % control
OB - Emplacing partings at emplacement area - Blakefield	231	167,953		0.0014			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
CL - Drilling coal - Blakefield	752	4,250	holes/y	0.59	kg/hole											70 % control
CL - Blasting coal - Blakefield	3,021	21	blasts/y	140.83 k			Area of blast in square metres									
CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield	12,496		h/y	14.116			ilt content in %	9	moisture content in %							
CL - Sh/Cx/FCLs loading open coal to trucks - Blakefield	29,997			0.042			noisture content in %									
CL - Hauling open coal in-pits roads - Blakefield	8,220			0.046			/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 % control
CL - Hauling open coal to ROM pad - Blakefield	107,765	722,327		0.995		70 t	/load	65.0	Vehicle gross mass (t)	31.9	km/return trip	2.18	kg/VKT	3	% silt content	85 % control
CL - Unloading ROM to ROM stockpiles/hopper - Blakefield	2,167	722,327		0.010		1.45		-	and the second second second second							70 % control
CL - Handle coal at CHPP - Blakefield	152	722,327		0.0002		1.46 a	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %							
CL - Rehandle ROM coal at stockpiles/hopper - Blakefield	722	72,233	t/y	0.01	kg/t											



				1		1					1					
ACTIVITY	TSP emissions		units	Emission	units	Variable	units	Variable	units	Variable 3	units	Variable	Units	Variable	Units	Controls Units
	(kg/y)			factor												
REDBANK																
Topsoil removal - Dozers/Excavators stripping topsoil - Redbank	7,772		h/y	16.7			silt content in %		2 moisture content in %							50 % control 50 % control
Topsoil removal - Sh/Ex/FELs loading topsoil - Redbank	276			0.0019			average of (wind speed/2.2)^1.3 in m/s t/truck load		2 moisture content in % Vehicle gross mass (t)	26	km/return trip	2.05	ka/VKT	2	% silt content	75 [°] % control
Topsoil removal - Hauling topsoil to emplacement area (north) - Redbank Topsoil removal - Hauling topsoil to emplacement area (south) - Redbank	843			0.046			t/truck load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 % control
Topsoil removal - Emplacing topsoil at emplacement area - Redbank	551	292,969		0.0019			average of (wind speed/2.2)^1.3 in m/s		2 moisture content in %	2.1	kiny recurr crip	5.05	Kg/ VICI	5	70 Sile correctie	75 70 CONCION
OB - Drilling for excavator removal - Redbank	1,326		holes/y		ka/hole											70 % control
OB - Blasting for excavator removal - Redbank	4,606	33	blasts/y	141	kg/blast	7427	Area of blast in square metres									
OB - Dozers on Excavator OB in-pit - Redbank	43,696			12.5214			silt content in %		5 moisture content in %							
OB - Excavator loading OB to haul truck - Redbank	20,502			0.0014			average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %							
OB - Hauling to emplacement area (north) - Redbank	154,706			0.055			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 % control
OB - Hauling to emplacement area (south) - Redbank OB - Dozers on OB haul roads (north) - Redbank	42,832		t/y h/y	0.046			t/load silt content in %		Vehicle gross mass (t)	2.1	km/return trip	3.85	kg/VKT	3	% silt content	75 % control
OB - Dozers on OB haul roads (north) - Redbank	9,909			12.52			silt content in %		5 moisture content in %							
OB - Emplacing at emplacement area - Redbank	20,502			0.0014			average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %							
OB - Dozers on OB emplacement area -Redbank	43,696			12.52			silt content in %		5 moisture content in %							
OB - Dozers in-pit ancillary tasks - Redbank	31,778			12.52			silt content in %	2.5	5 moisture content in %							
OB - Dozers ripping/pushing/clean-up Partings - Redbank	14,178	1,132	h/y	12.52			silt content in %		5 moisture content in %							
OB - Loading partings to trucks - Redbank	1,073			0.0014			average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %							
OB - Hauling partings to epmlacement area (north) - Redbank	8,098			0.055			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 % control
OB - Hauling partings to epmlacement area (south) - Redbank	2,242			0.046			t/load		Vehicle gross mass (t)	2.1	km/return trip	3.85	kg/VKT	3	% silt content	75 [°] % control
OB - Emplacing partings at emplacement area - Redbank CL - Drilling coal - Redbank	1,073		t/y holes/y	0.0014		1.59	average of (wind speed/2.2)^1.3 in m/s	2.5	5 moisture content in %							70 % control
CL - Blasting coal - Redbank	5,129		blasts/y		kg/hole kg/blast	7427	Area of blast in square metres									70 % CONCON
CL - Dozers ripping/pushing/clean-up ROM in-pit - Redbank	41,392			14.116			silt content in %	(9 moisture content in %							
CL - Sh/Cx/FCLs loading open coal to trucks - Redbank	50,920			0.042			moisture content in %									
CL - Hauling open coal in-pits roads - Redbank	36,604			0.12			t/load	65.0	Vehicle gross mass (t)	3.8	km/return trip	2.18	kg/VKT	3	% silt content	75 % control
CL - Hauling open coal to ROM pad - Redbank	180,114	1,226,181	t/y	0.98	kg/t	70	t/load	65.0	Vehicle gross mass (t)	31.4	km/return trip	2.18	kg/VKT	3	% silt content	85 % control
CL - Unloading ROM to ROM stockpiles/hopper - Redbank	3,679			0.010												70 [°] % control
CL - Handle coal at CHPP - Redbank	257			0.0002		1.46	average of (wind speed/2.2)^1.3 in m/s	9	9 moisture content in %							
CL - Rehandle ROM coal at stockpiles/hopper - Redbank	1,226	122,618	t/y	0.01	kg/t											
HOUSTON Topsoil Removal - Dozers/Excavators stripping topsoil - Houston	14,930	1 704	h 6 -	16.7	L = /l=	10	silt content in %		2 moisture content in %							50 % control
Topsoil removal - Dozers/Excavators stripping topsoil - Houston	14,930			0.0019			average of (wind speed/2.2)^1.3 in m/s		2 moisture content in %							50 % control
Topsoil removal - Hauling topsoil to emplacement area - Houston	2,304			0.055			t/truck load		Vehicle gross mass (t)	2.5	km/return trip	3.85	kg/VKT	3	% silt content	75 % control
Topsoil removal - Emplacing topsoil at emplacement area - Houston	317			0.0019			average of (wind speed/2.2)^1.3 in m/s		2 moisture content in %	2.5	kiny recurr crip	5.05	Kg/ VICI		70 Sile correctie	7.5 70 concror
OB - Drilling for excavator removal - Houston	2,444		holes/y		kg/hole											70 % control
OB - Blasting for excavator removal - Houston	8,486) blasts/y		kg/blast		Area of blast in square metres									
OB - Dozers on Excavator OB in-pit - Houston	80,503		h/y	12.52			silt content in %		5 moisture content in %							
OB - Excavator loading OB to haul truck - Houston		27,431,844		0.0014			average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %							
OB - Hauling to emplacement area - Houston	375,562			0.055			t/load silt content in %		Vehicle gross mass (t)	2.5	km/return trip	3.85	kg/VKT	3	% silt content	75 % control
OB - Dozers on OB haul roads - Houston OB - Emplacing at emplacement area - Houston	36,511 37,772			12.52 0.0014			average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %							
OB - Dozers on OB emplacement area - Houston	80,503			12.52			silt content in %		5 moisture content in %							
OB - Dozers in-pit ancillary tasks - Houston	53,616			12.52			silt content in %		5 moisture content in %							
OB - Dozers ripping/pushing/clean-up Partings - Houston	9,285		h/y	12.52			silt content in %		5 moisture content in %							
OB - Loading partings to trucks - Houston	537	389,649	t/y	0.0014	kg/t	1.59	average of (wind speed/2.2)^1.3 in m/s	2.5	5 moisture content in %							
OB - Hauling partings to epmlacement area - Houston	5,335			0.055			t/load		Vehicle gross mass (t)	2.5	km/return trip	3.85	kg/VKT	3	% silt content	75 % control
OB - Emplacing partings at emplacement area - Houston	537			0.0014			average of (wind speed/2.2)^1.3 in m/s		5 moisture content in %							
CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston	82,989			14.116			silt content in %	9	9 moisture content in %							
CL - Sh/Cx/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston	85,913 18,108			0.042			moisture content in % t/load	65.0	Vahiela arace mass (t)	2.2	km/return trip	2.10	kq/VKT	2	% silt content	75 % control
CL - Hauling open coal in-pits roads (east) - Houston CL - Hauling open coal in-pits roads (west) - Houston	13,577			0.070			t/load		Vehicle gross mass (t) Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content % silt content	75 % control
CL - Hauling open coal to ROM pad (east) - Houston	128,743			0.033			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	85 % control
CL - Hauling open coal to ROM pad (west) - Houston	136,628			0.88			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	85 % control
CL - Unloading ROM to ROM stockpiles/hopper - Houston	6,206			0.01									5, 11	-		70 % control
CL - Handle coal at CHPP - Houston	434			0.0002		1.46	average of (wind speed/2.2)^1.3 in m/s	9	9 moisture content in %							
CL - Rehandle ROM coal at stockpiles/hopper - Houston	2,069			0.01												
ROM/REJECTS HANDLING																
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile	81,371			14.12			silt content in %	9.0	0 moisture content in %							
CL - Loading rejects	-	1,392,575				efore no dus		117.0	Vahiele groes many (t)		I con / note una train	2.05	ka/VKT	2	0/ oilt contort	75 [°] 0/ control
CL - Transporting rejects CL - Unloading rejects	68,280	1,392,575 1,392,575		0.20 Rejects very			t/load	117.9	Vehicle gross mass (t)	6.2	km/return trip	2.85	KG/VKT	3	% silt content	75 % control
PRODUCT COAL	-	1,392,375	U/ Y	Rejects Very	y wet tilen	erore no dus	L					-				
CL - Loading product stockpile	405	3,409,398	t/v	0.0002	ka/t	1.46	average of (wind speed/2.2)^1.3 in m/s	11 (0 moisture content in %							25 [°] % control
CL - Loading product coal to trains	540			0.0002			average of (wind speed/2.2)^1.3 in m/s		0 moisture content in %							



ACTIVITY	TSP emissions (kg/y)	Intensity	units	Emission factor	units	Variable 1	units	Variable 2	units	Variable 3	units	Variable 4	Units	Variable 5	Units	Controls	Units
WIND EROSION																	
WE - OB dump & disturbed area - Whynot - Uncontrolled	221,206	63	ha	0.4	kg/ha/h	8760 h/y											
WE - OB dump & disturbed area - Whynot - Controlled	12,289	7 `	ha	0.4	kg/ha/h	8760 h/y										50	% control
WE - OB dump & disturbed area - Blakefield - Uncontrolled	56,404	16	ha	0.4	kg/ha/h	8760 h/y											
WE - OB dump & disturbed area - Blakefield - Controlled	3,134	2	ha	0.4	kg/ha/h	8760 h/y										50	% control
WE - OB dump& disturbed area - Redbank - Uncontrolled	205,960	59	ha	0.4	kg/ha/h	8760 h/y											
WE - OB dump& disturbed area - Redbank - Controlled	11,442	7 `	ha	0.4	kg/ha/h	8760 h/y										50	% control
WE - OB dump& disturbed area - Houston - Uncontrolled	99,034	28	ha	0.4	kg/ha/h	8760 h/y											
WE - OB dump& disturbed area - Houston- Controlled	5,502	3	ha	0.4	kg/ha/h	8760 h/y										50	% control
WE - Open mining area- Whynot	122,477	35	ha	0.4	kg/ha/h	8760 h/y											
WE - Open mining area - Blakefield	31,900	9	ha	0.4	kg/ha/h	8760 h/y											
WE - Open mining area - Redbank	134,430	38	ha	0.4	kg/ha/h	8760 h/y											
WE - Open mining area - Houston	77,224	22	ha	0.4	kg/ha/h	8760 h/y											
WE - ROM stockpiles	7,358	6	ha	0.4	kg/ha/h	8760 h/y										65	% control
WE - Product stockpiles	52,560	15	ha	0.4	kg/ha/h	8760 h/y											



			laple	A.3: Tear 5 -	Diay	ton South Emissions Ca	iculai	ions								
ΑCTIVITY	TSP emissions	Intensity	units	Emission units	Variable	units	Variable		Variable	units	Variable	Units	Variable	Units	Variable	Units
ACTIVITY	(kg/y)	Intensity		factor						units		Units				
WHYNOT	(
Topsoil removal & Site preparation - Dozers on Whynot	22,829	2,728		16.7 kg/h		silt content in %		moisture content in %								% control
Topsoil removal - Sh/Ex/FELs loading topsoil - Whynot	234	251,627		0.0019 kg/t		average of (wind speed/2.2)^1.3 in m/s		moisture content in %								% control
Topsoil removal - Hauling topsoil to emplacement area (east) - Whynot	2,875	125,814		0.091 kg/t		t/load		Vehicle gross mass (t)		km/return trip				% silt content		% control
Topsoil removal - Hauling topsoil to emplacement area (west) - Whynot Topsoil removal - Emplacing topsoil at emplacement area - Whynot	2,567 469	125,814		0.082 kg/t 0.0019 kg/t		t/load average of (wind speed/2.2)^1.3 in m/s		Vehicle gross mass (t) moisture content in %	3.8	km/return trip	3.84644	kg/VKT	3	% silt content	75	% control
OB - Drilling - Whynot	3,283	251,627	holes/y	0.59 kg/hole	1.57	average of (wind speed/2.2)*1.3 in m/s	2	moisture content in %							70	% control
OB - Blasting - Whynot	22,795		blasts/y	237 kg/blast	10505	Area of blast in square metres										
OB - Dozers on Dragline OB in-pit - Whynot	26,037	2,079		12.52 kg/h		silt content in %	2.5	moisture content in %								
OB - Dragline removal of OB - Whynot	212,061	7,136,365		0.030 kg/m3 (loose)	7	drop distance in m	2.5	moisture content in %								
OB - Dozers on Excavotor OB in-pit - Whynot	68,533	5,473		12.52 kg/h		silt content in %		moisture content in %								
OB - Excavator loading OB to haul truck - Whynot	32,089			0.0014 kg/t		average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Hauling excavator OB to emplacement area (east) - Whynot	269,007			0.091 kg/t		t/load		Vehicle gross mass (t)		km/return trip				% silt content		% control
OB - Hauling excavator OB to emplacement area (west) - Whynot	240,226			0.082 kg/t		t/load silt content in %		Vehicle gross mass (t)	3.8	km/return trip	3.84644	kg/VKT	3	% silt content	75	% control
OB - Dozers on OB haul roads (east) - Whynot OB - Dozers on OB haul roads (west) - Whynot	15,541 15,541	1,241 1,241		12.52 kg/h 12.52 kg/h		silt content in %		moisture content in % moisture content in %								<u> </u>
OB - Dozers on OB haul roads (west) - whyhot OB- Emplacing excavator OB at emplacement area - Whyhot	32,089		n/y	0.0014 kg/t		average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Dozers on OB emplacement area - Whynot	94,570	7,553	h/y	12.52 kg/h		silt content in %		moisture content in %								
OB - Dozers in-pit ancillary tasks - Whynot	55,308	4,417	h/y	12.52 kg/h		silt content in %		moisture content in %								
OB - Dozers ripping/pushing/clean-up Partings - Whynot	23,575	1,883	h/y	12.52 kg/h		silt content in %		moisture content in %								
OB - Loading partings to haul trucks - Whynot	1,516	1,112,503	t/y	0.0014 kg/t		average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Hauling partings to emplacement area (east) - Whynot	12,711	556,252	t/y	0.091 kg/t		t/load		Vehicle gross mass (t)		km/return trip				% silt content		% control
OB - Hauling partings to emplacement area (west) - Whynot	11,351			0.082 kg/t		t/load		Vehicle gross mass (t)	3.8	km/return trip	3.84644	kg/VKT	3	% silt content	75	% control
OB - Emplacing Partings at emplacement area - Whynot	1,516			0.0014 kg/t	1.57	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %								01
CL - Drilling coal and partings - Whynot	1,688	9,536		0.59 kg/hole	FACT	Area of block in equators the									70	% control
CL - Blasting coal and partings - Whynot CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot	4,982	5,392	blasts/y h/y	101.76 kg/blast 14.12 kg/h		Area of blast in square metres silt content in %	0	moisture content in %								
CL - Sh/Ex/FELs loading open coal to trucks - Whynot	83,142			0.042 kg/t		moisture content in %		moisture content in 70								
CL - Hauling open coal in-pit roads (east) - Whynot	23,329			0.09 kg/t		t/load	65.0	Vehicle gross mass (t)	3.0	km/return trip	2,18239	ka/VKT	3	% silt content	75	% control
CL - Hauling open coal to ROM pad (east) - Whynot	123,618			0.82 kg/t		t/load		Vehicle gross mass (t)		km/return trip				% silt content		% control
CL - Hauling open coal in-pit roads (middle) - Whynot	20,630			0.08 kg/t	70	t/load		Vehicle gross mass (t)		km/return trip			3	% silt content	75	% control
CL - Hauling open coal to ROM pad (middle) - Whynot	133,702			0.89 kg/t	70	t/load	65.0	Vehicle gross mass (t)	28.6	km/return trip	2.18239	kg/VKT	3	% silt content		% control
CL - Unloading ROM to ROM stockpiles/hopper - Whynot	6,006			0.01 kg/t											70	% control
CL- Handle coal at CHPP - Whynot	420			0.0002 kg/t	1.46	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %							L	
CL - Rehandle ROM coal at stockpiles/hopper - Whynot BLAKEFIELD	2,002	200,210	t/y	0.01 kg/t											├─── ┤	
Topsoil removal & Site preparation - Dozers on Blakefield	12,532	1,498	b/v	16.7 kg/h	10	silt content in %	2	moisture content in %							50	% control
Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield	12,552	1,498		0.0019 kg/t		average of (wind speed/2.2)^1.3 in m/s		moisture content in %								% control
Topsoil removal - Hauling (25%) topsoil to emplacement area - Blakefield (east)	447	36,245		0.049 kg/t		t/truck load		Vehicle gross mass (t)	2.3	km/return trip	3.84644	ka/VKT	3	% silt content		% control
Topsoil removal - Hauling (75%) topsoil to emplacement area - Blakefield (west)	2,043			0.075 kg/t		t/truck load		Vehicle gross mass (t)		km/return trip				% silt content		% control
Topsoil removal - Emplacing topsoil at emplacement area - Blakefield	40			0.00027 kg/t	1.57	average of (wind speed/2.2)^1.3 in m/s	2	moisture content in %								
OB - Drilling - Blakefield	2,014	11,376	holes/y	0.59 kg/hole											70	% control
OB - Blasting - Blakefield	13,981	59	blasts/y	237 kg/blast		Area of blast in square metres										
OB - Dozers on Dragline OB in-pit - Blakefield	23,132	1,847		12.52 kg/h		silt content in %		moisture content in %								
OB - Dragline removal of OB - Blakefield OB - Dozers on Excavator OB in-pit - Blakefield	276,789 3,935	9,314,606	bcm/y h/y	0.030 kg/m3 (loose) 12.52 kg/h	10	drop distance in m silt content in %		moisture content in % moisture content in %								
OB - Dozers on Excavator OB In-pit - Blakeneid OB - Excavator loading OB to haul truck - Blakeneid	1,843	1,352,037		0.0014 kg/t		average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Hauling excavator (25%) OB to emplacement area - Blakefield (east)	4,169	338,009	t/y	0.0014 kg/t 0.049 kg/t		t/load		Vehicle gross mass (t)	2 2	km/return trip	3,84644	kg/VKT	3	% silt content	75	% control
OB - Hauling excavator (75%) OB to emplacement area - Blakefield (west)	19,050	1,014,028	t/y	0.075 kg/t		t/load	229.0	Vehicle gross mass (t)		km/return trip				% silt content		% control
OB - Dozers on OB haul roads (east) - Blakefield	892	71	h/y	12.52 kg/h	10	silt content in %		moisture content in %	5.5				-			
OB - Dozers on OB haul roads (west) - Blakefield	4,828	386	h/y	12.52 kg/h		silt content in %		moisture content in %								
OB - Emplacing excavator OB at emplacement area - Blakefield	1,843	1,352,037	t/y	0.0014 kg/t		average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Dozers on OB emplacement area - Blakefield	27,067	2,162		12.52 kg/h		silt content in %		moisture content in %								
OB - Dozers in-pit ancillary tasks - Blakefield	22,513	1,798		12.52 kg/h		silt content in %		moisture content in %								
OB - Dozers ripping/pushing/clean-up Partings - Blakefield OB - loading partings to trucks - Blakefield	1,251 265	100 194,396	h/y	12.52 kg/h 0.0014 kg/t		silt content in %		moisture content in % moisture content in %								
OB - Houling (25%) partings to emplacement area - Blakefield (east)	265	48,599		0.0014 kg/t 0.049 kg/t		average of (wind speed/2.2)^1.3 in m/s		Vehicle gross mass (t)	2.2	km/return trip	3 84644	ko/\/KT	2	% silt content	75	% control
OB - Hauling (25%) partings to emplacement area - blakefield (east) OB - Hauling (75%) partings to emplacement area - blakefield (west)	2,739	145,797	t/y	0.049 kg/t		t/load		Vehicle gross mass (t)		km/return trip				% silt content		% control
OB - Emplacing partings to emplacement area - Blakefield	53	194,396		0.00027 kg/t		average of (wind speed/2.2)^1.3 in m/s		moisture content in %	5.5	interior contraction	5.0.044		5			Concro
CL - Drilling coal - Blakefield	687		holes/y	0.59 kg/hole	2107	,	2.0								70	% control
CL - Blasting coal - Blakefield	2,028	20	blasts/y	101.76 kg/blast		Area of blast in square metres										
CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield	17,422	1,234		14.12 kg/h		silt content in %	9	moisture content in %								
CL - Sh/Ex/FELs loading open coal to trucks - Blakefield	33,844	814,964	t/y	0.04 kg/t		moisture content in %										
CL - Hauling open (25%) coal in-pit roads - Blakefield (east)	4,370		t/y	0.1 kg/t		t/load		Vehicle gross mass (t)		km/return trip				% silt content		% control
CL - Hauling open (25%) coal to ROM pad - Blakefield (east)	30,745			1.01 kg/t		t/load		Vehicle gross mass (t)		km/return trip				% silt content		% control
	13,111			0.09 kg/t		t/load		Vehicle gross mass (t)		km/return trip				% silt content		% control % control
CL - Hauling open (75%) coal in-pit roads - Blakefield (west)	101 651	611 222														
CL - Hauling open (75%) coal to ROM pad - Blakefield (west)	101,651	611,223		1.11 kg/t	70	t/load	65.0	Vehicle gross mass (t)	35.6	km/return trip	2.18239	kg/VKT	3	% silt content		
	101,651 2,445 171	814,964	t/y	1.11 kg/t 0.010 kg/t 0.0002 kg/t		t/load average of (wind speed/2.2)^1.3 in m/s		Vehicle gross mass (t) moisture content in %	35.6	km/return trip	2.18239	kg/VKT	3	% silt content		% control

Table A.3: Year 5 – Drayton South Emissions Calculations



	TSP															
ACTIVITY	emissions			Emission factor		Variable		Variable		Variable		Variable	Units Var	iable Units	Variable	
REDBANK	(kg/y)			Tactor		-		-		3		7		,	v	
Topsoil removal & Site preparation - Dozers on Redbank	8,176	977	h/y	16.7 k	a/h	10	silt content in %	2	moisture content in %						50	% control
Topsoil removal - Sh/Ex/FELs loading topsoil - Redbank	107	114,430		0.0019 k			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							% control
Topsoil removal - Hauling topsoil to emplacement area (north) - Redbank	1,287	85,823		0.06 k			t/truck load		Vehicle gross mass (t)	2.8	km/return trip	3.84644	cg/VKT	3 % silt conten		5 % control
Topsoil removal - Hauling topsoil to emplacement area (south) - Redbank	381	28,608		0.05 k			t/truck load		Vehicle gross mass (t)	2.5	km/return trip	3.84644	cg/VKT	3 % silt content	. 75	5 % control
Topsoil removal - Emplacing topsoil at emplacement area - Redbank	213	114,430		0.0019 k		1.57	average of (wind speed/2.2)^1.3 in m/s	2	moisture content in %							
OB - Drilling for excavator removal - Redbank	1,160	6,553	holes/y	0.59 k		10505	Aver of block in a second market								70	% control
OB - Blasting for excavator removal - Redbank OB - Dozers on Excavator OB in-pit - Redbank	46,345	34 3,701	blasts/y	12.52 k	g/blast		Area of blast in square metres silt content in %	25	moisture content in %							
OB - Excavator loading OB to haul truck - Redbank	21,700			0.0014 k			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Hauling to emplacement area (north) - Redbank	179,061			0.06 k			t/load		Vehicle gross mass (t)	2.8	km/return trip	3.84644	a/VKT	3 % silt conten	7	% control
OB - Hauling to emplacement area (south) - Redbank	53,070			0.05 k			t/load		Vehicle gross mass (t)		km/return trip			3 % silt content	75	5 % control
OB - Dozers on OB haul roads (north) - Redbank	10,510			12.52 k			silt content in %		moisture content in %							
OB - Dozers on OB haul roads (south) - Redbank	10,510			12.52 k			silt content in %		moisture content in %							
OB - Emplacing at emplacement area - Redbank	21,700			0.0014 k			average of (wind speed/2.2)^1.3 in m/s		moisture content in %						_	
OB - Dozers on OB emplacement area -Redbank OB - Dozers in-pit ancillary tasks - Redbank	46,345 39,666	3,701 3,168		12.52 k			silt content in % silt content in %		moisture content in %							
OB - Dozers in-pit ancillary tasks - Redbank OB - Dozers ripping/pushing/clean-up Partings - Redbank	17,161	1,371		12.52 k			silt content in %		moisture content in %							
OB - Loading partings to trucks - Redbank	1,254	920,071		0.0014 k			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Hauling partings to epmlacement area (north) - Redbank	10,347	690,053	t/y	0.06 k			t/load		Vehicle gross mass (t)	2.8	km/return trip	3.84644	(q/VKT	3 % silt conten	. 75	5 % control
OB - Hauling partings to epmlacement area (south) - Redbank	3,067	230,018		0.05 k		177	t/load		Vehicle gross mass (t)		km/return trip			3 % silt content		% control
OB - Emplacing partings at emplacement area - Redbank	1,254	920,071		0.0014 k	g/t	1.57	average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
CL - Drilling coal - Redbank	1,211	6,839		0.59 k											7(0 % control
CL - Blasting coal - Redbank	3,573	35	blasts/y	101.76 k			Area of blast in square metres									
CL - Dozers ripping/pushing/clean-up ROM in-pit - Redbank	50,472	3,576		14.12 k			silt content in % moisture content in %	9	moisture content in %							
CL - Sh/Ex/FELs loading open coal to trucks - Redbank CL - Hauling open coal in-pit roads - Redbank	59,628 50,384			0.042 k 0.14 k			t/load	65.0	Vehicle gross mass (t)	4 5	km/return trip	2 10220	(a))//T	3 % silt conten	70	5 % control
CL - Hauling open coal to ROM pad - Redbank	210,672		t/y	0.14 k			t/load		Vehicle gross mass (t)		km/return trip			3 % silt conten		5 % control
CL - Unloading ROM to ROM stockpiles/hopper - Redbank	4,308	1,435,862		0.01 k				00.0	Venicie grobb mabb (c)	51.1	kiny recurrence	2.10255	tg, trtt	5 70 Sile corriceri		% control
CL - Handle coal at CHPP - Redbank	301			0.0002 k		1.46	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %							
CL - Rehandle ROM coal at stockpiles/hopper - Redbank	1,436	143,586	t/y	0.01 k	g/t											
HOUSTON			_													
Topsoil removal & Site preparation - Dozers on Houston	4,700		h/y	16.7 k			silt content in %		moisture content in %							% control
Topsoil removal - Sh/Ex/FELs loading topsoil - Houston	93 1,728	99,453	t/y	0.0019 k 0.07 k			average of (wind speed/2.2)^1.3 in m/s		Provisture content in % Vehicle gross mass (t)	2.2	km/return trip	2.046.44	- DBCT	3 % silt conten		% control
Topsoil removal - Hauling topsoil to emplacement area - Houston Topsoil removal - Emplacing topsoil at emplacement area - Houston	1,728	99,453 99,453	t/y	0.0019 k			average of (wind speed/2.2)^1.3 in m/s		moisture content in %	3.2	km/return trip	3.84644	(g/VKT	3 % sit conten	/:	
OB - Drilling for excavator removal - Houston	639		holes/y	0.0019 k		1.57	average of (wind speed/2.2) 1.5 in mys	2	indistare content in 70						7(% control
OB - Blasting for excavator removal - Houston	4,440	19	blasts/y		g/blast	10505	Area of blast in square metres									
OB - Dozers on Excavator OB in-pit - Houston	25,548	2,040		12.52 k		10	silt content in %	2.5	moisture content in %							
OB - Excavator loading OB to haul truck - Houston	11,962	8,777,141	t/y	0.0014 k			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Hauling to emplacement area - Houston	152,496	8,777,141		0.069 k			t/load		Vehicle gross mass (t)	3.2	km/return trip	3.84644	(g/VKT	3 % silt conten	. 75	5 % control
OB - Dozers on OB haul roads - Houston	11,587	925		12.52 k			silt content in %		moisture content in %							
OB- Emplacing at emplacement area - Houston OB - Dozers on OB emplacement area - Houston	11,962 25,548	8,777,141 2,040		0.0014 k 12.52 k			average of (wind speed/2.2)^1.3 in m/s silt content in %		moisture content in %						_	
OB - Dozers in-pit ancillary tasks - Houston	26,874	2,146		12.52 k			silt content in %		moisture content in %							
OB - Dozers ripping/pushing/clean-up Partings - Houston	4,806	384		12.52 k			silt content in %		moisture content in %							
OB - Loading partings to trucks - Houston	276	202,598	t/y	0.0014 k	g/t	1.57	average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Hauling partings to emplacement area (east) - Houston	3,520	202,598		0.07 k			t/load		Vehicle gross mass (t)	3.2	km/return trip	3.84644	kg/VKT	3 % silt conten	. 75	5 % control
CL - Emplacing partings at emplacement area - Houston	276	202,598		0.0014 k			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
CL - Highwall transfer point - Houston (Y7)	145	637,271 0.0048		0.0002 k	:g/t :g/ha/h	1.57 8760	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %							
CL - Highwall conveyor - Redbank CL - Dozers ripping/pushing/clean-up ROM (in-pit) - Houston	39,758			14.12 k			n/y silt content in %	0	moisture content in %							
CL - Sh/Ex/FELs loading open coal to trucks - Houston	66,864	1,610,102		0.042 k			moisture content in %	9	monstare content in %							
CL - Hauling open coal in-pit roads (east) - Houston	13,905	805,051	t/y	0.069 k			t/load	65.0	Vehicle gross mass (t)	2.2	km/return trip	2.18239	g/VKT	3 % silt conten	. 75	5 % control
CL - Hauling open coal in-pit roads (west) - Houston	10,027	805,051	t/y	0.05 k	g/t	70	t/load	65.0	Vehicle gross mass (t)	1.6	km/return trip	2.18239	g/VKT	3 % silt content		5 % control
CL - Hauling open coal to ROM pad (east) - Houston	98,022	805,051	t/y	0.81 k			t/load		Vehicle gross mass (t)		km/return trip			3 % silt conten		5 % control
CL - Hauling open coal to ROM pad (west) - Houston	106,259	805,051		0.88 k		70	t/load	65.0	Vehicle gross mass (t)	28.2	km/return trip	2.18239	(g/VKT	3 % silt conten		5 % control
CL - Unloading ROM to ROM stockpiles/hopper - Houston	4,830			0.010 k		1.40	puerses of (wind encod/2 2) 01 2 is an (-		mainture contant '- 0'						70	% control
CL- Handle coal at CHPP - Houston CL - Rehandle ROM coal at stockpiles/hopper - Houston	338	1,610,102		0.0002 k 0.01 k		1.46	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %							
ROM/REJECTS HANDLING	1,010	161,010	ι/y	0.01 k	.g/ t											
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile	81,371	5,765	h/v	14.12 k	a/h	5	silt content in %	9	moisture content in %							
CL - Loading rejects	-	1,465,757			wet therefo											
CL - Transporting rejects	71,868	1,465,757	t/y	0.20 k	g/t	91	t/load	117.9	Vehicle gross mass (t)	6.2	km/return trip	2.85347	(g/VKT	3 % silt content	75	5 % control
CL - Unloading rejects	-	1,465,757		Rejects ver	wet therefor	re no dust										
PRODUCT COAL		5 004 011				,										
CL- Loading product stockpile	689			0.0002 k			average of (wind speed/2.2)^1.3 in m/s		moisture content in %						25	5 % control
CL - Loading product coal to trains	919	5,801,811	t/y	0.0002 k	g/t	1.46	average of (wind speed/2.2)^1.3 in m/s	11	moisture content in %							



ACTIVITY	TSP emissions (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
WIND EROSION																	
WE - OB dump & disturbed area - Whynot - Uncontrolled	284,833	81	ha	0.4	kg/ha/h	8760 h/y											
WE - OB dump & disturbed area - Whynot - Controlled	15,824	9)	ha	0.4	kg/ha/h	8760 h/y										50	% control
WE - OB dump& disturbed area - Blakefield - Uncontrolled	159,847	46	ha	0.4	kg/ha/h	8760 h/y											
WE - OB dump& disturbed area - Blakefield - Controlled	8,880	5	ha	0.4	kg/ha/h	8760 h/y										50	% control
WE - OB dump& disturbed area - Redbank - Uncontrolled	304,573	87	ha	0.4	kg/ha/h	8760 h/y											
WE - OB dump& disturbed area - Redbank - Controlled	16,921	10	ha	0.4	kg/ha/h	8760 h/y										50	% control
WE - OB dump & disturbed area - Houston - Uncontrolled	158,947	45	ha	0.4	kg/ha/h	8760 h/y											
WE - OB dump & disturbed area - Houston - Controlled	8,830	5	ha	0.4	kg/ha/h	8760 h/y										50	% control
WE - Open mining area- Whynot	281,582	80	ha	0.4	kg/ha/h	8760 h/y											
WE - Open mining area - Blakefield	162,239	46	ha	0.4	kg/ha/h	8760 h/y											
WE - Open mining area - Redbank	128,052	37	ha	0.4	kg/ha/h	8760 h/y											
WE - Open mining area - Houston	111,292	32	ha	0.4	kg/ha/h	8760 h/y											
WE - ROM stockpiles	7,358	6	ha	0.4	kg/ha/h	8760 h/y										65	% control
WE - Product stockpiles	52,560	15	ha	0.4	kg/ha/h	8760 h/y											



Table A.4: Year 10 – Drayton South	Emissions Calculations
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ΑCTIVITY	TSP emissions	Intensity	units	Emission	units	Variable	units	Variable	units	Variable	units	Variable	Units	Variable	Units	Variable Units
	(kg/y)			factor		1		2		3		4		5		6
WHYNOT Topsoil removal & Site preparation - Dozers on Whynot	30,319	3,623	h ()	16.7	line (h	10 silt content in	0/	-	moisture content in %							50 % control
Topsoil removal - Sh/Ex/FELs loading topsoil - Whynot	30,319	185,253		0.0019			vind speed/2.2)^1.3 in m/s		moisture content in %							50 % control
Topsoil removal - Hauling topsoil to emplacement area (east) - Whynot	2,499	92,626		0.10794		222 t/load	vind speed/2.2) 1.5 in mys		Vehicle gross mass (t)	57	km/return trip	4 1 8	kg/VKT	3	% silt content	75 % control
Topsoil removal - Hauling topsoil to emplacement area (cust) - Whynot	1,666	92,626		0.07195		222 t/load			Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 % control
Topsoil removal - Emplacing topsoil at emplacement area - Whynot	349	185,253		0.0019			vind speed/2.2)^1.3 in m/s		moisture content in %	5.0	in the court court		itg, titi		to she concerne	
OB - Drilling - Whynot	4,596		holes/y		kg/hole											70 % control
OB - Blasting - Whynot	30,981	128	blasts/y	241	kg/blast	10638 Area of blast	in square metres									
OB - Dozers on Dragline OB in-pit - Whynot	40,707	3,251	h/y	12.5	kg/h	10 silt content in	%	2.5	moisture content in %							
OB - Dragline removal of OB - Whynot	327,232			0.0297	kg/m3 (loose)	7 drop distance			moisture content in %							
OB - Dozers on Excavator OB in-pit - Whynot	36,851	2,943		12.5		10 silt content in			moisture content in %							
OB - Excavator loading OB to haul truck - Whynot	33,197			0.0014			vind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Hauling excavator OB to emplacement area (east) - Whynot	325,304			0.10794		222 t/load			Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 % control
OB - Hauling excavator OB to emplacement area (west) - Whynot	216,831		t/y	0.07195		222 t/load			Vehicle gross mass (t)	3.8	km/return trip	4.18	kg/VKT	3	% silt content	75 % control
OB - Dozers on OB haul roads (east) - Whynot OB - Dozers on OB haul roads (west) - Whynot	16,713	1,335 1,335		12.5		10 silt content in 10 silt content in			moisture content in %							
OB - Emplacing excavator OB at emplacement area - Whynot	16,713 33,197			12.5 0.0014					moisture content in %							
OB - Dozers on OB emplacement area - Whynot	77,558	6,194			kg/t kg/h	10 silt content in	vind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Dozers in-pit ancillary tasks - Whynot	89,698	7,164			kg/h	10 silt content in			moisture content in %							
OB - Dozers in-pic animary tasks - whynot OB - Dozers ripping/pushing/clean-up Partings - Whynot	32,241	2,575			kg/h	10 silt content in			moisture content in %							
OB - Loading partings to haul trucks - Whynot	2,175	1,579,656		0.0014			vind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Hauling partings to emplacement area (east) - Whynot	21,313	789,828		0.10794		222 t/load			Vehicle gross mass (t)	5.7	km/return trip	4.18	ka/VKT	3	% silt content	75 % control
OB - Hauling partings to emplacement area (west) - Whynot	14,206	789,828		0.07195		222 t/load			Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 % control
OB - Emplacing Partings at emplacement area - Whynot	2,175	1,579,656		0.0014			vind speed/2.2)^1.3 in m/s		moisture content in %							
CL - Drilling coal and partings - Whynot	2,410		holes/y	0.5900												70 % control
CL - Blasting coal and partings - Whynot	1,257		blasts/y		kg/blast	1985 Area of blast	in square metres									
CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot	116,553	8,257	h/y	14.1156	kg/h	5 silt content in	%	9	moisture content in %							
CL - Sh/Ex/FELs loading open coal to trucks - Whynot	127,591	3,072,435	t/y	0.04153	kg/t	9 moisture con	tent in %									
CL - Hauling open coal in-pit roads (east) - Whynot	53,618	1,536,217	t/y	0.13961	kg/t	70 t/load			Vehicle gross mass (t)	4	km/return trip	2.18	kg/VKT	3	% silt content	75 % control
CL - Hauling open coal to ROM pad (east) - Whynot	197,781	1,536,217	t/y	0.85830	kg/t	70 t/load		65.0	Vehicle gross mass (t)	28	km/return trip		kg/VKT		% silt content	85 % control
CL - Hauling open coal in-pit roads (middle) - Whynot	32,041	1,536,217		0.08343		70 t/load			Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content	75 % control
CL - Hauling open coal to ROM pad (middle) - Whynot	209,433	1,536,217		0.90887		70 t/load		65.0	Vehicle gross mass (t)	29	km/return trip	2.18	kg/VKT	3	% silt content	85 % control
CL - Unloading ROM to ROM stockpiles/hopper - Whynot	9,217	3,072,435		0.010												70 % control
CL- Handle coal at CHPP - Whynot	645	3,072,435		0.0002		1.46 average of (v	vind speed/2.2)^1.3 in m/s	9	moisture content in %							
CL - Rehandle ROM coal at stockpiles/hopper - Whynot BLAKEFIELD	3,072	307,243	t/y	0.01	kg/t											
Topsoil removal & Site preparation - Dozers on Blakefield	5.000	710	h ()	16.7	line (h	10 silt content in	0/	-	moisture content in %							50 % control
Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield	5,989 65	69,475	h/y	0.0019	kg/h		vind speed/2.2)^1.3 in m/s		moisture content in %							50 % control
Topsoil removal - Hauling topsoil to emplacement area - Blakefield	1,062	69,475		0.06113		222 t/truck load	vind speed/2.2)*1.3 in m/s		Vehicle gross mass (t)	3.2	km/return trip	4 18	kq/VKT	3	% silt content	75 % control
Topsoil removal - Emplacing topsoil at emplacement area - Blakefield	131	69,475		0.00113			vind speed/2.2)^1.3 in m/s		moisture content in %	5.2	kin/return tip	4.10	Kg/ VKT	J	70 Sile Contenie	75 % сопстот
OB - Drilling - Blakefield	1,039		holes/y		kg/hole	1.55 dverage or (1		-								70 % control
OB - Blasting - Blakefield	7,002		blasts/y		kg/blast	10638 Area of blast	in square metres									
OB - Dozers on Dragline OB in-pit - Blakefield	8,349	667	h/y	12.5	kg/h	10 silt content in		2.5	moisture content in %							
OB - Dragline removal of OB - Blakefield	136,395	4,590,029			kg/m3 (loose)	7 drop distance			moisture content in %							
OB - Dozers on Excavator OB in-pit - Blakefield	1,185		h/y	12.5		10 silt content in			moisture content in %							
OB - Excavator loading OB to haul truck - Blakefield	1,067	775,190		0.0014			vind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Hauling excavator OB to emplacement area - Blakefield	11,847	775,190		0.06113		222 t/load			Vehicle gross mass (t)	3.2	km/return trip	4.18	kg/VKT	3	% silt content	75 % control
OB - Dozers on OB haul roads - Blakefield	1,075		h/y		kg/h	10 silt content in			moisture content in %							
OB - Emplacing excavator OB at emplacement area - Blakefield	1,067	775,190		0.0014			vind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Dozers on OB emplacement area - Blakefield	9,534	761			kg/h	10 silt content in			moisture content in %							
OB - Dozers in-pit ancillary tasks -Blakefield	8,525	681			kg/h	10 silt content in			moisture content in %							
OB - Dozers ripping/pushing/clean-up Partings - Blakefield	461	37 96,964	h/y	0.0014	kg/h kg/t	10 silt content in			moisture content in % moisture content in %							
OB - loading partings to trucks - Blakefield OB - Hauling partings to emplacement area - Blakefield	1,482	96,964		0.0014		222 t/load	vind speed/2.2)^1.3 in m/s		Vehicle gross mass (t)	2.2	km/return trip	4 1 9	ka/VKT	2	% silt content	75 % control
OB - Emplacing partings to emplacement area - Blakefield	1,462	96,964		0.00113			vind speed/2.2)^1.3 in m/s		moisture content in %	3.2	kin/return tip	4.10	Kg/ VKT	3	70 Sile concent	7.5 % control
CL - Drilling coal - Blakefield	229		holes/y		kg/hole	1.55 dverage of (V		2.5								70 % control
CL - Blasting coal - Blakefield	119		blasts/y			1985 Area of blast	in square metres									
CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield	5,923		h/y	14.1156		5 silt content in		9	moisture content in %							
CL - Sh/Ex/FELs loading open coal to trucks - Blakefield	12,126	291,991		0.04153		9 moisture con										
CL - Hauling open coal in-pit roads - Blakefield	5,849	291,991		0.08012		70 t/load		65.0	Vehicle gross mass (t)	2.6	km/return trip	2.18	kg/VKT	3	% silt content	75 % control
CL - Hauling open coal to ROM pad - Blakefield	50,177	291,991		1.14563		70 t/load			Vehicle gross mass (t)		km/return trip		kg/VKT	3	% silt content	85 % control
CL - Unloading ROM to ROM stockpiles/hopper - Blakefield	876	291,991	t/y	0.010												70 % control
CL - Handle coal at CHPP - Blakefield	61	291,991		0.0002		1.46 average of (v	vind speed/2.2)^1.3 in m/s	9	moisture content in %							
CL - Rehandle ROM coal at stockpiles/hopper - Blakefield	292	29,199	t/y	0.01	kg/t											



	TSP			Emission		Variable		Variable		Variable		Variable		Variable		Variable
ACTIVITY	emissions	Intensity	units	factor	units	1	units	2	units	3	units	4	Units	5	Units	6 Units
	(kg/y)			i di di di		-		_								
REDBANK																
Topsoil Removal - Dozers/Excavators stripping topsoil - Redbank	11,928	1,425		16.7 kg			silt content in %		2 moisture content in %							50 % control
Topsoil removal - Sh/Ex/FELs loading topsoil - Redbank	89	94,757		0.0019 kg			average of (wind speed/2.2)^1.3 in m/s		2 moisture content in %							50 % control
Topsoil removal - Hauling topsoil to emplacement area (north) - Redbank		71,068		0.09946 kg			t/truck load		Vehicle gross mass (t)		km/return trip		kg/VKT		silt content	75 % control
Topsoil removal - Hauling topsoil to emplacement area (south) - Redbank		23,689		0.11811 k			t/truck load		Vehicle gross mass (t)		km/return trip	4.18	kg/VKT	3 %	silt content	75 % control
Topsoil removal - Emplacing topsoil at emplacement area - Redbank	178			0.0019 kg		1.59	average of (wind speed/2.2)^1.3 in m/s	2	2 moisture content in %							
OB - Drilling for excavator removal - Redbank	1,814	10,246	holes/y													70 % control
OB - Blasting for excavator removal - Redbank	12,227	51	blasts/y				Area of blast in square metres									
OB - Dozers on Excavator OB in-pit - Redbank	34,145	2,727		12.5 kg			silt content in %		moisture content in %							
OB - Excavator loading OB to haul truck - Redbank	30,759			0.0014 kg			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Hauling to emplacement area (north) - Redbank	416,599			0.09946 kg			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		silt content	75 % control
OB - Hauling to emplacement area (south) - Redbank	164,914			0.11811 k			t/load		Vehicle gross mass (t)		km/return trip	4.18	kg/VKT	3 %	silt content	75 % control
OB - Dozers on OB haul roads (north) - Redbank	15,486	1,237		12.5 kg			silt content in %		moisture content in %							
OB - Dozers on OB haul roads (south) - Redbank	15,486	1,237		12.5 kg			silt content in %		moisture content in %							
OB - Emplacing at emplacement area - Redbank	30,759			0.0014 kg			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							
OB - Dozers on OB emplacement area -Redbank	34,145	2,727		12.5 kg	g/h		silt content in %		moisture content in %							
OB - Dozers in-pit ancillary tasks - Redbank	46,138	3,685		12.5 kg			silt content in %		moisture content in %							
OB - Dozers ripping/pushing/clean-up Partings - Redbank	12,912	1,031	h/y	12.5 kg	g/h	10	silt content in %	2.5	moisture content in %							
OB - Loading partings to trucks - Redbank	1,178	855,701	t/y	0.0014 kg	g/t	1.59	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %							
OB - Hauling partings to emplacement area (north) - Redbank	15,958	641,776	t/y	0.09946 kg	g/t	222	t/load	275.0	Vehicle gross mass (t)	5.3	km/return trip	4.18	kg/VKT	3 %	silt content	75 % control
OB - Hauling partings to emplacement area (south) - Redbank	6,317	213,925	t/y	0.11811 k	q/t	222	t/load	275.0	Vehicle gross mass (t)	6.3	km/return trip	4.18	kg/VKT	3 %	silt content	75 % control
OB - Emplacing partings at emplacement area - Redbank	1,178	855,701	t/y	0.0014 k	q/t	1.59	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %							
CL - Highwall transfer point - Redbank (Y8)	206	900,000	kq/t	0.0002 k	q/t	1.59	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %							
CL - Highwall conveyor - Redbank	17	0.0048	ha	0.4 k	q/ha/h	8760	h/y									
CL - Drilling coal - Redbank	1,240	7,003	holes/v	0.59 kg			.,									70 % control
CL - Blasting coal - Redbank	646	33	blasts/v	19.4495 k	g/blast	1985	Area of blast in square metres									
CL - Dozers ripping/pushing/clean-up ROM in-pit - Redbank	50,472	3,576	h/v	14.1156 k		5	silt content in %	q	moisture content in %							
CL - Sh/Ex/FELs loading open coal to trucks - Redbank	103,004	2,480,375	t/v	0.04153 k	a/t	9	moisture content in %									
CL - Hauling open coal in-pit roads - Redbank	214,592			0.34606 k			t/load	65.0	Vehicle gross mass (t)	11.1	km/return trip	2.18	kg/VKT	3 %	silt content	75 % control
CL - Hauling open coal to ROM pad - Redbank	362,812			0.97515 kg			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		silt content	85 % control
CL - Unloading ROM to ROM stockpiles/hopper - Redbank	7,441			0.010 k		,,,		05.0		5115	inity recurrence	2.10	itg/ viti	5 /0	Sile concerne	70 % control
CL - Handle coal at CHPP - Redbank	520			0.0002 k		1.46	average of (wind speed/2.2)^1.3 in m/s	0	moisture content in %							70 70 0010101
CL - Rehandle ROM coal at stockpiles/hopper - Redbank	2,480			0.01 k		1.40	average of (wind speed/2.2) 1.5 in m/s									
ROM/REJECTS HANDLING	2,400	240,030	4.4	0.01 K	y/t											
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile	81,371	5,765	b/v	14.1156 kg	a/h	5	silt content in %	0	moisture content in %							
CL - Loading rejects				Rejects very			Sile concerte in 70	9	indistare content in %							
CL - Transporting rejects	71,644			0.19612 k			t/load	117.0	Vehicle gross mass (t)	6 2	km/return trip	2.05	ka/VKT	2.0/	silt content	75 % control
CL - Unloading rejects	/1,044			Rejects very			() IOAU	117.9	Vehicle gross mass (t)	0.2	kin/return tip	2.05	KY/VKI	3 70	siit content	75 % CONLIGI
PRODUCT COAL	-	1,401,200	U/ Y	Rejects very	wet therefu	Te no dust		1	1							
CL - Loading product stockpile	417	3,508,997		0.0002 kg	- //-	1.40	average of (wind speed/2.2)^1.3 in m/s		moisture content in %							25 % control
	556								moisture content in %							25 % control
CL - Loading product coal to trains WIND EROSION	550	3,508,997	t/y	0.0002 kg	g/t	1.46	average of (wind speed/2.2)^1.3 in m/s	11	moisture content in %							
	1 202 200	242	h a	0.4 1	- () ()-	0760	h () .									
WE - OB dump & disturbed area - Uncontrolled	1,202,360				g/ha/h	8760										EO 0/
WE - OB dump & disturbed area - Controlled	66,798		ha		g/ha/h	8760										50 [°] % control
WE - Open mining area - Whynot	420,545	120		0.4 kg		8760										
WE - Open mining area - Blakefield	157,717		ha		g/ha/h	8760										
WE - Open mining area - Redbank	215,110		ha		g/ha/h	8760										
WE - Open mining area - Houston	86,880		ha	0.4 kg		8760										
WE - ROM stockpiles	7,358		ha	0.4 kg		8760										65 % control
WE - Product stockpiles	52,560	15	ha	0.4 kg	g/ha/h	8760	h/y									



			Tuble	A.J. 1	eur 15 -	Didy	ion source emissions Co		lions								
	TSP			Emission		Variable		Variable		Variable		Variable		Variable		Variable	
ACTIVITY	emissions		Units	factor		variable 1	units	2	units	variable 3	units	variable 4	Units	variable 5	Units	variable 6	Units
	(kg/y)			Tactor		-						-		2		•	
WHYNOT	NEW (All)																
Topsoil removal & Site preparation - Dozers on Whynot	26,181	3,129		16.7			silt content in %		moisture content in %								% control
Topsoil removal - Sh/Ex/FELs loading topsoil - Whynot	119	126,612		0.00188			average of (wind speed/2.2)^1.3 in m/s		moisture content in %								% control
Topsoil removal - Hauling topsoil to emplacement area (east) - Whynot	1,586	63,306	t/y	0.10021	kg/t	222	t/load	275.0	Vehicle gross mass (t)	5.3	km/return trip		kg/VKT		6 silt content		% control
Topsoil removal - Hauling topsoil to emplacement area (west) - Whynot	1,052	63,306	t/y	0.06644	kg/t		t/load	275.0	Vehicle gross mass (t)	3.5	km/return trip	4.18	kg/VKT	3 9	6 silt content	75	% control
Topsoil removal - Emplacing topsoil at emplacement area - Whynot	238	126,612	t/y	0.00188	kg/t	1.59	average of (wind speed/2.2)^1.3 in m/s	2	moisture content in %								
OB - Drilling - Whynot	3,571	20,175	holes/y	0.59	kg/hole											70	% control
OB - Blasting - Whynot	18,590	112	blasts/y	166.0857	kg/blast	8291	Area of blast in square metres										
OB - Dozers on Dragline OB in-pit - Whynot	31,819	2,541	h/y	12.52	kg/h	10	silt content in %	2.5	moisture content in %								
OB - Dragline removal of OB - Whynot	305,709	10,287,862	bcm/y	0.0297	kg/m3 (loose)	7	drop distance in m	2.5	moisture content in %								
OB - Dozers on Excavator OB in-pit - Whynot	60,308	4,816	h/y	12.52	ka/h	10	silt content in %	2.5	moisture content in %								
OB - Excavator loading OB to haul truck - Whynot	28,513	20,694,435	t/v	0.00138	ka/t	1.59	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %								
OB - Hauling excavator OB to emplacement area (east) - Whynot	259,230	10,347,218	t/v	0.10021			t/load	275.0	Vehicle gross mass (t)	5.3	km/return trip	4.18	kg/VKT	3 9	6 silt content	75	% control
OB - Hauling excavator OB to emplacement area (west) - Whynot	171,878	10,347,218		0.06644			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		6 silt content		% control
OB - Dozers on OB haul roads (east) - Whynot	13,676	1,092		12.52			silt content in %		moisture content in %								
OB - Dozers on OB haul roads (west) - Whynot	13,676	1,092		12.52			silt content in %		moisture content in %								
OB- Emplacing excavator OB at emplacement area - Whynot	28,513			0.00138			average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Dozers on OB emplacement area - Whynot	92,128	7,358		12.52			silt content in %		moisture content in %								
OB - Dozers in-pit ancillary tasks - Whynot	74,194	5,925		12.52			silt content in %		moisture content in %								
OB - Dozers ripping/pushing/clean-up Partings - Whynot	24,386	1,948		12.52			silt content in %		moisture content in %								
	1,787	1,296,741		0.00138			average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Loading partings to haul trucks - Whynot	16,244	648,370		0.100138						5.0	Trans Construction Andre	4.10	L = 0.0CT	2.0	(all a subsub	75	% control
OB - Hauling partings to emplacement area (east) - Whynot	10,244	648,370		0.06644			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		6 silt content		
OB - Hauling partings to emplacement area (west) - Whynot							t/load		Vehicle gross mass (t)	3.5	km/return trip	4.18	kg/VKT	3 %	% silt content	/5	% control
OB - Emplacing Partings at emplacement area - Whynot	1,787	1,296,741		0.00138		1.59	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %							70	<u></u>
CL - Drilling coal and partings - Whynot	2,517		holes/y	0.5900												/0	% control
CL - Blasting coal and partings - Whynot	2,038		blasts/y	31.8922			Area of blast in square metres			_							
CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot	88,164	6,246		14.1156			silt content in %	9	moisture content in %								
CL - Sh/Ex/FELs loading open coal to trucks - Whynot	98,394	2,369,365		0.04153			moisture content in %										
CL - Hauling open coal in-pit roads (east) - Whynot	43,269	1,184,683		0.14610			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		6 silt content		% control
CL - Hauling open coal to ROM pad (east) - Whynot	126,527	1,184,683		0.71202			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		6 silt content		% control
CL - Hauling open coal in-pit roads (middle) - Whynot	25,559	1,184,683		0.08630			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		6 silt content		% control
CL - Hauling open coal to ROM pad (middle) - Whynot	168,644	1,184,683		0.94903			t/load	65.0	Vehicle gross mass (t)	30	km/return trip	2.18	kg/VKT	3 9	6 silt content	85	% control
CL - Unloading ROM to ROM stockpiles/hopper - Whynot	23,694	2,369,365		0.010			% control										
CL- Handle coal at CHPP - Whynot	497	2,369,365		0.0002		1.46	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %								
CL - Rehandle ROM coal at stockpiles/hopper - Whynot	2,369	236,937	t/y	0.01	kg/t												
BLAKEFIELD																	
Site preparation - Dozers on Blakefield	2,654	317	h/y	16.7	kg/h	10	silt content in %	2	moisture content in %							50	% control
Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield	10	10,946	t/y	0.00188	kq/t	1.59	average of (wind speed/2.2)^1.3 in m/s	2	moisture content in %							50	% control
Topsoil removal - Hauling topsoil to emplacement area - Blakefield	117	10,946	t/y	0.04293	kq/t	222	t/load	275.0	Vehicle gross mass (t)	2.3	km/return trip	4.177	kq/VKT	3 9	6 silt content	75	% control
Topsoil removal - Emplacing topsoil at emplacement area - Blakefield	21	10,946	t/y	0.00188	kq/t	1.59	average of (wind speed/2.2)^1.3 in m/s	2	moisture content in %								
OB - Drilling - Blakefield	415		holes/y	0.59	kg/hole											70	% control
OB - Blasting - Blakefield	2,160		blasts/y	166.0857		8291	Area of blast in square metres										
OB - Dozers on Dragline OB in-pit - Blakefield	4,153	332		12.52			silt content in %	2.5	moisture content in %								
OB - Dragline removal of OB - Blakefield	64,652	2,175,707			kg/m3 (loose)		drop distance in m		moisture content in %								
OB - Dozers on OB emplacement area - Blakefield	4,153		h/y	12.52			silt content in %		moisture content in %								
OB - Dozers in-pit ancillary tasks - Blakefield	3,074	245		12.52			silt content in %		moisture content in %								
OB - Dozers ripping/pushing/clean-up Partings - Blakefield	546		h/y	12.52			silt content in %		moisture content in %								
OB - loading partings to trucks - Blakefield	94	68,579		0.00138			average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Hauling partings to emplacement area - Blakefield	736	68,579		0.04293			t/load		Vehicle gross mass (t)	2.2	km/return trip	4 1 7 7	' ka/VKT	2 0	6 silt content	75	% control
OB - Emplacing partings to emplacement area - Blakefield	94	68,579		0.04293			average of (wind speed/2.2)^1.3 in m/s		moisture content in %	2.5	kin/recurr trip	4.1//	Ky/VKT	5 7	o sit content	/5	70 CONCION
CL - Drilling coal - Blakefield	104		holes/y	0.00138		1.59	average of (wind speed/2.2)~1.3 In m/s	2.5	moisture content In %							70	% control
CL - Drilling coal - Blakefield	84	589	blasts/y	31.8922		2760	Area of blast in square metres									/0	70 CONTROL
CL - Blasting coal - Blakefield CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield	2,452	174		14.1156			silt content in %		moisture content in %								
	2,452	98,156					silt content in % moisture content in %	9	moisture content in %								
CL - Sh/Ex/FELs loading open coal to trucks - Blakefield				0.04153				65.0	Mahlala ana ang ta		I was from house of the	2.10	1		(all an at a f		0/
CL - Hauling open coal in-pit roads - Blakefield	1,320	98,156		0.05381			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		6 silt content		% control
CL - Hauling open coal to ROM pad - Blakefield	16,700	98,156		1.13422			t/load	65.0	Vehicle gross mass (t)	36.4	km/return trip	2.18	kg/VKT	3 %	6 silt content	85	% control
CL - Unloading ROM to ROM stockpiles/hopper - Blakefield	982	98,156		0.010			% control										
CL - Handle coal at CHPP - Blakefield	21	98,156		0.0002		1.46	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %								
CL - Rehandle ROM coal at stockpiles/hopper - Blakefield	98	9,816	t/y	0.01	kg/t												

Table A.5: Year 15 – Drayton South Emissions Calculations



	TCD			1						1							
ACTIVITY	emissions		Units	Emission	units	Variable	units	Variable	units	Variable	units	Variable	Units	Variable	Units	Variable	Units
	(kg/y)			factor		1		2		3		4		5		6	
REDBANK																	
Site preparation - Dozers on Redbank	13,220	1,580		16.7) silt content in %		moisture content in %								% control
Topsoil removal - Sh/Ex/FELs loading topsoil - Redbank	76	81,047		0.00188			average of (wind speed/2.2)^1.3 in m/s		moisture content in %				1 0.007				% control
Topsoil removal - Hauling topsoil to emplacement area (north) - Redbank	1,464	60,785		0.09635			2 t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
Topsoil removal - Hauling topsoil to emplacement area (south)- Redbank Topsoil removal - Emplacing topsoil at emplacement area -Redbank	601 153	20,262 81,047		0.11872 0.00188			2 t/load average of (wind speed/2,2)^1,3 in m/s		Vehicle gross mass (t) moisture content in %	6.3	km/return trip	4.18	kg/VKT	3	% silt content	/5	% control
OB - Drilling - Redbank	1.814	10 247	holes/y		kg/t kg/hole	1.55	average of (wind speed/2.2)*1.3 in m/s	2								70	% control
OB - Blasting - Redbank	9,442	57				8201	Area of blast in square metres									70	70 CONCION
OB - Dozers on Excavator OB in-pit -Redbank	72,556	5,795		12.52			silt content in %	2.5	moisture content in %								
OB - Excavator loading OB to haul truck - Redbank	34,303			0.00138			average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Hauling to emplacement area (north) - Redbank	449,777			0.09635			2 t/load		Vehicle gross mass (t)	5.1	km/return trip	4.18	kg/VKT	3	% silt content	75	% control
OB - Hauling to emplacement area (south) - Redbank	184,735	6,224,244	t/y	0.11872	kq/t		2 t/load	275.0	Vehicle gross mass (t)	6.3	km/return trip	4.18	kg/VKT	3	% silt content	75	% control
OB - Dozers on OB haul roads (north) - Redbank	15,517	1,239	h/y	12.52	kg/h	10	silt content in %	2.5	moisture content in %								
OB - Dozers on OB haul roads (south) - Redbank	15,517	1,239	h/y	12.52	kg/h	10	silt content in %	2.5	moisture content in %								
OB- Emplacing excavator OB at emplacement area - Redbank	34,303	24,896,975	t/y	0.00138	kg/t	1.59	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %								
OB - Dozers on OB emplacement area - Redbank	72,556	5,795		12.52			silt content in %		moisture content in %								
OB - Dozers in-pit ancillary tasks - Redbank	43,486	3,473		12.52			silt content in %		moisture content in %								
OB - Dozers ripping/pushing/clean-up Partings -Redbank	9,217	736		12.52			silt content in %		moisture content in %								
OB - loading partings to trucks - Redbank	1,115	808,942		0.00138			average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Hauling partings to emplacement area (north) - Redbank	14,614	606,707		0.09635			2 t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
OB - Hauling partings to emplacement area (south)- Redbank	6,002	202,236		0.11872			2 t/load		Vehicle gross mass (t)	6.3	km/return trip	4.18	kg/VKT	3	% silt content	75	% control
OB - Emplacing partings to emplacement area - Redbank	1,115	808,942		0.00138		1.59	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %								
CL - Drilling coal - Redbank	1,475		holes/y	0.5900		276	Anna - Chlash la sanana mahara									70	% control
CL - Blasting coal - Redbank	1,194	37 2,935		31.8922 14.1156			Area of blast in square metres		Verselations as attach in Or								
CL - Dozers ripping/pushing/clean-up ROM in-pit - Redbank	41,423	1,388,715		0.04153				9	moisture content in %								
CL - Sh/Ex/FELs loading open coal to trucks - Redbank CL - Hauling open coal in-pit roads - Redbank	57,670 111,553	1,388,715		0.32131			9 moisture content in % 9 t/load	65.0	Vehicle gross mass (t)	10.2	km/return trip	2.10	kq/VKT	2	% silt content	75	% control
CL - Hauling open coal to ROM pad - Redbank	207,755	1,388,715		0.99735			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
CL - Unloading ROM to ROM stockpiles/hopper -Redbank	4,166	1,388,715		0.010			y load	05.0	venicie gross mass (t)	52.0	Kin/return trip	2.10	Kg/ VKT	5	70 SIL COTLETIC		% control
CL - Handle coal at CHPP - Redbank	291	1,388,715		0.0002		1.46	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %							/0	70 CONCION
CL - Rehandle ROM coal at stockpiles/hopper - Redbank	1,389	138,872		0.01			average of (mild speed, 212) 115 in this										
HOUSTON	1,505				(g) C												
Topsoil removal - Dozers/Excavators stripping topsoil - Houston	6,181	739	h/y	16.7	kg/h	10	silt content in %	2	moisture content in %							50	% control
Topsoil removal - Sh/Ex/FELs loading topsoil - Houston	29	31,129	t/y	0.00188	kq/t	1.59	average of (wind speed/2.2)^1.3 in m/s	2	moisture content in %							50	% control
Topsoil removal - Hauling topsoil to emplacement area (east) - Houston	128	15,565	t/y	0.03283	kg/t	222	2 t/truck load	275.0	Vehicle gross mass (t)	1.7	km/return trip	4.18	kg/VKT	3	% silt content	75	% control
Topsoil removal - Hauling topsoil to emplacement area (west) - Houston	154	15,565	t/y	0.03969	kg/t		2 t/truck load	275.0	Vehicle gross mass (t)	2.1	km/return trip	4.18	kg/VKT	3	% silt content	75	% control
Topsoil removal - Emplacing topsoil at emplacement area - Houston	59	31,129		0.00188		1.59	average of (wind speed/2.2)^1.3 in m/s	2	moisture content in %								
OB - Drilling - Houston	836	4,724	holes/y		kg/hole											70	% control
OB - Blasting - Houston	4,353	26	blasts/y				Area of blast in square metres										
OB - Dozers on Dragline OB in-pit - Houston	8,293		h/y	12.52			silt content in %		moisture content in %								
OB - Dragline removal of OB - Houston	82,210	2,766,556			kg/m3 (loose		7 drop distance in m		moisture content in %								
OB - Dozers on Excavator OB in-pit - Houston	11,497	918 3,945,131		12.52			silt content in %		moisture content in %								
OB - Excavator loading OB to haul truck - Houston OB - Hauling to emplacement area (east) - Houston	5,436	1,972,565	t/y t/y	0.00138			average of (wind speed/2.2)^1.3 in m/s t/load		woisture content in % Vehicle gross mass (t)	17	km/return trip	4.10	ka/VKT	2	% silt content	75	% control
OB - Hauling to emplacement area (west) - Houston	19,571	1,972,565		0.03283			2 t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
OB - Dozers on OB haul roads (east) - Houston	2,607		h/y	12.52			silt content in %		moisture content in %	2.1	kin/return trp	4.10	Kg/ VKI	3	70 SIL COILEIL	/5	70 CONCION
OB - Dozers on OB haul roads (east) - Houston	2,607		h/y	12.52			silt content in %		moisture content in %								
OB- Emplacing at emplacement area - Houston	5,436	3,945,131		0.00138			average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Dozers on OB emplacement area - Houston	19,790	1,581		12.52) silt content in %		moisture content in %								
OB - Dozers in-pit ancillary tasks - Houston	23,607	1,885		12.52			silt content in %		moisture content in %								
OB - Dozers ripping/pushing/clean-up Partings - Houston	4,146	331	h/y	12.52		10	silt content in %	2.5	moisture content in %								
OB - Loading partings to trucks - Houston	242	175,692	t/y	0.00138			average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Hauling partings to emplacement area (east) - Houston	721	87,846		0.03283		222	2 t/load	275.0	Vehicle gross mass (t)	1.7	km/return trip	4.18	kg/VKT	3	% silt content	75	% control
OB - Hauling partings to emplacement area (west) - Houston	872	87,846		0.03969			2 t/load		Vehicle gross mass (t)	2.1	km/return trip	4.18	kg/VKT	3	% silt content	75	% control
CL - Emplacing partings at emplacement area - Houston	242	175,692	t/y	0.00138			average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
CL - Dozers ripping/pushing/clean-up ROM (in-pit) - Houston	32,124	2,276		14.1156			5 silt content in %	9	moisture content in %								
CL - Sh/Ex/FELs loading open coal to trucks - Houston	31,307	753,885		0.04153			9 moisture content in %										
CL - Hauling open coal in-pit roads (east) - Houston	7,668	376,942		0.08137) t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
CL - Hauling open coal in-pit roads (west) - Houston	4,454	376,942		0.04726			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
CL - Hauling open coal to ROM pad (east) - Houston	45,818	376,942		0.81035			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
CL - Hauling open coal to ROM pad (west) - Houston	50,000	376,942		0.88430		70) t/load	65.0	Vehicle gross mass (t)	28.4	km/return trip	2.18	kg/VKT	3	% silt content		% control
CL - Unloading ROM to ROM stockpiles/hopper - Houston	2,262	753,885		0.010												70	% control
CL - Handle coal at CHPP - Houston	158	753,885		0.0002		1.46	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %								_
CL - Rehandle ROM coal at stockpiles/hopper - Houston	754	75,388	ť/y	0.01	kg/t												



ΑCTIVITY	TSP emissions (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
ROM/REJECTS HANDLING																	
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile	81,371	5,765	h/y	14.1156	kg/h	5	silt content in %	9	moisture content in %								
CL - Loading rejects	-	1,152,530	t/y	Rejects very	wet therefore	no dust											
CL - Transporting rejects	56,510	1,152,530	t/y	0.1961	kg/t	91	t/load	117.9	Vehicle gross mass (t)	6.2	km/return trip	2.85	kg/VKT	3	% silt content	75	% control
CL - Unloading rejects	-	1,152,530	t/y	Rejects very	wet therefore	no dust											
PRODUCT COAL																	
CL - Loading product stockpile	408	3,437,913	t/y	0.0002	kg/t	1.46	average of (wind speed/2.2)^1.3 in m/s	11	moisture content in %							25	% control
CL - Loading product coal to trains	545	3,437,913	t/y	0.0002	kg/t	1.46	average of (wind speed/2.2)^1.3 in m/s	11	moisture content in %								
WIND EROSION																	
WE - OB dump & disturbed area - Uncontrolled	1,306,674	373	ha	0.4	kg/ha/h	8760) h/y										
WE - OB dump & disturbed area - Controlled	72,593	41	ha	0.4	kg/ha/h	8760) h/y									50	% control
WE - Open mining area - Whynot	397,444	113	ha	0.4	kg/ha/h	8760	h/y										
WE - Open mining area - Blakefield	34,361	10	ha	0.4	kg/ha/h	8760) h/y										
WE - Open mining area - Redbank	254,412	73	ha	0.4	kg/ha/h	8760) h/y										
WE - Open mining area - Houston	97,717	28	ha	0.4	kg/ha/h	8760) h/y										
WE - ROM stockpiles	7,358	6	ha	0.4	kg/ha/h	8760) h/y									65	% control
WE - Product stockpiles	52,560	15	ha	0.4	kg/ha/h	8760) h/y										



ACTIVITY	TSP emissions (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
WHYNOT	NEW																
Topsoil removal & Site preparation - Dozers on Whynot	39,407	4,709	h/y	16.7	kg/h	10	silt content in %	2	moisture content in %							50	% control
Topsoil removal - Sh/Ex/FELs loading topsoil - Whynot	186	194,306	t/y	0.00191	kq/t	1.61	average of (wind speed/2.2)^1.3 in m/s	2	moisture content in %							50	% control
Topsoil removal - Hauling topsoil to emplacement area (east) - Whynot	2,930	97,153	t/y	0.121	kq/t	222	t/load	275.0	Vehicle gross mass (t)	6.4	km/return trip	4.18	kg/VKT	3	% silt content	75	% control
Topsoil removal - Hauling topsoil to emplacement area (west) - Whynot	1,670	97,153	t/y	0.069	kq/t	222	t/load	275.0	Vehicle gross mass (t)	3.6	km/return trip	4.18	kg/VKT	3	% silt content	75	% control
Topsoil removal - Emplacing topsoil at emplacement area - Whynot	371	194,306	t/v	0.00191	ka/t	1.61	average of (wind speed/2.2)^1.3 in m/s	2	moisture content in %								
OB - Drilling - Whynot	6,156	34,782	holes/y	0.59	kg/hole											70	% control
OB - Blasting - Whynot	32,537	170	blasts/y		kg/blast	9,112	Area of blast in square metres										
OB - Dozers on Dragline OB in-pit - Whynot	29,219	2,334	h/v	12.52	ka/h	10	silt content in %	2.5	moisture content in %								
OB - Dragline removal of OB - Whynot	341,927	11,506,666	bcm/y	0.030	kg/m3 (loose)	7	drop distance in m	2.5	moisture content in %								
OB - Dozers on Excavotor OB in-pit - Whynot	124,659	9,956	h/y	12.52	ka/h	10	silt content in %	2.5	moisture content in %								
OB - Excavator loading OB to haul truck - Whynot	59,702	42,691,411	t/v	0.00140		1.61	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %								
OB - Hauling excavator OB to emplacement area (east) - Whynot	643,783			0.12			t/load	275.0	Vehicle gross mass (t)	6.4	km/return trip	4.18	ka/VKT	3	% silt content	75	% control
OB - Hauling excavator OB to emplacement area (west) - Whynot	366,842			0.07			t/load		Vehicle gross mass (t)		km/return trip		ka/VKT		% silt content		% control
OB - Dozers on OB haul roads (east) - Whynot	28,268	2,258		12.52			silt content in %		moisture content in %								
OB - Dozers on OB haul roads (west) - Whynot	28,268	2,258		12.52			silt content in %		moisture content in %								
OB - Emplacing excavator OB at emplacement area - Whynot	59,702			0.0014			average of (wind speed/2,2)^1.3 in m/s		moisture content in %								
OB - Dozers on OB emplacement area - Whynot	153,878			12.52			silt content in %		moisture content in %								
OB - Dozers in-pit ancillary tasks - Whynot	97,568	7,792		12.52			silt content in %		moisture content in %								
OB - Dozers ripping/pushing/clean-up Partings - Whynot	36,735	2,934		12.52			silt content in %		moisture content in %								
OB - Loading partings to haul trucks - Whynot	2,882			0.0014			average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Hauling partings to indicate acts with the	31,081	1,030,556		0.121			t/load		Vehicle gross mass (t)	6.4	km/return trip	4 1 9	ka/VKT	2	% silt content	75	% control
OB - Hauling partings to emplacement area (west) - Whynot	17,711			0.069			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
OB - Emplacing Partings at emplacement area - Whynot	2,882	2,061,111		0.00140			average of (wind speed/2.2)^1.3 in m/s		moisture content in %	5.0	kin/return trip	4.10	KG/ VK I	3	% sit content	/3	% CONTON
CL - Drilling coal and partings - Whynot	2,698	15,241		0.5900		1.01	average of (wind speed/2.2) 1.5 in m/s	2.5	moisture content in %							70	% control
	6,048		blasts/y		kg/blast	4110	Area of blast in square metres									/0	% CONTON
CL - Blasting coal and partings - Whynot	129,003	9,139		14.12			silt content in %		moisture content in %								4
CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot				0.04			moisture content in %	9	moisture content in %								4
CL - Sh/Ex/FELs loading open coal to trucks - Whynot	163,526							CE O	Mahiala and a second (b)	-	The second second second	2.10	L = 0.0/7	2	0/ - 11	70	Of an about
CL - Hauling open coal in-pit roads (east) - Whynot	92,505			0.19			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
CL - Hauling open coal to ROM pad (east) - Whynot		1,968,877		0.71			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
CL - Hauling open coal in-pit roads (middle) - Whynot	54,171			0.11			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
CL - Hauling open coal to ROM pad (middle) - Whynot	285,526			0.97		70	t/load	65.0	Vehicle gross mass (t)	31	. km/return trip	2.18	kg/VKT	3	% silt content		% control
CL - Unloading ROM to ROM stockpiles/hopper - Whynot	11,813			0.010				~								70	% control
CL- Handle coal at CHPP - Whynot	826	3,937,754		0.0002		1.46	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %								4
CL - Rehandle ROM coal at stockpiles/hopper - Whynot	3,938	393,775	t/y	0.01	kg/t												4
BLAKEFIELD		564.400						~									
CL - Highwall transfer point - Blakefield (Y18)	118	564,492		0.0002			average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %								4
CL - Highwall conveyor - Blakefield	16.82	0.0048			kg/ha/h	8760											
CL - Sh/Ex/FELs loading open coal to trucks - Blakefield	23,442	564,492		0.04			moisture content in %										
CL - Hauling open coal in-pit roads - Blakefield	13,591	564,492		0.10			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
CL - Hauling open coal to ROM pad - Blakefield	93,117	564,492		1.10		70	t/load	65.0	Vehicle gross mass (t)	35	km/return trip	2.18	kg/VKT	3	% silt content		% control
CL - Unloading ROM to ROM stockpiles/hopper - Blakefield	1,693	564,492		0.010												70	% control
CL- Handle coal at CHPP - Blakefield	118	564,492		0.0002		1.46	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %								4
CL - Rehandle ROM coal at stockpiles/hopper - Blakefield	564	56,449	t/y	0.01	kg/t												1
REDBANK																	
CL - Highwall transfer point - Redbank (Y20)	189	900,000		0.0002			average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %								
CL - Highwall conveyor - Redbank	17	0.0048			kg/ha/h	8760											
CL - Sh/Ex/FELs loading open coal to trucks - Redbank	37,375	900,000		0.04			moisture content in %										
CL - Hauling open coal in-pit roads - Redbank	30,570	900,000		0.14			t/load		Vehicle gross mass (t)		km/return trip		kg/VKT		% silt content		% control
CL - Hauling open coal to ROM pad - Redbank	134,642	900,000		1.00		70	t/load	65.0	Vehicle gross mass (t)	32	km/return trip	2.18	kg/VKT	3	% silt content		% control
CL - Unloading ROM to ROM stockpiles/hopper - Redbank	2,700	900,000		0.010												70	% control
CL- Handle coal at CHPP - Redbank	189	900,000		0.0002		1.46	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %								
CL - Rehandle ROM coal at stockpiles/hopper - Redbank	900	90,000	t/y	0.01	kg/t												



	TSP			Emission		Variable		Variable		Variable		Variable		Variable		Variable	
ACTIVITY	emissions			factor		1		2		3		4	Units	5		6	Units
HOUSTON	(kg/y)																
Topsoil removal & Site preparation - Dozers on Houston	8,829	1,055	h/v	16.7	ka/h	10	silt content in %		moisture content in %							50	% control
Topsoil removal - Sh/Ex/FELs loading topsoil - Houston	18	19,100		0.0019			average of (wind speed/2,2)^1,3 in m/s		moisture content in %								% control
Topsoil removal - Hauling topsoil to emplacement area (east) - Houston	38	9,550		0.016			t/truck load		Vehicle gross mass (t)	0	8 km/return trip	4 18	ka/VKT	3	% silt content		% control
Topsoil removal - Hauling topsoil to emplacement area (west) - Houston	82	9,550		0.034			t/truck load		Vehicle gross mass (t)		8 km/return trip		kg/VKT		% silt content		% control
Topsoil removal - Emplacing topsoil at emplacement area - Houston	37	19,100		0.0019		1.61	average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Drilling - Houston	1,374		holes/y		ka/hole											70	% control
OB - Blasting - Houston	7,262		blasts/v		kg/blast	9,112	Area of blast in square metres										
OB - Dozers on Dragline OB in-pit - Houston	11,572	924	t/v	12.52	ka/h	10	silt content in %	2.5	moisture content in %								
OB - Dragline removal of OB - Houston	94,616	3,184,041	bcm/v	0.030	kg/m3 (loose)	7	drop distance in m	2.5	moisture content in %								
OB - Dozers on Excavator OB in-pit - Houston	19,702	1,574		12.52			silt content in %	2.5	moisture content in %								
OB - Excavator loading OB to haul truck - Houston	9,436	6,747,413	t/y	0.0014	kq/t	1.61	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %								
OB - Hauling to emplacement area (east) - Houston	13,414	3,373,706	t/y	0.016	kg/t	222	t/load	275.0	Vehicle gross mass (t)	0.	8 km/return trip	4.18	kg/VKT	3	% silt content	75	% control
OB - Hauling to emplacement area (west) - Houston	28,863	3,373,706	t/y	0.034	kg/t	222	t/load	275.0	Vehicle gross mass (t)	1.	8 km/return trip	4.18	kg/VKT	3	% silt content	75	% control
OB - Dozers on OB haul roads - Houston	8,936	714	h/y	12.52	kg/h	10	silt content in %	2.5	moisture content in %								
OB - Emplacing at emplacement area - Houston	9,436	6,747,413	t/y	0.0014	kg/t	1.61	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %								
OB - Dozers on OB emplacement area - Houston	31,274	2,498	h/y	12.52	kg/h	10	silt content in %	2.5	moisture content in %								
OB - Dozers in-pit ancillary tasks - Houston	24,493	1,956	h/y	12.52	kg/h	10	silt content in %	2.5	moisture content in %								
OB - Dozers ripping/pushing/clean-up Partings - Houston	6,883	550	h/y	12.52	kg/h	10	silt content in %	2.5	moisture content in %								
OB - Loading partings to trucks - Houston	172	123,178	t/y	0.0014	kg/t	1.61	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %								
OB - Hauling partings to emplacement area (east) - Houston	245	61,589	t/y	0.016	kg/t	222	t/load	275.0	Vehicle gross mass (t)	0.	8 km/return trip	4.18	kg/VKT	3	% silt content	75	% control
OB - Hauling partings to emplacement area (west) - Houston	527	61,589	t/y	0.034	kg/t		t/load	275.0	Vehicle gross mass (t)	1.	8 km/return trip	4.18	kg/VKT	3	% silt content	75	% control
CL - Emplacing partings at emplacement area - Houston	172	123,178	t/y	0.0014	kg/t	1.61	average of (wind speed/2.2)^1.3 in m/s	2.5	moisture content in %								
CL - Dozers ripping/pushing/clean-up ROM (in-pit) - Houston	38,467	2,725	t/y	14.12	kg/h	5	silt content in %	9	moisture content in %								
CL - Sh/Ex/FELs loading open coal to trucks - Houston	41,051	988,521		0.042	kg/t	9	moisture content in %										
CL - Hauling open coal in-pit roads - Houston	20,402	988,521	t/y	0.083	kg/t		t/load	65.0	Vehicle gross mass (t)	2.	6 km/return trip	2.18	kg/VKT	3	% silt content	75	% control
CL - Hauling open coal to ROM pad - Houston	120,481	988,521		0.81	kg/t	70	t/load	65.0	Vehicle gross mass (t)	26.	1 km/return trip	2.18	kg/VKT	3	% silt content	85	% control
CL - Unloading ROM to ROM stockpiles/hopper - Houston	2,966	988,521		0.010	kg/t											70	% control
CL- Handle coal at CHPP - Houston	207	988,521		0.0002	kg/t	1.46	average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %								
CL - Rehandle ROM coal at stockpiles/hopper - Houston	989	98,852	t/y	0.01	kg/t												
ROM/REJECTS HANDLING																	
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile	81,371	5,765		14.12	kg/h	5	silt content in %	9	moisture content in %								
CL - Loading rejects	-	1,597,692															
CL - Transporting rejects	78,337	1,597,692		0.1961	kg/t	91	t/load	117.9	Vehicle gross mass (t)	6.	2 km/return trip	2.85	kg/VKT	3	% silt content	75	% control
CL - Unloading rejects	-	1,597,692	t/y														
PRODUCT COAL																	
CL - Loading product stockpile	533			0.0002			average of (wind speed/2.2)^1.3 in m/s		moisture content in %							25	% control
CL - Loading product coal to trains	711	4,487,110	t/y	0.0002	kg/t	1.46	average of (wind speed/2.2)^1.3 in m/s	1	moisture content in %								
WIND EROSION																	
WE - OB dump & disturbed area - Uncontrolled	1,065,361	304			kg/ha/h	8760											
WE - OB dump & disturbed area - Controlled	59,187		ha		kg/ha/h	8760										50	% control
WE - Open mining area - Whynot & Redbank	759,293	217			kg/ha/h	8760											
WE - Open mining area - Blakefield (Y18)	24,610		ha		kg/ha/h	8760											
WE - Open mining area - Houston	74,636		ha		kg/ha/h	8760											
WE - ROM stockpiles	7,358		ha		kg/ha/h	8760										65	% control
WE - Product stockpiles	52,560	15	ha	0.4	kg/ha/h	8760	n/y										



ΑCTIVITY	TSP emissions	Intensity	units	Emission factor units	Variable	units	Variable 2	units	Variable 3	units	Variable	Units	Variable	Units	Variable	Units
WHYNOT	(kg/y) NEW			Tactor	-						-		2		•	J
OB - Drilling - Whynot	3,938	22.247	holes/y	0.59 kg/hole	7/	% control										
OB - Blasting - Whynot	7,356		blasts/v	35 kg/hole		6 Area of blast in square metres										
OB - Dozers on Dragline OB in-pit - Whynot	24,434	1,951		12.52 kg/h		silt content in %	2.5	moisture content in %			-					
OB - Dragline removal of OB - Whynot	209,200		bcm/y	0.0297 kg/m		7 drop distance in m		moisture content in %			-					
OB - Dozers on OB emplacement area - Whynot	24,434	1,951		12.52 kg/hi3 (k		silt content in %		moisture content in %								
OB - Dozers in-pit ancillary tasks - Whynot	144,449	11,536		12.52 kg/h		silt content in %		moisture content in %								
OB - Dozers ripping/pushing/clean-up Partings - Whynot	4,056	324		12.52 kg/h		silt content in %		moisture content in %								
OB - Loading partings to haul trucks - Whynot	241	172,459		0.00140 kg/t		1 average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
OB - Hauling partings to emplacement area (east) - Whynot	2,435	86,229		0.11295 kg/t		2 t/load		Vehicle gross mass (t)	6.0	km/return trip	4.18	kg/VKT	3	% silt content	75	% control
OB - Hauling partings to emplacement area (west) - Whynot	717	86,229		0.03326 kg/t		2 t/load		Vehicle gross mass (t)		km/return trip		ka/VKT		% silt content	75	% control
OB - Emplacing Partings at emplacement area - Whynot	241	172,459		0.00140 kg/t		1 average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
CL - Highwall transfer point - Whynot	128	550,912		0.0002 kg/t		1 average of (wind speed/2.2)^1.3 in m/s		moisture content in %								
CL - Highwall conveyor - Whynot	17	0.0048	ha	0.4 kg/ha/h	876	0 h/y										
CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot	51,483	3,647	h/y	14.1156 kg/h		5 silt content in %	9	moisture content in %								
CL - Sh/Ex/FELs loading open coal to trucks - Whynot	44,625	1.074.582	t/v	0.04153 kg/t		9 moisture content in %										
CL - Hauling open coal in-pit roads (east) - Whynot	18,585	537,291	t/y	0.13836 kg/t	7	0 t/load	65.0	Vehicle gross mass (t)	4	km/return trip	2.18	kg/VKT	3	% silt content	75	% control
CL - Hauling open coal to ROM pad (east) - Whynot	63,736	537,291	t/y	0.79083 kg/t	7	0 t/load	65.0	Vehicle gross mass (t)	25	km/return trip	2.18	kg/VKT	3	% silt content	85	% control
CL - Hauling open coal in-pit roads (middle) - Whynot	10,897	537,291	t/y	0.08112 kg/t	7	0 t/load	65.0	Vehicle gross mass (t)	3	km/return trip	2.18	kg/VKT	3	% silt content	75	% control
CL - Hauling open coal to ROM pad (middle) - Whynot	81,802	537,291	t/y	1.01500 kg/t	7	0 t/load	65.0	Vehicle gross mass (t)	33	km/return trip	2.18	kg/VKT	3	% silt content	85	% control
CL - Unloading ROM to ROM stockpiles/hopper - Whynot	3,224	1,074,582	t/y	0.010 kg/t	7	0 % control										
CL- Handle coal at CHPP - Whynot	225	1,074,582	t/y	0.0002 kg/t	1.4	6 average of (wind speed/2.2)^1.3 in m/s	9	moisture content in %								
CL - Rehandle ROM coal at stockpiles/hopper - Whynot	1,075	107,458	t/y	0.01 kg/t												
ROM/REJECTS HANDLING																
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile	81,371	5,765		14.1156 kg/h		5 silt content in %	9	moisture content in %								
CL - Loading rejects	-	268,645		Rejects very wet the												
CL - Transporting rejects	13,172	268,645		0.1961 kg/t		1 t/load	117.9	Vehicle gross mass (t)	6.2	km/return trip	2.85	kg/VKT	3	% silt content	75	% control
CL - Unloading rejects	-	268,645	t/y	Rejects very wet the	efore no dus	t										
PRODUCT COAL																
CL - Loading product stockpile	-	-	t/y	0.0002 kg/t		6 average of (wind speed/2.2)^1.3 in m/s		moisture content in %	25	% control						
CL - Loading product coal to trains	-	-	t/y	0.0002 kg/t	1.4	6 average of (wind speed/2.2)^1.3 in m/s	11	moisture content in %								
WIND EROSION																
WE - OB dump & disturbed area - Uncontrolled	1,159,429	331		0.4 kg/ha/h		0 h/y										
WE - OB dump & disturbed area - Controlled	64,413	37		0.4 kg/ha/h		0 h/y	50	% control								
WE - Open mining area - Whynot	192,750	55		0.4 kg/ha/h		0 h/y										
WE - ROM stockpiles	7,358		ha	0.4 kg/ha/h		0 h/y	65	% control			_					
WE - Product stockpiles	52,560	15	ha	0.4 kg/ha/h	876	0 h/y										



Appendix B. EVIDENCE OF APPENDIX C FILES

Below is an example of the text file (Y5_DS_Emiss_WH.txt) generated from the program that created the variable emission file from the emission inventory for year 5. We can provide the time stamped files as an example for comparison if required.

Pacific Environment

```
23-May-2012 17:41
 DUST EMISSION CALCULATIONS V2
Output emissions file : L:\Ajobs 3600-3699\3617b Drayton South
EA\Modelling\CALPUFF\FINAL\YEAR5\VarEmissFiles\Y5 DS Emiss WH.dat
                  : L:\Ajobs 3600-3699\3617b Drayton South
Meteorological file
EA\Modelling\CALMET\Y5\PRTMET\y5_prtmet_ds_ForEmissFiles.aus
Number of dust sources : 12
Number of activities : 32
No-blast conditions
                    : None
Wind sensitive factor : 1.576 (1.576 adjusted for activity hours)
                   : 62.913
Wind erosion factor
 ----ACTIVITY SUMMARY-----
ACTIVITY NAME : Topsoil removal & Site preparation - Dozers on Whynot
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 22829 kg/y
FROM SOURCES : 5
1 2 3 4 5
HOURS OF DAY
            :
ACTIVITY NAME : Topsoil removal - Sh/Ex/FELs loading topsoil - Whynot
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 234 kg/y
FROM SOURCES : 5
1 2 3 4 5
HOURS OF DAY
            :
ACTIVITY NAME : Topsoil removal - Hauling topsoil to emplacement area (east) - Whynot
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 2875 kg/y
FROM SOURCES : 4
3 4 5 6
HOURS OF DAY
ACTIVITY NAME : Topsoil removal - Hauling topsoil to emplacement area (west) - Whynot
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 2567 kg/y
FROM SOURCES : 3
1 2 10
HOURS OF DAY
ACTIVITY NAME : Topsoil removal - Emplacing topsoil at emplacement area - Whynot
ACTIVITY TYPE : Wind sensitive
DUST EMISSION : 469 kg/y
FROM SOURCES : 6
7 8 9 10 11 12
HOURS OF DAY
ACTIVITY NAME : OB - Drilling - Whynot
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 3283 kg/y
FROM SOURCES : 5
1 2 3 4 5
HOURS OF DAY
ACTIVITY NAME : OB - Blasting - Whynot
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 22795 kg/y
FROM SOURCES : 5
1 2 3 4 5
HOURS OF DAY
ACTIVITY NAME : OB - Dozers on Dragline OB in-pit - Whynot
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 26037 kg/y
```

Consulting • Technologies • Monitoring • Toxicology FROM SOURCES : 3 345 HOURS OF DAY : ACTIVITY NAME : OB - Dragline removal of OB - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 212061 kg/y FROM SOURCES : 6 3 4 5 6 7 8 HOURS OF DAY ACTIVITY NAME : OB - Dozers on Excavotor OB in-pit - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 68533 kg/y FROM SOURCES : 2 1 2 HOURS OF DAY : ACTIVITY NAME : OB - Excavator loading OB to haul truck - Whynot ACTIVITY TYPE : Wind sensitive DUST EMISSION : 32089 kg/y FROM SOURCES : 2 1 2 HOURS OF DAY : ACTIVITY NAME : OB - Hauling excavator OB to emplacement area (east) - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 269007 kg/y FROM SOURCES : 4 3 4 5 6 HOURS OF DAY : ACTIVITY NAME : OB - Hauling excavator OB to emplacement area (west) - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 240226 kg/y FROM SOURCES : 3 1 2 10 HOURS OF DAY : ACTIVITY NAME : OB - Dozers on OB haul roads (east) - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 15541 kg/y FROM SOURCES : 4 3 4 5 6 HOURS OF DAY : ACTIVITY NAME : OB - Dozers on OB haul roads (west) - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 15541 kg/y FROM SOURCES : 3 1 2 10 HOURS OF DAY ACTIVITY NAME : OB- Emplacing excavator OB at emplacement area - Whynot ACTIVITY TYPE : Wind sensitive DUST EMISSION : 32089 kg/y FROM SOURCES : 7 6 7 8 9 10 11 12 HOURS OF DAY : ACTIVITY NAME : OB - Dozers on OB emplacement area - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 94570 kg/y FROM SOURCES : 7 6 7 8 9 10 11 12 HOURS OF DAY ACTIVITY NAME : OB - Dozers in-pit ancillary tasks - Whynot ACTIVITY TYPE : Wind insensitive

Pacific Environment

Pacific Environment

DUST EMISSION : 55308 kg/y FROM SOURCES : 5 1 2 3 4 5 HOURS OF DAY : ACTIVITY NAME : OB - Dozers ripping/pushing/clean-up Partings - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 23575 kg/y FROM SOURCES : 5 1 2 3 4 5 HOURS OF DAY ACTIVITY NAME : OB - Loading partings to haul trucks - Whynot ACTIVITY TYPE : Wind sensitive DUST EMISSION : 1516 kg/y FROM SOURCES : 5 1 2 3 4 5 HOURS OF DAY ACTIVITY NAME : OB - Hauling partings to emplacement area (east) - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 12711 kg/y FROM SOURCES : 4 3456 HOURS OF DAY : ACTIVITY NAME : OB - Hauling partings to emplacement area (west) - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 11351 kg/y FROM SOURCES : 3 1 2 10 HOURS OF DAY : ACTIVITY NAME : OB - Emplacing Partings at emplacement area - Whynot ACTIVITY TYPE : Wind sensitive DUST EMISSION : 1516 kg/y FROM SOURCES 7 6 7 8 9 10 11 12 HOURS OF DAY ACTIVITY NAME : CL - Drilling coal and partings - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 1688 kg/y FROM SOURCES : 5 1 2 3 4 5 HOURS OF DAY : ACTIVITY NAME : CL - Blasting coal and partings - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 4982 kg/y FROM SOURCES : 5 1 2 3 4 5 HOURS OF DAY ACTIVITY NAME : CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 76106 kg/y FROM SOURCES : 5 1 2 3 4 5 HOURS OF DAY : ACTIVITY NAME : CL - Sh/Ex/FELs loading open coal to trucks - Whynot ACTIVITY TYPE : Wind insensitive DUST EMISSION : 83142 kg/y FROM SOURCES : 5 1 2 3 4 5 HOURS OF DAY ACTIVITY NAME : CL - Hauling open coal in-pit roads (east) - Whynot

Pacific Environment

```
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 23329 kg/y
FROM SOURCES
           : 3
345
HOURS OF DAY
           :
ACTIVITY NAME : CL - Hauling open coal in-pit roads (middle) - Whynot
ACTIVITY TYPE : Wind insensitive
DUST EMISSION : 20630 kg/y
FROM SOURCES : 2
1 2
HOURS OF DAY
           :
ACTIVITY NAME : WE - OB dump & disturbed area - Whynot - Uncontrolled
ACTIVITY TYPE : Wind erosion
DUST EMISSION : 284833 kg/y
FROM SOURCES : 7
6 7 8 9 10 11 12
HOURS OF DAY
           :
ACTIVITY NAME : WE - OB dump & disturbed area - Whynot - Controlled
ACTIVITY TYPE : Wind erosion
DUST EMISSION : 15824 kg/y
FROM SOURCES : 7
6 7 8 9 10 11 12
HOURS OF DAY
ACTIVITY NAME : WE - Open mining area- Whynot
ACTIVITY TYPE : Wind erosion
DUST EMISSION : 281582 kg/y
FROM SOURCES : 5
1 2 3 4 5
HOURS OF DAY
EXCEL source file
                   : L:\Ajobs 3600-3699\3617b Drayton South
EA\Emissions\FINALY3_Y10\150512_DS_Emissions_InventoryFINAL_Y5_KH.xls
Source location file : L:\Ajobs 3600-3699\3617b Drayton South
EA\Modelling\CALPUFF\FINAL\YEAR5\Sources\DS Y5 Sources WH.csv
```

Below is a snap shot of the timestamps of the files created for the final modelling. Note that the Y5_DS_Emiss_WH.txt file was created and same time as the Y5_DS_Emiss_WH.dat, however the .dat files headers are edited after it is created so it has a slightly later time stamp.

ime	Date modified	Туре	Size
280312_DS_EmissInvenFINAL_Y27LRGTRKS_asModelledKH.xlsx	2/04/2012 5:05 PM	Microsoft Excel W	1,960 KB
150512_DS_Emissions_InventoryDRAFT_Y10_KH.xls	23/05/2012 2:37 PM	Microsoft Excel 97	2,914 KB
150512_DS_Emissions_InventoryDRAFT_Y5_KH.xlsx	23/05/2012 5:23 PM	Microsoft Excel W	2,433 KB
Y5_DS_Emiss_WH.txt	23/05/2012 5:42 PM	Text Document	9 KB
Y5_DS_Emiss_WH.dat	23/05/2012 5:54 PM	DAT File	11,019 KB
150512_DS_Emissions_InventoryDRAFT_Y3B_KH.xls	25/05/2012 2:39 PM	Microsoft Excel 97	2,943 KB
150512_DS_Emissions_InventoryDRAFT_Y3AKH.xls	31/05/2012 2:55 PM	Microsoft Excel 97	2,946 KB
150512_DS_Emissions_InventoryFINAL_Y15_KH.xls	5/06/2012 5:01 PM	Microsoft Excel 97	2,919 KB
150512_DS_Emissions_InventoryFINAL_sourcesheetsONLY_Y20_KH.xls	6/06/2012 10:26 AM	Microsoft Excel 97	78 KB


Appendix C. SOURCE ALLOCATION



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Activity	Source				
Topsoil Removal & Site preparation - Dozers on Whynot	1 - 5				
Topsoil removal - Sh/Cx/FELs loading topsoil - Whynot	1 - 5				
Topsoil removal - Hauling topsoil to emplacement area (east) - Whynot	3 - 5	8			
Topsoil removal - Hauling topsoil to emplacement area (west) - Whynot	1	2	6		
Topsoil removal - Emplacing topsoil at emplacement area - Whynot	6 - 8	23	0		
DB - Drilling - Whynot	1 - 5	23			
	1 - 5				
DB - Blasting - Whynot					
DB - Dozers on Dragline OB in-pit - W hynot	3 - 5	7	0		
OB - Dragline removal of OB - Whynot	3 - 5	7	8		
OB - Dozers on Excavator OB in-pit - Whynot	1	2			
OB - Excavator loading OB to haul truck - Whynot	1	2			
OB - Hauling excavator OB to emplacement area (east) - Whynot	3 - 5	8			
OB - Hauling excavator OB to emplacement area (west) - Whynot	1	2	6		
OB - Dozers on OB haul roads (east) - W hynot	3 - 5	8			
OB - Dozers on OB haul roads (west) - Whynot	1	2	6		
DB - Emplacing excavator OB at emplacement area - Whynot	6 - 8	23			
OB - Dozers on OB emplacement area - Whynot	6 - 8	23			
OB - Dozers in-pit ancillary tasks - W hynot	1 - 5				
DB - Dozers ripping/pushing/clean-up Partings - W hynot	1 - 5				
DB - Loading partings to haul trucks - Whynot	1 - 5				
DB - Hauling partings to emplacement area (east) - W hynot	3 - 5	8			
DB - Hauling partings to emplacement area (west) - W hynot	1	2	6		
DB - Emplacing Partings at emplacement area - Whynot	6 - 8	23			
CL - Drilling coal - Whynot	1 - 5				
CL - Blasting coal - Whynot	1 - 5				
CL - Dozers ripping/pushing/clean-up ROM in-pit - W hynot	1 - 5				
CL - Sh/Cx/FCLs loading open coal to trucks - Whynot	1 - 5				
CL - Hauling open coal in-pit roads (east) - W hynot	3 - 5				
CL - Hauling open coal to ROM pad (east) - Whynot	25 - 28	43 - 53			
CL - Hauling open coal in-pit roads (middle) - Whynof	1	2			
		2 43 - 53			
CL - Hauling open coal to ROM pad (middle) - Whynot		43 - 53			
CL - Unloading ROM to ROM stockpiles/hopper - Whynot	54				
CL - Handle coal at CHPP - Whynot	55				
CL - Rehandle ROM coal at stockpiles/hopper - Whynot	54	10			
Topsoil removal & site preparation - Dozers on Blakefield	9	10			
iopsoil removal - Sh/Ex/FELs loading topsoil - Blakefield	9	10			
iopsoil removal - Hauling topsoil to emplacement area - Blakefield	9 - 11				
iopsoil removal - Emplacing topsoil at emplacement area - Blakefield	11 - 13				
DB - Drilling - Blakefield	9	10			
DB - Blasting for excavator removal - Blakefield	9	10			
DB - Dozers on Dragline OB in-pit - Blakefield	10				
OB - Dragline removal of OB - Blakefield	10 - 12				
OB - Dozers on Excavator OB in-pit - Blakefield	9				
OB - Excavator loading OB to haul truck - Blakefield	9				
DB - Hauling to emplacement area - Blakefield	9	11			
DB - Dozers on OB haul roads - Blakefield	9 - 11				
DB - Emplacing at emplacement area - Blakefield	11 - 13				
DB - Dozers on OB emplacement area - Blakefield	11 - 13				
OB - Dozers in-pit ancillary tasks - Blakefield	9	10		<u> </u>	
DB - Dozers ripping/pushing/clean-up Partings - Blakefield	9	10			
DB - Loading partings to trucks - Blakefield	9	10			
DB - Hauling partings to emplacement area - Blakefield	, 9 - 11	-			
DB - Emplacing partings at emplacement area - Blakefield					
	11 - 13	10			
CL - Drilling coal - Blakefield	9	10			
CL - Drilling coal - Blakefield CL - Blasting coal - Blakefield	9 9	10			1
CL - Drilling coal - Blakefield CL - Blasting coal - Blakefield CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield	9 9 9	10 10			
CL - Drilling coal - Blakefield CL - Blasting coal - Blakefield CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield CL - Sh/CX/FCLs loading open coal to trucks - Blakefield	9 9 9 9 9	10 10 10			
CL - Drilling coal - Blakefield CL - Blasting coal - Blakefield CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield CL - Sh/Cx/FCLs loading open coal to trucks - Blakefield CL - Hauling open coal in-pits roads - Blakefield	9 9 9 9 9 9	10 10 10 10			
CL - Drilling coal - Blakefield CL - Blasting coal - Blakefield CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield CL - Sh/Cx/FCLs loading open coal to trucks - Blakefield CL - Hauling open coal in-pits roads - Blakefield CL - Hauling open coal to ROM pad - Blakefield	9 9 9 9 9 9 9 13	10 10 10	24 - 28	43 - 53	
DB - Emplacing partings at emplacement area - Blakefield CL - Drilling coal - Blakefield CL - Blasting coal - Blakefield CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield CL - Sh/Cx/FCLs loading open coal to trucks - Blakefield CL - Hauling open coal in-pits roads - Blakefield CL - Hauling open coal to ROM pad - Blakefield CL - Unloading ROM to ROM stockpiles/hopper - Blakefield	9 9 9 9 9 9 13 54	10 10 10 10	24 - 28	43 - 53	
CL - Drilling coal - Blakefield CL - Blasting coal - Blakefield CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield CL - Sh/Cx/FCLs loading open coal to trucks - Blakefield CL - Hauling open coal in-pits roads - Blakefield CL - Hauling open coal to ROM pad - Blakefield	9 9 9 9 9 9 9 13	10 10 10 10	24 - 28	43 - 53	

Table C.1: Year 3A – Drayton South Source Allocation

Activity	Source					
Topsoil removal - Dozers/Excavators stripping topsoil - Redbank	14 - 17					
Topsoil removal - Sh/Ex/FELs loading topsoil - Redbank	14 - 17					_
Topsoil removal - Hauling topsoil to emplacement area (north) - Redbank	15 - 18					
Topsoil removal - Hauling topsoil to emplacement area (south) - Redbank	14	15	21	1		
Topsoil removal - Emplacing topsoil at emplacement area - Redbank	18	20	21			
OB - Drilling for excavator removal - Redbank	14 - 17					
OB - Blasting for excavator removal - Redbank	14 - 17					
OB - Dozers on Excavator OB in-pit - Redbank	14 - 17					
OB - Excavator loading OB to haul truck - Redbank	14 - 17					
OB - Hauling to emplacement area (north) - Redbank	15 - 18					
OB - Hauling to emplacement area (south) - Redbank	14	15	21			
OB - Dozers on OB haul roads (north) - Redbank	15 - 18					-
OB - Dozers on OB haul roads (south) - Redbank	14	15	21			_
OB - Emplacing at emplacement area - Redbank	18	20	21			_
	18	20	21			
OB - Dozers on OB emplacement area -Redbank	_	20	21			
OB - Dozers in-pit ancillary tasks - Redbank	14 - 17					
OB - Dozers ripping/pushing/clean-up Partings - Redbank	14 - 17					
OB - Loading partings to trucks - Redbank	14 - 17					
OB - Hauling partings to emplacement area (north) - Redbank	15 - 18					
OB - Hauling partings to emplacement area (south) - Redbank	14	15	21			
OB - Emplacing partings at emplacement area - Redbank	18	20	21			
CL - Drilling coal - Redbank	14 - 17					_
CL - Blasting coal - Redbank	14 - 17					
-	14 - 17			-		
CL - Dozers ripping/pushing/clean-up ROM in-pit - Redbank	_					
CL - Sh/Cx/FCLs loading open coal to trucks - Redbank	14 - 17					
CL - Hauling open coal in-pits roads - Redbank	14 - 17					_
CL - Hauling open coal to ROM pad - Redbank	19	22	24 - 28	43 - 53		
CL - Unloading ROM to ROM stockpiles/hopper - Redbank	54					
CL - Handle coal at CHPP - Redbank	55					
CL - Rehandle ROM coal at stockpiles/hopper - Redbank	54					
Topsoil Removal - Dozers/Excavators stripping topsoil - Houston	31	32				
Topsoil removal - Sh/Ex/FELs loading topsoil - Houston	31	32				_
Topsoil removal - Hauling topsoil to emplacement area - Houston	31	32	39			
Topsoil removal - Emplacing topsoil at emplacement area - Houston	29	30	33	34	36 -	3
OB - Drilling for excavator removal - Houston	31	32	55	54	50-	0
-						
OB - Blasting for excavator removal - Houston	31	32				
OB - Dozers on Excavator OB in-pit - Houston	31	32				
OB - Excavator loading OB to haul truck - Houston	31	32				
OB - Hauling to emplacement area - Houston	31	32	39			
OB - Dozers on OB haul roads - Houston	31	32	39			
OB - Emplacing at emplacement area - Houston	29	30	33	34	36 -	3
OB - Dozers on OB emplacement area - Houston	29	30	33	34	36 -	3
OB - Dozers in-pit ancillary tasks - Houston	31	32				_
OB - Dozers ripping/pushing/clean-up Partings - Houston	31	32				-
OB - Loading partings to trucks - Houston	31	32				
			20			
OB - Hauling partings to emplacement area - Houston	31	32	39			_
OB - Emplacing partings at emplacement area - Houston	29	30	33	34	36 -	3
CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston	31	32				
CL - Sh/Cx/FCLs loading open coal to trucks - Houston	31	32				
CL - Hauling open coal in-pits roads (east) - Houston	29	30	32			
CL - Hauling open coal in-pits roads (west) - Houston	31					
CL - Hauling open coal to ROM pad (east) - Houston	28	40 - 53				
CL - Hauling open coal to ROM pad (west) - Houston	28	33	34	35	41 -	5
CL - Unloading ROM to ROM stockpiles/hopper - Houston	54		-	1	<u> </u>	_
CL - Handle coal at CHPP - Houston	55				-	
CL - Rehandle ROM coal at stockpiles/hopper - Houston	54					
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile	54	55				_
CL - Loading rejects	55					
CL - Transporting rejects	51	58	59			
	60					
CL - Unloading rejects						
CL - Unloading rejects CL - Loading product stockpile	56					



Activity	Source				
WE - OB dump & disturbed area - Whynot - Uncontrolled	6 - 8	23			
WE - OB dump & disturbed area - Whynot - Controlled	6 - 8	23			
WE-OB dump& disturbed area - Blakefield - Uncontrolled	11 - 13				
WE - OB dump& disturbed area - Blakefield - Controlled	11 - 13				
WE-OB dump& disturbed area - Redbank - Uncontrolled	18	20	21		
WE-OB dump& disturbed area - Redbank - Controlled	18	20	21		
WE - OB dump& disturbed area - Houston - Uncontrolled	29	30	33	34	36 - 39
WE-OB dump& disturbed area - Houston- Controlled	29	30	33	34	36 - 39
WE - Open mining area - Whynot	1 - 5	5			
WE - Open mining area - Blakefield	9	10			
WE - Open mining area - Redbank	14 - 17				
WE - Open mining area - Houston	31	32			
WE-ROM stockpiles	54				
WE-Product stockpiles	56				

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Table C.2: Year 3B – Drayton Sc									-								
Activity	Sou	Jrce															
Topsoil Removal & Site preparation - Dozers on Whynot	1	2	3	4	5												
Topsoil removal - Sh/Cx/FELs loading topsoil - Whynot	1	2	3	4	5												
Topsoil removal - Hauling topsoil to emplacement area (east) - Whynot	3	4	5	8													
Topsoil removal - Hauling topsoil to emplacement area (west) - Whynot	1	2	6														
Topsoil removal - Emplacing topsoil at emplacement area - Whynot	6	7	8	23													
OB - Drilling - W hynot	1	2	3	4	5												
OB - Blasting - W hynot	1	2	3	4	5												
OB - Dozers on Dragline OB in-pit - Whynot	3	4	5		_								_				
OB - Dragline removal of OB - Whynot	3	4	5	7	8												
OB - Dozers on Excavator OB in-pit - W hynot	1	2			_								_				
OB - Excavator loading OB to haul truck - Whynot	1	2															
OB - Hauling excavator OB to emplacement area (east) - W hynot	3	4	5	8													
OB - Hauling excavator OB to emplacement area (west) - W hynot	1		6	_	-	_			_		_		_	_			
OB - Dozers on OB haul roads (east) - Whynot	3			8	-				-				-		_		-
OB - Dozers on OB haul roads (west) - Whynot	1				-				-				_		_	_	
OB - Emplacing excavator OB at emplacement area - Whynot	6	-	_	23												-	-
OB - Dozers on OB emplacement area - Whynot	6			23	-				_				_			_	-
				_	E				_				_			_	_
OB - Dozers in-pit ancillary tasks - Whynot	1	-	_	_	-												
OB - Dozers ripping/pushing/clean-up Partings - Whynot	1			_												_	
OB - Loading partings to haul trucks - Whynot	1				5											_	
OB - Hauling partings to emplacement area (east) - Whynot	3			_													_
OB - Hauling partings to emplacement area (west) - W hynot	1	-		_													
OB - Emplacing Partings at emplacement area - Whynot	6			23													
CL - Drilling coal - Whynot	1			_	_												
CL - Blasting coal - Whynot	1	2	3	4	5												
CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot	1	2	3	4	5												
CL - Sh/Cx/FCLs loading open coal to trucks - W hynot	1	2	3	4	5												
CL - Hauling open coal in-pit roads (east) - W hynot	3	4	5														
CL - Hauling open coal to ROM pad (east) - W hynot	25	26	27	28	42	43	44	45	46	47	48	49	50	51	52		
CL - Hauling open coal in-pit roads (middle) - W hynot	1	2															
CL - Hauling open coal to ROM pad (middle) - W hynot	23	24	25	26	27	28	42	43	44	45	46	47	48	49	50	51	52
CL - Unloading ROM to ROM stockpiles/hopper - W hynot	53																
CL - Handle coal at CHPP - Whynot	54																
			-	-	-						_	_					-
CL - Rehandle ROM coal at stockpiles/hopper - Whynot	53																
CL - Rehandle ROM coal at stockpiles/hopper - W hynot	_	10														_	+
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield	9	10															
CL - Rehandle ROM coal at stockpiles/hopper - Whynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield	9 9	10 10	11														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield	9 9 9	10 10 10	_														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield Topsoil removal - Emplacing topsoil at emplacement area - Blakefield	9 9 9 11	10 10 10 12	_														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield Topsoil removal - Emplacing topsoil at emplacement area - Blakefield OB - Drilling - Blakefield	9 9 9 11 9	10 10 10 12 10	_														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield Topsoil removal - Emplacing topsoil at emplacement area - Blakefield OB - Drilling - Blakefield OB - Blasting for excavator removal - Blakefield	9 9 9 11 9 9 9 9	10 10 12 10 10	_														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield Topsoil removal - Emplacing topsoil at emplacement area - Blakefield OB - Drilling - Blakefield OB - Blasting for excavator removal - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield	9 9 11 9 9 11	10 10 10 12 10 10	13														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield Topsoil removal - Emplacing topsoil at emplacement area - Blakefield OB - Drilling - Blakefield OB - Blasting for excavator removal - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield OB - Dragline removal of OB - Blakefield	9 9 11 9 9 10 10	10 10 12 10 10 10	13														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield Topsoil removal - Emplacing topsoil at emplacement area - Blakefield OB - Drilling - Blakefield OB - Drilling - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield OB - Dragline removal of OB - Blakefield OB - Dozers on Excavator OB in-pit - Blakefield	9 9 11 9 10 10 10 9	10 10 12 10 10 10	13														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield Topsoil removal - Emplacing topsoil at emplacement area - Blakefield OB - Drilling - Blakefield OB - Diversion for excavator removal - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield OB - Dozers on Excavator OB in-pit - Blakefield OB - Dozers on Excavator OB in-pit - Blakefield OB - Dozers on Excavator OB in-pit - Blakefield	9 9 11 9 10 10 10 9 9 9	10 10 12 10 10 10	13														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield Topsoil removal - Emplacing topsoil at emplacement area - Blakefield OB - Drilling - Blakefield OB - Drilling - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield OB - Dozers on Excavator OB in-pit - Blakefield OB - Dozers on Excavator OB in-pit - Blakefield OB - Excavator loading OB to haul truck - Blakefield OB - Hauling to emplacement area - Blakefield	9 9 11 9 9 10 10 10 9 9 9 9	10 10 12 10 10 10 11	13														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield Topsoil removal - Emplacing topsoil at emplacement area - Blakefield OB - Drilling - Blakefield OB - Drilling - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield OB - Dozers on Excavator OB in-pit - Blakefield OB - Dozers on Excavator OB in-pit - Blakefield OB - Excavator loading OB to haul truck - Blakefield OB - Hauling to emplacement area - Blakefield OB - Dozers on OB haul roads - Blakefield	9 9 11 9 9 10 10 10 9 9 9 9 9	10 10 10 12 10 10 11 11	13 12 11														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield Topsoil removal - Emplacing topsoil at emplacement area - Blakefield OB - Drilling - Blakefield OB - Drilling - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield OB - Dozers on Excavator OB in-pit - Blakefield OB - Dozers on OB haul roads - Blakefield OB - Dozers on OB haul roads - Blakefield OB - Dozers on OB haul roads - Blakefield	9 9 9 9 11 9 10 10 9	10 10 12 10 10 10 11 11 11 10 12	13 12 11 13														
CL - Rehandle ROM coal at stockpiles/hopper - W hynot Site preparation - Dozers on Blakefield Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield Topsoil removal - Hauling topsoil to emplacement area - Blakefield Topsoil removal - Emplacing topsoil at emplacement area - Blakefield OB - Drilling - Blakefield OB - Drilling - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield OB - Dozers on Dragline OB in-pit - Blakefield OB - Dozers on Excavator OB in-pit - Blakefield OB - Dozers on OB haul roads - Blakefield	9 9 9 9 11 9 10 10 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 10 11	10 10 12 10 10 10 11 11 11 10 12 12	13 12 11 13														
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Table C.2: Year 3B – Drayton South Source Allocation

Activity	•																		
		urc																_	
Topsoil removal - Dozers/Excavators stripping topsoil - Redbank	_	15	_	-		_											_	_	_
Topsoil removal - Sh/Ex/FELs loading topsoil - Redbank		15		-														_	
Topsoil removal - Hauling topsoil to emplacement area (north) - Redbank	_	16	-	-	18												_	_	
Topsoil removal - Hauling topsoil to emplacement area (south) - Redbank	_	15	_	-													_	_	_
Topsoil removal - Emplacing topsoil at emplacement area - Redbank		20	_	_													_	_	_
OB - Drilling for excavator removal - Redbank	_	15	-	-														_	
OB - Blasting for excavator removal - Redbank	14	15	5 1	6	17														
OB - Dozers on Excavator OB in-pit - Redbank	14	15	5 1	6	17														
OB - Excavator loading OB to haul truck - Redbank	14	15	5 1	6	17														
OB - Hauling to emplacement area (north) - Redbank	15	16	5 1	7	18														
OB - Hauling to emplacement area (south) - Redbank	14	15	5 2	21															
OB - Dozers on OB haul roads (north) - Redbank	15	16	5 1	7	18														
OB - Dozers on OB haul roads (south) - Redbank	14	15	5 2	21															
OB - Emplacing at emplacement area - Redbank	18	20) 2	21															
OB - Dozers on OB emplacement area -Redbank	18	20) 2	21															
OB - Dozers in-pit ancillary tasks - Redbank	14	15	5 1	6	17														
OB - Dozers ripping/pushing/clean-up Partings - Redbank	_	15	-	-			_			_		_	_	_	_	_			
OB - Loading partings to trucks - Redbank	_	15	_	-													-		
OB - Hauling partings to emplacement area (north) - Redbank	_	16	_	-													\rightarrow	-	
OB - Hauling partings to emplacement area (south) - Redbank		15		-	10		-			-			_	_		_	\rightarrow	_	
	_	20	_	-			_			-				_		_	\rightarrow	_	
OB - Emplacing partings at emplacement area - Redbank	_	-	_	-	17		_							_		_	_	_	
CL - Drilling coal - Redbank	_	15	-	-		-	_							_		_	_	_	
CL - Blasting coal - Redbank	_	15	-	-		-											_	_	_
CL - Dozers ripping/pushing/clean-up ROM in-pit - Redbank	_	15	-	-													_	_	_
CL - Sh/Cx/FCLs loading open coal to trucks - Redbank	_	15	_	-													_	_	_
CL - Hauling open coal in-pits roads - Redbank	_	15	-	-															_
CL - Hauling open coal to ROM pad - Redbank	19	22	2 2	24	25	26	27	28	42	43	44	45	46	47	48	49	50	51	52
CL - Unloading ROM to ROM stockpiles/hopper - Redbank	53																		
CL - Handle coal at CHPP - Redbank	54																		
CL - Rehandle ROM coal at stockpiles/hopper - Redbank	53	-																	
Topsoil Removal - Dozers/Excavators stripping topsoil - Houston	31	32	2																
Topsoil removal - Sh/Ex/FELs loading topsoil - Houston	31	32	2																
Topsoil removal - Hauling topsoil to emplacement area - Houston	31	32	2 3	88															
Topsoil removal - Emplacing topsoil at emplacement area - Houston	29	30) 3	33	34	36	37	38											_
OB - Drilling for excavator removal - Houston	31	32	2																
OB - Blasting for excavator removal - Houston	_	32	-																
OB - Dozers on Excavator OB in-pit - Houston		32	-														_	-	
OB - Excavator loading OB to haul truck - Houston	_	32	-										_	_	_	_			
OB - Hauling to emplacement area - Houston	_	32	_	28			-	-					_	_	_	_		_	_
OB - Dozers on OB haul roads - Houston	_	32	-	-									_	_	_	_	_	-	
OB - Emplacing at emplacement area - Houston	_	-	_	-	34	36	27	20					_	_		_	_	_	
	_	-	_	-		_		_						_		_	_	_	
	29			531	34	36	3/	38										_	
OB - Dozers on OB emplacement area - Houston		-	_	-	-				_	-				_	_	_			<u> </u>
OB - Dozers in-pit ancillary tasks - Houston	-	32	2															_	
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston	31	32 32	2		_														
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston	31	32 32 32	2 2 2																
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston	31 31 31	32 32 32 32	2 2 2 2 2 3	38															
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston	31 31 31 31 29	32 32 32 32 32 30	2 2 2 2 3 3 3	38		36	37												
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston	31 31 31 29 31	32 32 32 32 32 30 32	2 2 2 2 3 2 3 3 2 2	38		36	37												
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston	31 31 31 29 31	32 32 32 32 32 30	2 2 2 2 3 2 3 3 2 2	38		36	37												
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston	31 31 31 29 31	32 32 32 32 32 32 32 32	2 2 2 2 3 2 3 3 2 2	38		36	37												
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/CX/FCLs loading open coal to trucks - Houston	31 31 31 29 31 31 31 31	32 32 32 32 32 32 32 32	2 2 2 2 3 3 3 3 2 2	38		36	37												
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/CX/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston	31 31 31 29 31 31 31 31 29	32 32 32 32 32 32 32 32 32 32	2 2 2 2 3 2 3 2 2 2 3 3 3 3 3	38 33 32	34			38	45	46	47	48	49	50	51	52			
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/Cx/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston CL - Hauling open coal in-pits roads (west) - Houston	31 31 31 29 31 31 31 31 29 28	32 32 32 32 32 32 32 32 32 32 32 32 32 3	2 2 2 2 3 3 2 2 2 2 3 3 2 2 3 3 3 4 4	38 33 32 40	34	42	43	38	_	_	_	_	_	_	_	_	51	52	
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/CX/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston CL - Hauling open coal in-pits roads (west) - Houston CL - Hauling open coal to ROM pad (east) - Houston	31 31 31 29 31 31 31 31 29 28	32 32 32 32 32 32 32 32 32 32 32 32 32 3	2 2 2 2 3 3 2 2 2 2 3 3 2 2 3 3 3 4 4	38 33 32 40	34	42	43	38	_	_	_	_	_	_	_	_	51	52	
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/CX/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston CL - Hauling open coal in-pits roads (west) - Houston CL - Hauling open coal to ROM pad (east) - Houston CL - Hauling open coal to ROM pad (west) - Houston	31 31 29 31 31 31 31 31 29 28 28 28	32 32 32 32 32 32 32 32 32 32 32 32 32 3	2 2 2 2 3 3 2 2 2 2 3 3 2 2 3 3 3 4 4	38 33 32 40	34	42	43	38	_	_	_	_	_	_	_	_	51	52	
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/Cx/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston CL - Hauling open coal in-pits roads (west) - Houston CL - Hauling open coal to ROM pad (east) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling Open coal to ROM pad (west) - Houston CL - Hauling Open coal to ROM pad (west) - Houston	31 31 31 29 31 31 31 31 29 28 28 28 53 54	32 32 32 32 32 32 32 32 32 32 32 32 32 3	2 2 2 2 3 3 2 2 2 2 3 3 2 2 3 3 3 4 4	38 33 32 40	34	42	43	38	_	_	_	_	_	_	_	_	51	52	
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Loading partings to emplacement area - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/Cx/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston CL - Hauling open coal in-pits roads (west) - Houston CL - Hauling open coal to ROM pad (east) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM stockpiles/hopper - Houston CL - Rehandle ROM coal at stockpiles/hopper - Houston	31 31 31 29 31 31 31 31 29 28 28 28 53 54 53	32 32 32 32 32 32 32 32 32 32 32 32 32 3	2 2 2 2 3 3 2 2 2 3 3 3 3 3 3 3 3	38 33 32 40	34	42	43	38	_	_	_	_	_	_	_	_	51	52	
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Loading partings to emplacement area - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/Cx/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston CL - Hauling open coal in-pits roads (west) - Houston CL - Hauling open coal to ROM pad (east) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM stockpiles/hopper - Houston CL - Haudle coal at CHPP - Houston CL - Rehandle ROM coal at stockpiles/hopper - Houston CL - Dozers ROM Coal Handling & Rejects - ROM stockpile	31 31 31 29 31 31 31 29 28 28 28 53 54 53 53	32 32 32 32 32 32 32 32 32 32 32 32 32 3	2 2 2 2 3 3 2 2 2 3 3 3 3 3 3 3 3	38 33 32 40	34	42	43	38	_	_	_	_	_	_	_	_	51	52	
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/Cx/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston CL - Hauling open coal in-pits roads (west) - Houston CL - Hauling open coal to ROM pad (east) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Loading ROM to ROM stockpiles/hopper - Houston CL - Rehandle ROM coal at stockpiles/hopper - Houston CL - Dozers ROM Coal Handling & Rejects - ROM stockpile CL - Loading rejects	31 31 31 29 31 31 31 29 28 28 53 54 53 54 53 54	32 32 32 32 32 32 32 32 32 32 32 32 32 3	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	38 33 32 40 34	34	42	43	38	_	_	_	_	_	_	_	_	51	52	
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/Cx/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston CL - Hauling open coal in-pits roads (west) - Houston CL - Hauling open coal to ROM pad (east) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Unloading ROM to ROM stockpiles/hopper - Houston CL - Handle coal at CHPP - Houston CL - Rehandle ROM coal at stockpiles/hopper - Houston CL - Dozers ROM Coal Handling & Rejects - ROM stockpile CL - Loading rejects CL - Transporting rejects	31 31 29 31 31 31 29 28 28 53 54 53 53 54 50	32 32 32 32 32 32 32 32 32 32 32 32 32 3	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	38 33 32 40 34	34	42	43	38	_	_	_	_	_	_	_	_	51	52	
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/Cx/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston CL - Hauling open coal in-pits roads (west) - Houston CL - Hauling open coal to ROM pad (east) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Unloading ROM to ROM stockpiles/hopper - Houston CL - Handle coal at CHPP - Houston CL - Rehandle ROM coal at stockpiles/hopper - Houston CL - Dozers ROM Coal Handling & Rejects - ROM stockpile CL - Loading rejects CL - Unloading rejects CL - Unloading rejects	311 311 299 311 311 311 299 288 288 533 544 533 533 544 500 599	32 32 32 32 32 32 32 32 32 32 32 32 32 3	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	38 33 32 40 34	34	42	43	38	_	_	_	_	_	_	_	_	51	52	
OB - Dozers in-pit ancillary tasks - Houston OB - Dozers ripping/pushing/clean-up Partings - Houston OB - Loading partings to trucks - Houston OB - Hauling partings to emplacement area - Houston OB - Emplacing partings at emplacement area - Houston CL - Dozers ripping/pushing/clean-up ROM in-pit - Houston CL - Sh/Cx/FCLs loading open coal to trucks - Houston CL - Hauling open coal in-pits roads (east) - Houston CL - Hauling open coal in-pits roads (west) - Houston CL - Hauling open coal to ROM pad (east) - Houston CL - Hauling open coal to ROM pad (east) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Hauling open coal to ROM pad (west) - Houston CL - Unloading ROM to ROM stockpiles/hopper - Houston CL - Rehandle ROM coal at stockpiles/hopper - Houston CL - Dozers ROM Coal Handling & Rejects - ROM stockpile CL - Loading rejects CL - Transporting rejects	31 31 29 31 31 31 29 28 28 53 54 53 53 54 50	32 32 32 32 32 32 32 32 32 32 32 32 32 3	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	38 33 32 40 34	34	42	43	38	_	_	_	_	_	_	_	_	51	52	

Activity	Source
WE - OB dump & disturbed area - W hynot - Uncontrolled	6 7 8 23
WE - OB dump & disturbed area - Whynot - Controlled	6 7 8 23
WE - OB dump & disturbed area - Blakefield - Uncontrolled	11 12 13
WE - OB dump & disturbed area - Blakefield - Controlled	11 12 13
WE - OB dump& disturbed area - Redbank - Uncontrolled	18 20 21
WE-OB dump& disturbed area - Redbank - Controlled	18 20 21
WE - OB dump& disturbed area - Houston - Uncontrolled	29 30 33 34 36 37 38
WE - OB dump& disturbed area - Houston- Controlled	29 30 33 34 36 37 38
WE - Open mining area- Whynot	1 2 3 4 5
WE - Open mining area - Blakefield	9 10
WE - Open mining area - Redbank	14 15 16 17
WE - Open mining area - Houston	31 32
WE-ROM stockpiles	53
WE-Product stockpiles	55

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Table C.3: Year 5 – Drayton So	outh Source Allocation
Activity	Source
Topsoil removal & Site preparation - Dozers on Whynot	1 2 3 4 5
Topsoil removal - Sh/Ex/FELs loading topsoil - W hynot	1 2 3 4 5
Topsoil removal - Hauling topsoil to emplacement area (east) - Whynot	3 4 5 6
Topsoil removal - Hauling topsoil to emplacement area (west) - W hynot	1 2 10
Topsoil removal - Emplacing topsoil at emplacement area - Whynot	7 8 9 10 11 47
OB - Drilling - Whynot	1 2 3 4 5
OB - Blasting - Whynot	1 2 3 4 5
OB - Dozers on Dragline OB in-pit - W hynot	3 4 5
OB - Dragline removal of OB - Whynot	3 4 5 6 7 8
OB - Dozers on Excavator OB in-pit - Whynot	1 2
OB - Excavator loading OB to haul truck - Whynot	1 2
OB - Hauling excavator OB to emplacement area (east) - W hynot	3 4 5 6
OB - Hauling excavator OB to emplacement area (west) - W hynot	1 2 10
OB - Dozers on OB haul roads (east) - W hynot	3 4 5 6
OB - Dozers on OB haul roads (west) - W hynot	1 2 10
OB- Emplacing excavator OB at emplacement area - Whynot	6 7 8 9 10 11 47
OB - Dozers on OB emplacement area - W hynot	6 7 8 9 10 11 47
OB - Dozers in-pit ancillary tasks - W hynot	1 2 3 4 5
OB - Dozers ripping/pushing/clean-up Partings - Whynot	1 2 3 4 5
OB - Loading partings to haul trucks - Whynot	1 2 3 4 5
OB - Hauling partings to emplacement area (east) - Whynot	3 4 5 6
OB - Hauling partings to emplacement area (west) - Whynot	1 2 10
OB - Emplacing Partings at emplacement area - Whynot	6 7 8 9 10 11 47
CL - Drilling coal and partings - Whynot	
CL - Blasting coal and partings - Whynot	
CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot	
CL - Sh/Ex/FELs loading open coal to trucks - W hynot	
CL - Hauling open coal in-pit roads (east) - Whynot	
CL - Hauling open coal to ROM pad (east) - Whynot	6 49 50 51 55 56 57 58 59 60 61 62 63 64 65
CL - Hauling open coal in-pit roads (middle) - Whynot	
CL - Hauling open coal to ROM pad (middle) - Whynot	47 48 49 50 51 55 56 57 58 59 60 61 62 63 64 65
CL - Unloading ROM to ROM stockpiles/hopper - Whynot	66
CL- Handle coal at CHPP - Whynot	67
CL - Rehandle ROM coal at stockpiles/hopper - Whynot	
Topsoil removal & Site preparation - Dozers on Blakefield	12 13 14 15 16
Topsoil removal - Sh/Ex/FELs loading topsoil - Blakefield	12 13 14 15 16
Topsoil removal - Hauling (25%) topsoil to emplacement area - Blakefield (east)	
Topsoil removal - Hauling (75%) topsoil to emplacement area - Blakefield (west)	12 13 14 19 41
Topsoil removal - Emplacing topsoil at emplacement area - Blakefield	17 18 19 41
OB - Drilling - Blakefield	12 13 14 15 16
OB - Blasting - Blakefield	12 13 14 15 16
OB - Dozers on Dragline OB in-pit - Blakefield	12 13 14
OB - Dragline removal of OB - Blakefield	12 13 14 18 19
OB - Dozers on Excavator OB in-pit - Blakefield	15 16
OB - Excavator loading OB to haul truck - Blakefield	15 16
OB - Hauling excavator (25%) OB to emplacement area - Blakefield (east)	15 16 17
OB - Hauling excavator (75%) OB to emplacement area - Blakefield (west)	12 13 14 19 41
OB - Dozers on OB haul roads (east) - Blakefield	15 16 17
OB - Dozers on OB haul roads (west) - Blakefield	12 13 14 19 41
OB - Emplacing excavator OB at emplacement area - Blakefield	17 18 19 41
OB - Dozers on OB emplacement area - Blakefield	17 18 19 41
OB - Dozers in-pit ancillary tasks - Blakefield	12 13 14 15 16
OB - Dozers ripping/pushing/clean-up Partings - Blakefield	12 13 14 15 16
OB - loading partings to trucks - Blakefield	12 13 14 15 16
OB - Hauling (25%) partings to emplacement area - Blakefield (east)	15 16 17
OB - Hauling (75%) partings to emplacement area - Blakefield (west)	12 13 14 19 41
OB - Emplacing partings to emplacement area - Blakefield	17 18 19 41
CL - Drilling coal - Blakefield	12 13 14 15 16
CL - Blasting coal - Blakefield	12 13 14 15 16
CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield	12 13 14 15 16
CL - Sh/Ex/FELs loading open coal to trucks - Blakefield	12 13 14 15 16
CL - Hauling open (25%) coal in-pit roads - Blakefield (east)	15 16
CL - Hauling open (25%) coal to ROM pad - Blakefield (east)	17 44 46 48 49 50 51 55 56 57 58 59 60 61 62 63 64 65
CL - Hauling open (75%) coal in-pit roads - Blakefield (west)	12 13 14
CL - Hauling open (75%) coal to ROM pad - Blakefield (west)	41 42 43 44 46 48 49 50 51 55 56 57 58 59 60 61 62 63 64 65
CL - Unloading ROM to ROM stockpiles/hopper - Blakefield	66
CL - Handle coal at CHPP - Blakefield	67
CL - Rehandle ROM coal at stockpiles/hopper - Blakefield	66

Table C.3: Year 5 – Drayton South Source Allocation

Activity	
Topsoil removal & Site preparation - Dozers on Redbank	20 21 22 23 24
Topsoil removal - Sh/Ex/FELs loading topsoil - Redbank	20 21 22 23 24
Topsoil removal - Hauling topsoil to emplacement area (north) - Redbank	20 21 22 28
Topsoil removal - Hauling topsoil to emplacement area (south) - Redbank	22 23 24 25
Topsoil removal - Emplacing topsoil at emplacement area - Redbank	25 26 27 28 29 30
OB - Drilling for excavator removal - Redbank	20 21 22 23 24
OB - Blasting for excavator removal - Redbank	20 21 22 23 24
OB - Dozers on Excavator OB in-pit - Redbank	20 21 22 23 24
OB - Excavator loading OB to haul truck - Redbank	20 21 22 23 24
OB - Hauling to emplacement area (north) - Redbank	20 21 22 28
OB - Hauling to emplacement area (south) - Redbank	22 23 24 25
OB - Dozers on OB haul roads (north) - Redbank	20 21 22 28
OB - Dozers on OB haul roads (south) - Redbank	22 23 24 25
OB - Emplacing at emplacement area - Redbank	25 26 27 28 29 30
OB - Dozers on OB emplacement area -Redbank	25 26 27 28 29 30
OB - Dozers in-pit ancillary tasks - Redbank	20 21 22 23 24
OB - Dozers ripping/pushing/clean-up Partings - Redbank	20 21 22 23 24
OB - Loading partings to trucks - Redbank	20 21 22 23 24
OB - Hauling partings to emplacement area (north) - Redbank	20 21 22 28
OB - Hauling partings to emplacement area (south) - Redbank	22 23 24 25
OB - Emplacing partings at emplacement area - Redbank	25 26 27 28 29 30
CL - Drilling coal - Redbank	20 21 22 23 24
CL - Blasting coal - Redbank	20 21 22 23 24
CL - Dozers ripping/pushing/clean-up ROM in-pit - Redbank	20 21 22 23 24
CL - Sh/Ex/FELs loading open coal to trucks - Redbank	20 21 22 23 24
CL - Hauling open coal in-pit roads - Redbank	20 21 22 23 24
CL - Hauling open coal to ROM pad - Redbank	45 46 48 49 50 51 55 56 57 58 59 60 61 62 63 64 65
CL - Unloading ROM to ROM stockpiles/hopper - Redbank	66
CL - Handle coal at CHPP - Redbank	67
CL - Rehandle ROM coal at stockpiles/hopper - Redbank	66
Topsoil removal & Site preparation - Dozers on Houston	34 35 36
Topsoil removal - Sh/Ex/FELs loading topsoil - Houston	34 35 36
Topsoil removal - Hauling topsoil to emplacement area - Houston	34 35 36 37
Topsoil removal - Emplacing topsoil at emplacement area - Houston	31 32 37 38 39 40
OB - Drilling for excavator removal - Houston	34 35 36
OB - Blasting for excavator removal - Houston	34 35 36
OB - Dozers on Excavator OB in-pit - Houston	34 35 36
OB - Excavator loading OB to haul truck - Houston	34 35 36
OB - Hauling to emplacement area - Houston	34 35 36 37
OB - Dozers on OB haul roads - Houston	34 35 36 37
OB- Emplacing at emplacement area - Houston	31 32 37 38 39 40
OB - Dozers on OB emplacement area - Houston	31 32 37 38 39 40
OB - Dozers in-pit ancillary tasks - Houston	34 35 36
OB - Dozers ripping/pushing/clean-up Partings - Houston	34 35 36
OB - Loading partings to trucks - Houston	34 35 36
OB - Hauling partings to emplacement area (east) - Houston	34 35 36 37
CL - Emplacing partings at emplacement area - Houston	31 32 37 38 39 40
CL - Highwall transfer point - Houston (Y7)	34 35
CL - Highwall conveyor - Redbank	34 35
CL - Dozers ripping/pushing/clean-up ROM (in-pit) - Houston	34 35 36
CL - Sh/Ex/FELs loading open coal to trucks - Houston	34 35 36
CL - Hauling open coal in-pit roads (east) - Houston	36 37
CL - Hauling open coal in-pit roads (west) - Houston	34 35
CL - Hauling open coal to ROM pad (east) - Houston	51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
CL - Hauling open coal to ROM pad (west) - Houston	31 32 33 51 53 54 55 56 57 58 59 60 61 62 63 64 65
CL - Unloading ROM to ROM stockpiles/hopper - Houston	66
CL- Handle coal at CHPP - Houston	67
CL - Rehandle ROM coal at stockpiles/hopper - Houston	66
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile CL - Loading rejects	66 67
	67
CL - Transporting rejects	
CL - Unloading rejects	72
CL-Loading product stockpile	68
CL - Loading product coal to trains	69

Activity	Source
WE-OB dump & disturbed area - Whynot - Uncontrolled	6 7 8 9 10 11 47
WE-OB dump & disturbed area - Whynot - Controlled	6 7 8 9 10 11 47
WE-OB dump& disturbed area - Blakefield - Uncontrolled	17 18 19 41
WE-OB dump& disturbed area - Blakefield - Controlled	17 18 19 41
WE-OB dump& disturbed area - Redbank - Uncontrolled	25 26 27 28 29 30
WE-OB dump& disturbed area - Redbank - Controlled	25 26 27 28 29 30
WE - OB dump & disturbed area - Houston - Uncontrolled	31 32 37 38 39 40
WE-OB dump & disturbed area - Houston - Controlled	31 32 37 38 39 40
WE - Open mining area- Whynot	1 2 3 4 5
WE - Open mining area - Blakefield	12 13 14 15 16
WE - Open mining area - Redbank	20 21 22 23 24
WE - Open mining area - Houston	34 35 36
WE-ROM stockpiles	66
WE-Product stockpiles	68 68

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Tuble C.4. Te	
Activity	Source
Topsoil removal & Site preparation - Dozers on Whynot	1 2 3 4 5 6 7 8 9
Topsoil remov al - Sh/Ex/FELs loading topsoil - Whynot	1 2 3 4 5 6 7 8 9
Topsoil remov al - Hauling topsoil to emplacement area (east) - Whynot	5 7 9 10
Topsoil removal - Hauling topsoil to emplacement area (west) - Whynot	1 3 14
Topsoil remov al - Emplacing topsoil at emplacement area - Whynot	10 11 12 13 14 15 16 17 18
OB - Drilling - Whynot	1 2 3 4 5 6 7 8 9
OB - Blasting - Whynot	1 2 3 4 5 6 7 8 9
OB - Dozers on Dragline OB in-pit - Whynot	5 6 7 8 9
OB - Dragline remov al of OB - Whynot	5 6 7 8 9 10 11 12
OB - Dozers on Excavator OB in-pit - Whynot	
OB - Excav ator loading OB to haul truck - Whynot	1 2 3 4
OB - Hauling excavator OB to emplacement area (east) - Whynot	5 7 9 10
OB - Hauling excavator OB to emplacement area (west) - Whynot	1 3 14
OB - Dozers on OB haul roads (east) - Whynot	5 7 9 10
OB - Dozers on OB haul roads (west) - Whynot	1 3 14
OB - Emplacing excavator OB at emplacement area - Whynot	10 11 12 13 14 15 16 17 18
OB - Dozers on OB emplacement area - Whynot	10 11 12 13 14 15 16 17 18
OB - Dozers in-pit ancillary tasks - Whynot	1 2 3 4 5 6 7 8 9
OB - Dozers ripping/pushing/clean-up Partings - Whynot	1 2 3 4 5 6 7 8 9
OB - Loading partings to haul trucks - Whynot	
OB - Hauling partings to emplacement area (east) - Whynot	5 7 9 10
OB - Hauling partings to emplacement area (west) - Whynot	
OB - Emplacing Partings at emplacement area - Whynot	10 11 12 13 14 15 16 17 18
CL - Drilling coal and partings - Whynot	
CL - Blasting coal and partings - Whynot	
CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot	
CL - Sh/Ex/FELs loading open coal to trucks - Whynot	
CL - Hauling open coal in-pit roads (east) - Whynot	
CL - Hauling open coal to ROM pad (east) - Whynot	10 16 62 63 64 65 66 67 68 69 70 71 72 73 74 75
CL - Hauling open coal in-pit roads (middle) - Whynof	
CL - Hauling open coal to ROM pad (middle) - Whynof	15 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75
CL - Unloading ROM to ROM stockpiles/hopper - Whynot	76
CL- Handle coal at CHPP - Whynot	77
CL - Rehandle COM coal at stockpiles/hopper - Whynot	76
Topsoil removal & Site preparation - Dozers on Blakefield	19 20 21
Topsoil removal & She preparation - Dozes on Biakefield	19 20 21
Topsoil remov al - Sn/EX/FELS loading topsoil - Blaketield Topsoil remov al - Hauling topsoil to emplacement area - Blakefield	19 20 21 25
Topsoil removal - Emplacing topsoil at emplacement area - Blakefield	22 23 24 25 26 27
OB - Drilling - Blakefield	19 20 21
OB - Blasting - Blakefield	19 20 21
OB - Dozers on Dragline OB in-pit - Blakefield	20
OB - Dragline removal of OB - Blakefield	20 24 25 26
OB - Dozers on Excavator OB in-pit - Blakefield	19 21
OB - Excavator loading OB to haul truck - Blakefield	
OB - Hauling excavator OB to emplacement area - Blakefield	19 20 21 25
OB - Dozers on OB haul roads - Blakefield	19 20 21 25
OB- Emplacing excavator OB at emplacement area - Blakefield	22 23 24 25 26 27
OB - Dozers on OB emplacement area - Blakefield	22 23 24 25 26 27
OB - Dozers in-pit ancillary tasks -Blakefield	
OB - Dozers ripping/pushing/clean-up Partings - Blakefield	19 20 21
OB - loading partings to trucks - Blakefield	19 20 21
OB - Hauling partings to emplacement area - Blakefield	19 20 21 25
OB - Emplacing partings to emplacement area - Blakefield	22 23 24 25 26 27
CL - Drilling coal - Blakefield	19 20 21
CL - Blasting coal - Blakefield	19 20 21
CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield	19 20 21
CL - Sh/Ex/FELs loading open coal to trucks - Blakefield	19 20 21
CL - Hauling open coal in-pit roads - Blakefield	19 20 21
CL - Hauling open coal to ROM pad - Blakefield	22 56 57 58 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75
CL - Unloading ROM to ROM stockpiles/hopper - Blakefield	76
CL - Handle coal at CHPP - Blakefield	77
CL - Rehandle ROM coal at stockpiles/hopper - Blakefield	76

Table C.4: Year 10 – Drayton South Source Allocation

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	- Drayton South Source Allocation
Activity	Source
Topsoil remov al & Site preparation - Dozers on Whynot	1 2 3 4 5
Topsoil remov al - Sh/Ex/FELs loading topsoil - Whynot	1 2 3 4 5
Topsoil remov al - Hauling topsoil to emplacement area (east) - Whynot	3 4 5 6
Topsoil removal - Hauling topsoil to emplacement area (west) - Whynot	1 2 10
Topsoil removal - Emplacing topsoil at emplacement area - Whynot	6 7 8 9 10 11 12 13 27
OB - Drilling - Whynot	1 2 3 4 5
OB - Blasting - Whynot	1 2 3 4 5
OB - Dozers on Dragline OB in-pit - Whynot	3 4 5
OB - Dragline remov al of OB - Whynot	3 4 5 6 7 8
OB - Dozers on Excav ator OB in-pit - Whynot	1 2
OB - Excav ator loading OB to haul truck - Whynot	
OB - Hauling excavator OB to emplacement area (east) - Whynot	3 4 5 6
OB - Hauling excavator OB to emplacement area (west) - Whynot	1 2 10
OB - Dozers on OB haul roads (east) - Whynot	3 4 5 6
OB - Dozers on OB haul roads (west) - Whynot	1 2 10
OB- Emplacing excavator OB at emplacement area - Whynot	6 7 8 9 10 11 12 13 27
OB - Dozers on OB emplacement area - Whynot	6 7 8 9 10 11 12 13 27
OB - Dozers in-pit ancillary tasks - Whynot	
OB - Dozers ripping/pushing/clean-up Partings - Whynot	
OB - Loading partings to haul trucks - Whynot	
OB - Hauling partings to emplacement area (east) - Whynot	3 4 5 6 1 2 10
OB - Hauling partings to emplacement area (west) - Whynot	
OB - Emplacing Partings at emplacement area - Whynot	6 7 8 9 10 11 12 13 27
CL - Drilling coal and partings - Whynot	1 2 3 4 5
CL - Blasting coal and partings - Whynot	1 2 3 4 5
CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot	1 2 3 4 5
CL - Sh/Ex/FELs loading open coal to trucks - Whynot	1 2 3 4 5
CL - Hauling open coal in-pit roads (east) - Whynot	3 4 5
CL - Hauling open coal to ROM pad (east) - Whynot	57 62 65 66 67 68 69 70 71 72 73 74 75
CL - Hauling open coal in-pit roads (middle) - Whynot	1 2
CL - Hauling open coal to ROM pad (middle) - Whynot	9 12 13 59 60 61 62 65 66 67 68 69 70 71 72 73 74 75
CL - Unloading ROM to ROM stockpiles/hopper - Whynot	76
CL- Handle coal at CHPP - Whynot	77
CL - Rehandle ROM coal at stockpiles/hopper - Whynot	76
Site preparation - Dozers on Blakefield	14 15 19
Topsoil remov al - Sh/Ex/FELs loading topsoil - Blakefield	14 15 19
Topsoil remov al - Hauling topsoil to emplacement area - Blakefield	14 15 18 19
Topsoil remov al - Emplacing topsoil at emplacement area - Blakefield	16 17 18 20
OB - Drilling - Blakefield	14 15 19
OB - Blasting - Blakefield	14 15 19
OB - Dozers on Dragline OB in-pit - Blakefield	14 15 19
OB - Dragline remov al of OB - Blakefield	14 15 16 17 18 19 20
OB - Dozers on OB emplacement area - Blakefield	16 17 18 20
OB - Dozers in-pit ancillary tasks - Blakefield	14 15 19
OB - Dozers ripping/pushing/clean-up Partings - Blakefield	14 15 19
OB - loading partings to trucks - Blakefield	14 15 19
OB - Hauling partings to emplacement area - Blakefield	14 15 18 19
OB - Emplacing partings to emplacement area - Blakefield	16 17 18 20
CL - Drilling coal - Blakefield	14 15 19
CL - Blasting coal - Blakefield	14 15 19
CL - Dozers ripping/pushing/clean-up ROM in-pit - Blakefield	
CL - Sh/Ex/FELs loading open coal to trucks - Blakefield	
CL - Hauling open coal in-pit roads - Blakefield	14 15 19
CL - Hauling open coal to ROM pad - Blakefield	20 53 54 55 58 59 60 61 62 65 66 67 68 69 70 71 72 73 74 75
CL - Hauling open coal to ROM paa - Blakefield CL - Unloading ROM to ROM stockpiles/hopper - Blakefield	20 53 54 55 58 59 60 61 62 65 66 68 69 70 71 72 73 74 75 76 </td
CL - Unloading ROM to ROM stockpiles/hopper - Blaketield CL - Handle coal at CHPP - Blaketield	
LL - HONOR COOLOT LIPPY - BIOKETIEIO	77
CL - Rehandle ROM coal at stockpiles/hopper - Blakefield	76

Table C.5: Year 15 – Drayton South Source Allocation

Activity	
Site preparation - Dozers on Redbank	21 22 23 24 25 26 28 29 30 31 32 21 22 23 24 25 26 28 29 30 31 32
Topsoil remov al - Sh/Ex/FELs loading topsoil - Redbank Topsoil remov al - Hauling topsoil to emplacement area (north) - Redbank	21 22 23 24 25 26 28 29 30 31 32 21 22 23 26 37
Topsoil removal - Hauling topsoil to emplacement area (norm) - Reabank	28 29 30 31 32 36
Topsoil removal - Emplacing topsoil at emplacement area -Redbank	27 33 34 35 36 37 38 39 40 41
OB - Drilling - Redbank	21 22 23 24 25 26 28 29 30 31 32
OB - Blasting - Redbank	21 22 23 24 25 26 28 29 30 31 32
OB - Dozers on Excav ator OB in-pit -Redbank	21 22 23 24 25 26 28 29 30 31 32
OB - Excav ator loading OB to haul truck - Redbank	21 22 23 24 25 26 28 29 30 31 32
OB - Hauling to emplacement area (north) - Redbank	21 22 23 26 37
OB - Hauling to emplacement area (south) - Redbank	28 29 30 31 32 36
OB - Dozers on OB haul roads (north) - Redbank	21 22 23 26 37 28 29 30 31 32 36
OB - Dozers on OB haul roads (south) - Redbank OB - Emplacing at emplacement area - Houston	27 33 34 35 36 37 38 39 40 41
OB - Dozers on OB emplacement area - Redbank	27 33 34 35 36 37 38 39 40 41
OB - Dozers in-pit ancillary tasks - Redbank	21 22 23 24 25 26 28 29 30 31 32
OB - Dozers ripping/pushing/clean-up Partings -Redbank	21 22 23 24 25 26 28 29 30 31 32
OB - loading partings to trucks - Redbank	21 22 23 24 25 26 28 29 30 31 32
OB - Hauling partings to emplacement area (north) - Redbank	21 22 23 26 37
OB - Hauling partings to emplacement area (south)- Redbank	28 29 30 31 32 36
OB - Emplacing partings to emplacement area - Redbank	27 33 34 35 36 37 38 39 40 41
CL - Drilling coal - Redbank	21 22 23 24 25 26 28 29 30 31 32
CL - Blasting coal - Redbank	21 22 23 24 25 26 28 29 30 31 32
CL - Dozers ripping/pushing/clean-up ROM in-pit - Redbank CL - Sh/Ex/FELs loading open coal to trucks - Redbank	21 22 23 24 25 26 28 29 30 31 32 21 22 23 24 25 26 28 29 30 31 32
CL - SN/EX/FELS loading open coal to trucks - Keabank CL - Hauling open coal in-pit roads - Redbank	21 22 23 24 25 26 28 29 30 31 32 21 22 23 24 25 26 28 29 30 31 32
CL - Hauling open coal to ROM pad - Redbank	27 56 58 59 60 61 62 65 66 67 68 69 70 71 72 73 74 75
CL - Unloading ROM to ROM stockpiles/hopper -Redbank	76
CL - Handle coal at CHPP - Redbank	77
CL - Rehandle ROM coal at stockpiles/hopper - Redbank	76
Topsoil remov al - Dozers/Excav ators stripping topsoil - Houston	42 43 44
Topsoil remov al - Sh/Ex/FELs loading topsoil - Houston	42 43 44
Topsoil remov al - Hauling topsoil to emplacement area (east) - Houston	44 45
Topsoil removal - Hauling topsoil to emplacement area (west) - Houston	42 43 49
Topsoil removal - Emplacing topsoil at emplacement area - Houston	45 46 47 48 49 50 51
OB - Drilling - Houston OB - Blasting - Houston	42 43 44 42 43 44
OB - Dozers on Dragline OB in-pit - Houston	42 43 4
OB - Dragline removal of OB - Houston	42 43 48 49
OB - Dozers on Excav ator OB in-pit - Houston	44
OB - Excavator loading OB to haul truck - Houston	44
OB - Hauling to emplacement area (east) - Houston	44 45
OB - Hauling to emplacement area (west) - Houston	42 43 49
OB - Dozers on OB haul roads (east) - Houston	44 45
OB - Dozers on OB haul roads (west) - Houston	42 43 49
OB- Emplacing at emplacement area - Houston	45 46 47 48 49 50 51 45 46 47 48 49 50 51
OB - Dozers on OB emplacement area - Houston OB - Dozers in-pit ancillary tasks - Houston	45 46 47 48 49 50 51
OB - Dozers ripping/pushing/clean-up Partings - Houston	42 43 44
OB - Loading partings to trucks - Houston	42 43 44
OB - Hauling partings to emplacement area (east) - Houston	44 45
OB - Hauling partings to emplacement area (west) - Houston	42 43 49
CL - Emplacing partings at emplacement area - Houston	45 46 47 48 49 50 51
CL - Dozers ripping/pushing/clean-up ROM (in-pit) - Houston	42 43 44
CL - Sh/Ex/FELs loading open coal to trucks - Houston	42 43 44
CL - Hauling open coal in-pit roads (east) - Houston	5 44 45
CL - Hauling open coal in-pit roads (west) - Houston	5 42 43
CL - Hauling open coal to ROM pad (east) - Houston	57 62 63 64 65 66 67 68 69 70 71 72 73 74 75
CL - Hauling open coal to ROM pad (west) - Houston CL - Unloading ROM to ROM stockpiles/hopper - Houston	50 51 52 57 62 65 66 67 68 69 70 71 72 73 74 75
CL - Handle coal at CHPP - Houston	77
CL - Rehandle ROM coal at stockpiles/hopper - Houston	76
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile	76 77
CL - Loading rejects	77
CL - Transporting rejects	73 80 81
CL - Unloading rejects	82
CL - Loading product stockpile	78
CL - Loading product coal to trains	79
WE - OB dump & disturbed area - Uncontrolled	6 7 8 9 10 11 12 13 16 17 18 20 27 33 34 35 36 37 38 39 40 41 45 46 47 48 49 50 51
WE - OB dump & disturbed area - Controlled WE - Open mining area - Whynot	6 7 8 9 10 11 12 13 16 17 18 20 27 33 34 35 36 37 38 39 40 41 45 46 47 48 49 50 51 1 2 3 4 5 </td
WE - Open mining area - Wnynof WE - Open mining area - Blakefield	1 2 3 4 5 14 15 19
WE - Open mining area - Bakellela WE - Open mining area - Redbank	21 22 23 24 25 26 28 29 30 31 32
WE - Open mining area - Houston	42 43 44
WE - ROM stockpiles	76
WE - Product stockpiles	78

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Activity	Source													
Topsoil remov al & Site preparation - Dozers on Whynot	1 2 3 4 5 6 7 8 9													
Topsoil remov al - Sh/Ex/FELs loading topsoil - Whynot	1 2 3 4 5 6 7 8 9													
Topsoil removal - Hauling topsoil to emplacement area (east) - Whynot	5 7 9 10													
Topsoil removal - Hauling topsoil to emplacement area (west) - Whynot	1 3 15													
Topsoil remov al - Emplacing topsoil at emplacement area - Whynot	10 11 12 13 14 15 16 17 18 19 20													
OB - Drilling - Whynot	1 2 3 4 5 6 7 8 9													
OB - Blasting - Whynot	1 2 3 4 5 6 7 8 9													
OB - Dozers on Dragline OB in-pit - Whynot	5 6 7 8 9													
OB - Dragline removal of OB - Whynot	5 6 7 8 9 10 11 12													
OB - Dozers on Excav ator OB in-pit - Whynot	1 2 3 4													
OB - Excav ator loading OB to haul truck - Whynot	1 2 3 4													
OB - Hauling excavator OB to emplacement area (east) - Whynot	5 7 9 10													
OB - Hauling excavator OB to emplacement area (west) - Whynot	1 3 15													
OB - Dozers on OB haul roads (east) - Whynot	5 7 9 10													
OB - Dozers on OB haul roads (west) - Whynot	1 3 15													
OB - Emplacing excavator OB at emplacement area - Whynot	10 11 12 13 14 15 16 17 18 19 20													
OB - Dozers on OB emplacement area - Whynot	10 11 12 13 14 15 16 17 18 19 20													
OB - Dozers in-pit ancillary tasks - Whynot	1 2 3 4 5 6 7 8 9													
OB - Dozers ripping/pushing/clean-up Partings - Whynot	1 2 3 4 5 6 7 8 9													
OB - Loading partings to haul trucks - Whynot	1 2 3 4 5 6 7 8 9													
OB - Hauling partings to emplacement area (east) - Whynot	5 7 9 10													
OB - Hauling partings to emplacement area (west) - Whynot	1 3 15													
OB - Emplacing Partings at emplacement area - Whynot	10 11 12 13 14 15 16 17 18 19 20													
CL - Drilling coal and partings - Whynot	1 2 3 4 5 6 7 8 9													
CL - Blasting coal and partings - Whynot	1 2 3 4 5 6 7 8 9													
CL - Dozers ripping/pushing/clean-up ROM in-pit - Whynot	1 2 3 4 5 6 7 8 9													
CL - Sh/Ex/FELs loading open coal to trucks - Whynot	1 2 3 4 5 6 7 8 9													
CL - Hauling open coal in-pit roads (east) - Whynot	5 7 9 10 20													
CL - Hauling open coal to ROM pad (east) - Whynot	47 49 50 51 52 53 54 55 56 57 58 59													
CL - Hauling open coal in-pit roads (middle) - Whynot	1 3 4													
CL - Hauling open coal to ROM pad (middle) - Whynot	13 18 19 38 45 46 47 49 50 51 52 53 54 55 56 57 58 59													
CL - Unloading ROM to ROM stockpiles/hopper - Whynot														
CL- Handle coal at CHPP - Whynot	61													
CL - Rehandle ROM coal at stockpiles/hopper - Whynot	60													
CL - Highwall transfer point - Blakefield (Y18)	39 40													
CL - Highwall conveyor - Blakefield	39 40													
CL - Sh/Ex/FELs loading open coal to trucks - Blakefield	39 40													
CL - Hauling open coal in-pit roads - Blakefield	39 40 41													
CL - Hauling open coal to ROM pad - Blakefield	38 42 43 44 45 46 47 49 50 51 52 53 54 55 56 57 58 59													
CL - Unloading ROM to ROM stockpiles/hopper - Blakefield	60													
CL- Handle coal at CHPP - Blakefield	61													
CL - Rehandle ROM coal at stockpiles/hopper - Blakefield	60													
CL - Highwall transfer point - Redbank (Y20)	21 23													
CL - Highwall conveyor - Redbank	21 23													
CL - Sh/Ex/FELs loading open coal to trucks - Redbank	21 23													
CL - Hauling open coal in-pit roads - Redbank	21 23 24													
CL - Hauling open coal to ROM pad - Redbank	25 38 45 46 47 49 50 51 52 53 54 55 56 57 58 59													
CL - Unloading ROM to ROM stockpiles/hopper - Redbank														
CL- Handle coal at CHPP - Redbank	61													
CL - Rehandle ROM coal at stockpiles/hopper - Redbank	60													

Table C.6: Year 20 – Drayton South Source Allocation

Activity	Source
Topsoil removal & Site preparation - Dozers on Houston	33 34
Topsoil remov al - Sh/Ex/FELs loading topsoil - Houston	33 34
Topsoil remov al - Hauling topsoil to emplacement area (east) - Houston	32 34
Topsoil remov al - Hauling topsoil to emplacement area (west) - Houston	33 36
Topsoil remov al - Emplacing topsoil at emplacement area - Houston	32 35 36 37
OB - Drilling - Houston	33 34
OB - Blasting - Houston	33 34
OB - Dozers on Dragline OB in-pit - Houston	33 33
OB - Dragline removal of OB - Houston	33 36
OB - Dozers on Excav ator OB in-pit - Houston	34
OB - Excav ator loading OB to haul truck - Houston	34 34
OB - Hauling to emplacement area (east) - Houston	32 34
OB - Hauling to emplacement area (west) - Houston	33 36
OB - Dozers on OB haul roads - Houston	32 33 34 36
OB - Emplacing at emplacement area - Houston	32 35 36 37
OB - Dozers on OB emplacement area - Houston	32 35 36 37
OB - Dozers in-pit ancillary tasks - Houston	33 34
OB - Dozers ripping/pushing/clean-up Partings - Houston	33 34
OB - Loading partings to trucks - Houston	33 34
OB - Hauling partings to emplacement area (east) - Houston	32 34
OB - Hauling partings to emplacement area (west) - Houston	33 36
CL - Emplacing partings at emplacement area - Houston	32 35 36 37
CL - Dozers ripping/pushing/clean-up ROM (in-pit) - Houston	33 34
CL - Sh/Ex/FELs loading open coal to trucks - Houston	33 34
CL - Hauling open coal in-pit roads - Houston	10 20 32 33 34
CL - Hauling open coal to ROM pad - Houston	47 48 49 50 51 52 53 54 55 56 57 58 59
CL - Unloading ROM to ROM stockpiles/hopper - Houston	60
CL- Handle coal at CHPP - Houston	61
CL - Rehandle ROM coal at stockpiles/hopper - Houston	60 60
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile	60 61
CL - Loading rejects	61 61
CL - Transporting rejects	57 64 65
CL - Unloading rejects	66
CL - Loading product stockpile	62
CL - Loading product coal to trains	63
WE - OB dump & disturbed area - Uncontrolled	10 11 12 13 14 15 16 17 18 19 20 25 26 27 28 29 30 31 32 35 36 37
WE - OB dump & disturbed area - Controlled	10 11 12 13 14 15 16 17 18 19 20 25 26 27 28 29 30 31 32 35 36 37
WE - Open mining area - Whynot & Redbank	1 2 3 4 5 6 7 8 9 21 22 23 24
WE - Open mining area - Blakefield (Y18)	39 40
WE - Open mining area - Houston	33 34
WE - ROM stockpiles	60 60
WE - Product stockpiles	62

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Activity	Source Number																
OB - Drilling - Whynot	1	2	3	4	5	6	7	9	10								
OB - Blasting - Whynot	1	2	3	4	5	6	7	9	10								
OB - Dozers on Dragline OB in-pit - Whynot	1	2	3	4	5	6	7										
OB - Dragline removal of OB - Whynot	1	2	3	4	5	6	7	8	11	12	13	14	15				
OB - Dozers on OB emplacement area - Whynot	8	11	12	13	14	15											
OB - Dozers in-pit ancillary tasks - Whynot	1	2	3	4	5	6	7	9	10								
OB - Dozers ripping/pushing/clean-up Partings - Whynot	1	2	3	4	5	6	7	9	10								
OB - Loading partings to haul trucks - W hynot	1	2	3	4	5	6	7	9	10								
OB - Hauling partings to emplacement area (east) - W hynot	1	2	3	4	10	15											
OB - Hauling partings to emplacement area (west) - Whynot	5	6	7	9	11												
OB - Emplacing Partings at emplacement area - Whynot	8	11	12	13	14	15	16	17	18	19	20	21	22	23			
CL - Highwall transfer point - Whynot	4	5															
CL - Highwall conveyor - Whynot	4	5															
CL - Dozers ripping/pushing/clean-up ROM in-pit - W hynot	1	2	3	4	5	6	7	9	10								
CL - Sh/Ex/FELs loading open coal to trucks - W hynot	1	2	3	4	5	6	7	9	10								
CL - Hauling open coal in-pit roads (east) - W hynot	1	2	3	4	10												
CL - Hauling open coal to ROM pad (east) - Whynot	16	24	28	29	30	31	32	33	34	35	36	37	38	39			
CL - Hauling open coal in-pit roads (middle) - Whynot	5	6	7	9													
CL - Hauling open coal to ROM pad (middle) - W hynot	18	19	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
CL - Unloading ROM to ROM stockpiles/hopper - W hynot	40																
CL- Handle coal at CHPP - Whynot	41																
CL - Rehandle ROM coal at stockpiles/hopper - W hynot	40																
CL - Dozers ROM Coal Handling & Rejects - ROM stockpile	40	41															
CL - Loading rejects	41																
CL - Transporting rejects	37	44	45														
CL - Unloading rejects	46																
CL - Loading product stockpile	42																
CL - Loading product coal to trains	43																
WE - OB dump & disturbed area - Uncontrolled	8	11	12	13	14	15	16	17	18	19	20	21	22	23			
WE - OB dump & disturbed area - Controlled	8	11	12	13	14	15	16	17	18	19	20	21	22	23			
WE - Open mining area - Whynot	1	2	3	4	5	6	7	9	10								
WE-ROM stockpiles	40																
WE-Product stockpiles	42																

Table C.7: Year 27 – Drayton South Source Allocation