AIR QUALITY IMPACT ASSESSMENT

BENGALLA MODIFICATION 4
ADDITIONAL MODELLING

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Job Number 18070853

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1 INTRODUCTION

Todoroski Air Sciences has prepared this report for Hansen Bailey on behalf of Bengalla Mining Company (BMC). It provides an additional modelling assessment of the potential air quality impacts associated with the Bengalla Mine (Bengalla).

BMC was granted approval on 3 March 2015 for the continuation of mining under State Significant Development Consent SSD-5170. BMC has since sought a number of modifications to SSD-5170, with the most recent (current modification) being Modification 4 (MOD 4).

As the timing of the application for MOD 4 overlaps with a modification at the neighbouring Mount Pleasant Operations (known as Mount Pleasant MOD 4), the New South Wales (NSW) Department of Planning & Environment has requested a review of the proportionate and cumulative impact of these operations on sensitive receivers in the area.

This assessment has obtained permission to use explicitly the information from the Mount Pleasant MOD 4 assessment, but also data from other neighbouring mines (e.g. meteorological and dust monitoring data), making this assessment the most reliable in its depiction of the situation based on consideration of all the available data.

As fewer assumptions needed to be made about the other neighbouring mines, this assessment improves on, but also differs somewhat from the originally submitted MOD4 assessment. The key refinements are the use of actual meteorological data and activity data for the future years of the other mines. This study has re-modelled Bengalla MOD4, including the approved and proposed modifications to all other mines, using the most up to date air quality assessment approaches and standards.

2 PROJECT SETTING

Bengalla is an existing open cut coal mine, the project boundary of which is located approximately 4 kilometres (km) west of Muswellbrook in the Upper Hunter Valley of NSW. Active mining is over 5.5km and moving westward, away from Muswellbrook.

The project boundary is bounded by Wybong Road to the north and generally alluvial lands associated with the Hunter River to the south. Various open cut coal mining operations and agriculture operations dominate the land-use surrounding the project area.

Figure 2-1 presents the location of Bengalla in relation to the neighbouring coal mining operations and the privately-owned sensitive receptors of relevance to this assessment. **Appendix A** provides a detailed list of all the privately-owned sensitive receptors assessed in this report.

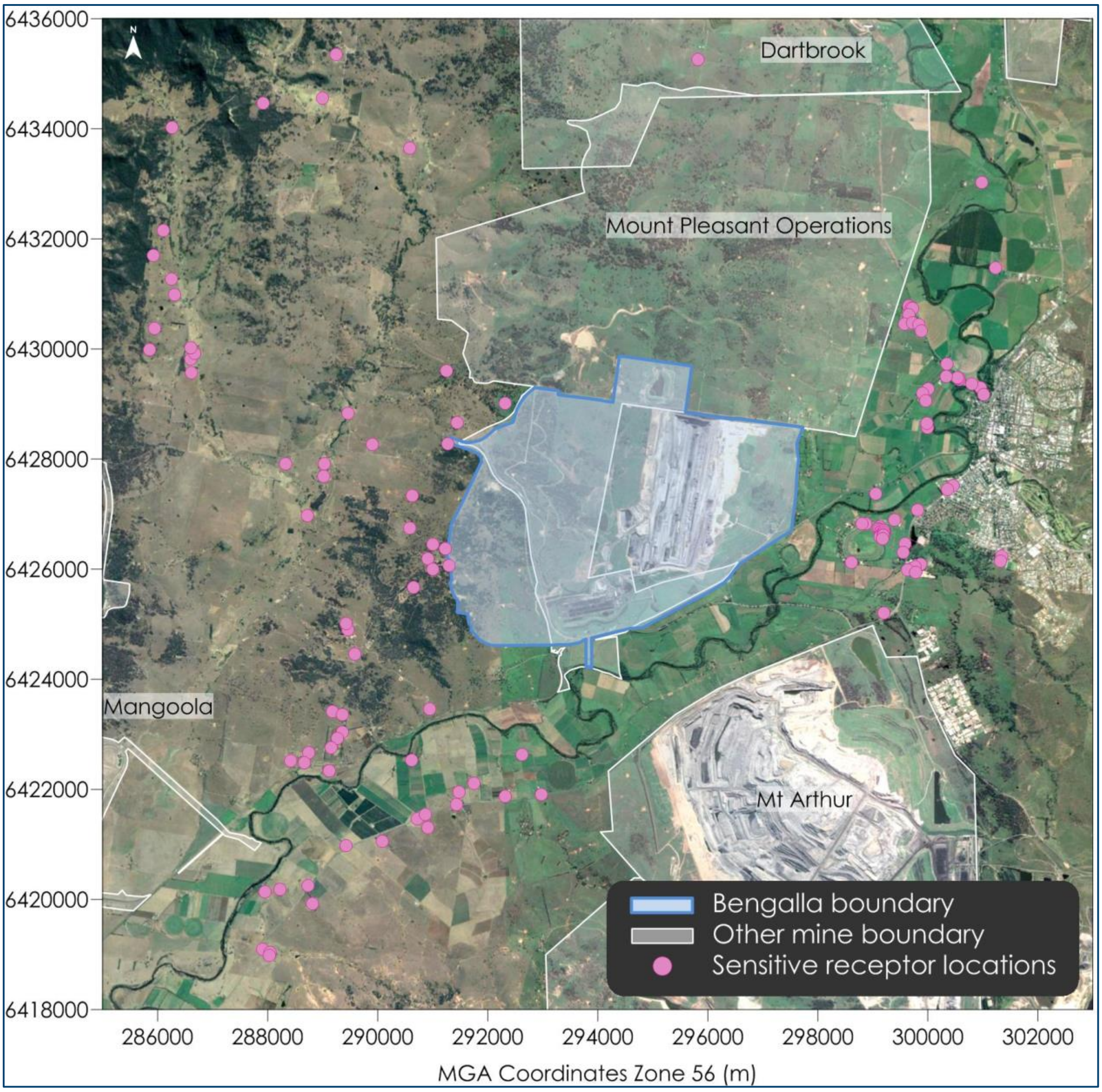

Figure 2-1: Project setting

3 APPROACH TO ASSESSMENT

The approach taken for this study closely follows the methodology used to assess potential air quality impacts for the Bengalla Continuation Project (**Todoroski Air Sciences, 2013b**), subsequent Modification 2 (**Todoroski Air Sciences, 2016a**) and Modification 4 (**Todoroski Air Sciences, 2017b**).

As noted, this study aims to re-model Bengalla and neighbouring mines using the best available contemporary information. The dispersion modelling uses a more recent meteorological year for assessment and incorporates the approved and proposed modifications for Bengalla (and other mines) in a single assessment.

The recently approved Mount Pleasant Operations (Mount Pleasant MOD3) and proposed modification (Mount Pleasant MOD 4) have also been incorporated into the assessment.

The approach to assessment is described in the following sections.

3.1 Modelling scenarios

The selected modelling scenarios are the same as the representative years modelled for the Bengalla Continuation Project and include Year 4, 8, 15 and 24.

The dispersion modelling includes other nearby coal mining operations to assess cumulative impacts. The nearby coal mining operations have been modelled per their current approvals and mine plans presented (excepting Mount Pleasant MOD4) in the most recent available assessments for each of the operations. A summary of the modelling scenarios and mining operations included in each scenario is shown in **Table 3-3**.

Table 3-1: Summary of coal mining operations modelled

Coal mining operation	Consent held to	Year 4	Year 8	Year 15	Year 24
Bengalla	2039	✓	✓	✓	✓
Mount Pleasant	2026	✓	✓	-	-
Mt Arthur	2026	✓	✓	-	-
Mangoola	2028	✓	✓	-	-
Muswellbrook Coal Company (MCC)	2022	✓	✓	-	-
Dartbrook Underground*	2029	✓	✓	-	-

* Pending approval MOD7.

3.2 Emission estimation

The emissions estimates for Bengalla are summarised in **Table 3-2**. The emission factors used are similar to those used for the Bengalla Continuation Project with the wind sensitive emission estimates adjusted to account for the different meteorological conditions in this assessment compared with the meteorological conditions applied in the original assessment.

Table 3-2: Estimated emissions for Bengalla (kg of TSP)

Activity	Year 4	Year 8	Year 15	Year 24
OB - Topsoil Removal	4,184	4,184	4,184	4,184
OB - Drilling	12,469	12,469	14,695	16,920
OB - Blasting	53,589	53,589	63,065	72,541
OB - Loading OB to haul truck	120,269	121,518	149,669	177,592

Activity	Year 4	Year 8	Year 15	Year 24
OB - Loading OB to haul truck Sat-Pit	9,979	-	-	-
OB - Loading OB to haul truck at Wybong Emplacement	1,770	-	-	-
OB - Hauling to Main OEA	2,542,873	2,941,018	3,887,377	4,986,527
OB - Hauling to WOEA	60,058	-	-	-
OB - Hauling to Main OEA from Sat-Pit	150,162	-	-	-
OB - Hauling to Visual relief	108,789	77,503	-	-
OB - Hauling to Visual relief from Wybong Emplacement	6,392	-	-	-
OB - Emplacing at Main OEA	118,111	117,059	149,669	177,592
OB - Emplacing at WOEA	5,517	-	-	-
OB - Emplacing at Visual relief	8,852	4,721	-	-
OB - Loading OB to haul truck at WOEA	-	16,723	-	-
OB - Hauling to Main OEA from WOEA	-	283,400	-	-
OB - Emplacing at Main OEA from WOEA	-	16,723	-	-
OB - Rehandle Overburden	5,773	5,833	7,184	8,524
OB - Dozers on various OB Activities	677,876	677,876	677,876	677,876
OB - Dozers on various OB Activities Visual relief	67,788	67,788	-	-
OB - Dragline	362,222	250,169	250,169	362,222
CL - Drilling	1,233	1,233	1,453	1,673
CL - Blasting	5,954	5,954	7,007	8,060
CL - Dozers ripping/pushing/clean-up	246,855	246,855	246,855	246,855
CL - Loading ROM coal to haul truck	570,899	622,914	622,914	622,914
CL - Loading ROM coal to haul truck Sat-Pit	52,015	-	-	-
CL - Hauling to ROM hopper	265,293	293,522	448,357	480,926
CL - Hauling to ROM hopper Sat-Pit	15,366	-	-	-
CL - Hauling to New ROM Stockpile	16,934	1,848	1,848	21,592
CL - Hauling to New ROM Stockpile Sat-Pit	981	-	-	-
CL - Unloading ROM coal at New ROM stockpile	37,375	3,737	3,737	37,375
CL - Rehandle ROM coal at New ROM stockpile	7,475	747	747	7,475
CL - Loading ROM coal to haul truck	37,375	3,737	3,737	37,375
CL - Hauling from New ROM stockpile to ROM hopper	11,746	1,175	1,175	9,254
CHPP - Unloading ROM to hopper	93,437	93,437	93,437	93,437
CHPP - Rehandle ROM at hopper	56,062	93,437	93,437	56,062
CHPP - Dozers at ROM hopper	706	706	706	706
CHPP - Unloading to product coal stockpile	512	518	519	519
CHPP - Loading Rejects	481	486	487	487
CHPP - Hauling Rejects	70,864	62,573	55,621	80,732
CHPP - Emplacing Rejects	481	486	487	487
PC - Loading coal to train at Bengalla Rail loop	410	414	415	415
WE - Overburden emplacement areas	745,689	1,146,130	1,108,718	891,955
WE - Overburden emplacement areas Visual relief	107,303	161,612	-	-
WE - Wybong Dump emplacement	13,853	-	-	-
WE - Open pit	557,901	537,260	754,144	582,837
WE - ROM stockpiles	1,415	1,439	1,439	1,464
WE - New ROM stockpiles	8,862	9,014	9,014	9,227
WE – Temporary out-of-pit reject stockpiles	2,098	2,134	2,134	2,133
WE - Product stockpiles	8,122	8,262	8,262	8,403
Grading roads	62,778	62,778	62,778	62,778
Total TSP emissions (kg/yr)	**7,317,146**	**8,012,984**	**8,733,315**	**9,749,117**

In addition to the estimated dust emissions from Bengalla, emissions from all nearby mining operations were also modelled in accordance with their current consent, to assess potential cumulative dust effects.

Emissions estimates from these sources were derived from information provided in the most current air quality assessments available in the public domain at the time of modelling. The emission estimates for Mount Pleasant, Mt Arthur and Mangoola were adjusted to account for the different meteorological conditions in this assessment's meteorological model year relative to the conditions applied in the original assessment. The methodology applied in this regard is identical to the methodology applied in the *Cumulative Impact Assessment Mt Arthur, Bengalla and Mangoola Coal Mines* (**Todoroski Air Sciences, 2014**) (i.e. periods with higher wind result in more emissions and vis-a vis).

The modelled Mount Pleasant Operation includes the proposed modification (Mount Pleasant MOD 4) to relocate the approved rail infrastructure from south of Wybong Road, to the east of the Bengalla mine, and north of Wybong Road.

Table 3-3: Estimated emissions from nearby coal mining operations (kg/year)

Coal mining operation	Year 4	Year 8
Mount Pleasant [(1)]	2,979,879	3,670,309
Mt Arthur [(2)]	18,465,819	18,955,505
Mangoola [(3)]	4,943,738	4,946,372
MCC [(4)]	968,910	968,910
Dartbrook Underground [(5)]	390,111	390,111

[(1)] Todoroski Air Sciences (2017a) [(2)] PAEHolmes (2013) [(3)] Todoroski Air Sciences (2013a)
[(4)] Todoroski Air Sciences (2016b) [(5)] Pacific Environment (2018)

3.3 Local air quality monitoring

Ambient $PM_{2.5}$, PM_{10} and TSP monitoring data sourced from 37 stations have been reviewed. **Figure 3-1** shows the approximate location of each of the monitoring stations

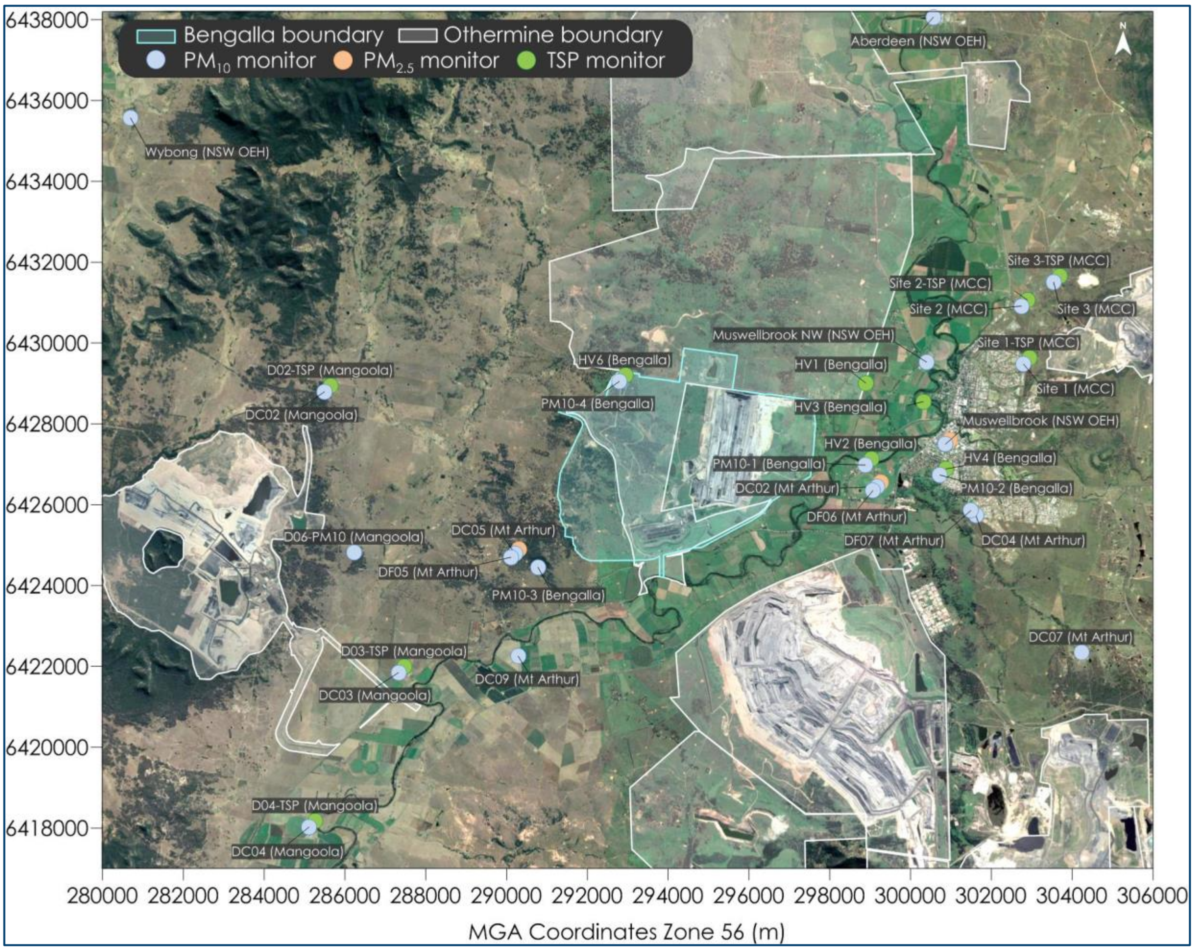

Figure 3-1: Ambient $PM_{2.5}$, PM_{10} and TSP monitoring locations

The publically available PM_{10} monitoring data are summarised in **Table 3-4**.

A review of **Table 3-4** indicates that the annual average PM_{10} concentrations for each monitoring station were typically below the revised relevant criterion of 25µg/m^3 (applicable to Mount Pleasant, and Bengalla following the approval of MOD4). It should be noted that a criterion of PM_{10} cumulative 30µg/m^3 still applies to Mt Arthur Coal and Mangoola Development consents.

Recorded 24-hour average PM_{10} concentrations for the NSW OEH and Bengalla monitors are presented graphically in **Figure 3-2** and **Figure 3-3**, respectively.

It can be seen from **Figure 3-2** and **Figure 3-3** that PM_{10} concentrations are nominally highest in the spring and summer months with the warmer weather raising the potential for drier ground elevating the occurrence of windblown dust, bushfires and pollen levels.

Overall the monitoring data generally indicate similar levels and trends for the various years reviewed.

Table 3-4: Summary of ambient PM_{10} levels (µg/m^3)

Monitor ID	Type	2013	2014	2015	2016	2017	Ave. all years
Muswellbrook (NSW OEH)	TEOM	22.6	21.4	19.1	19.2	21.7	20.8
Muswellbrook NW (NSW OEH)	TEOM	18.9	19.2	16.7	16.6	18.5	18.0
Wybong (NSW OEH)	TEOM	15.5	17	14.8	15.3	16.6	15.8
Aberdeen (NSW OEH)	TEOM	17.3	17.9	15.2	15.6	17.6	16.7
PM10-1 (Bengalla)	HVAS	26	23.5	20	18.4	23.1	22.2
PM10-2 (Bengalla)	HVAS	22.5	23.6	18.9	17	19.2	20.2
PM10-3 (Bengalla)	HVAS	17.7	23.7	18.9	17.9	20.9	19.8
PM10-4 (Bengalla)	HVAS	20.2	23.7	22.7	21.1	28	23.1
DC02 (Mt Arthur)	TEOM	21.6	23.4	20	19	17.5	20.3
DC04 (Mt Arthur)	TEOM	19.1	20.2	16	18	18.5	18.4
DC05 (Mt Arthur)	TEOM	18.6	17.6	12	14	10.4	14.5
DC07 (Mt Arthur)	TEOM	N/A	15.2	14	14	13.9	14.3
DC09 (Mt Arthur)	TEOM	N/A	17	20	14	14.2	16.3
DF05 (Mt Arthur)	HVAS	19	20	22	20	17.4	19.7
DF06 (Mt Arthur)	HVAS	27	29	29	29	22.8	27.4
DF07 (Mt Arthur)	HVAS	21	22	22	20	18.5	20.7
DC04 (Mangoola)	TEOM	12.2	15.4	9.9	9.9	12.7	12.0
DC03 (Mangoola)	TEOM	14.9	14	12.3	13.6	14.6	13.9
DC02 (Mangoola)	TEOM	14.5	12.2	11.5	11.7	12.9	12.6
D06-PM10 (Mangoola)	HVAS	N/A	N/A	N/A	N/A	17.1	17.1
Site 1 (MCC)	TEOM	17.1	17.3	14.9	14.3	17.1	16.1
Site 2 (MCC)	TEOM	18.9	18.3	14.9	15.5	17.2	17.0
Site 3 (MCC)	TEOM	19	16.7	13.7	12.3	15.7	15.5

N/A – data not available

Note that Mt Arthur data for 2013-2017 and MCC data for 2013 and 2014 is for a financial year

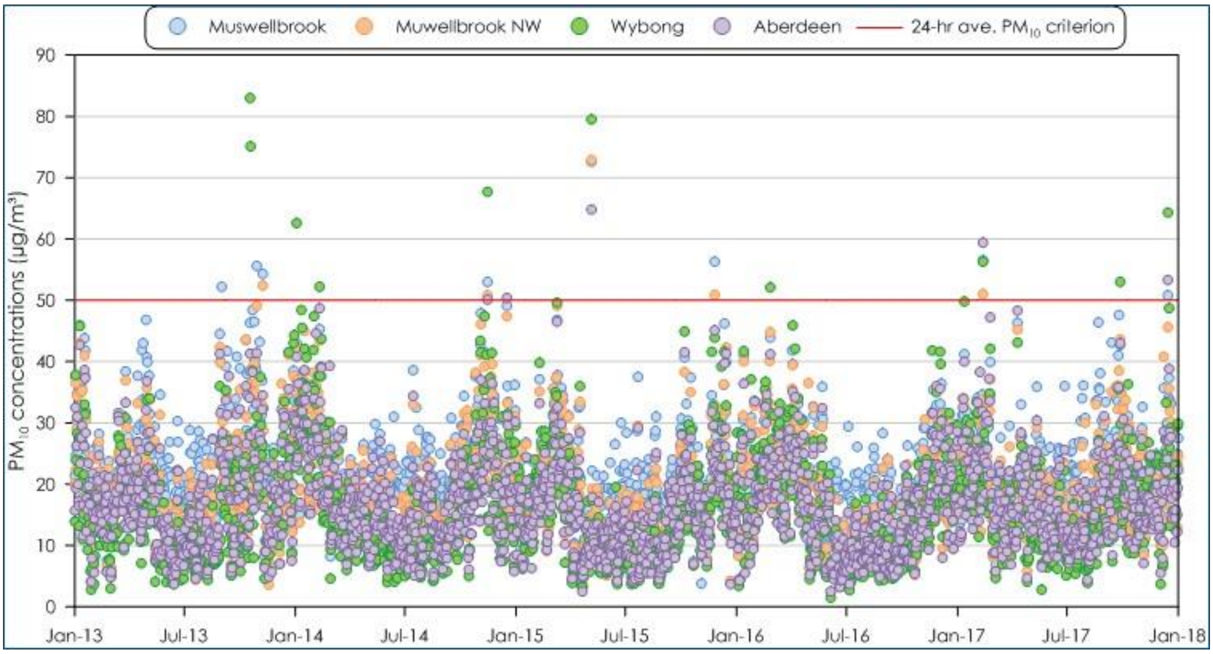

Figure 3-2: 24-hour average PM_{10} concentrations at NSW OEH monitors

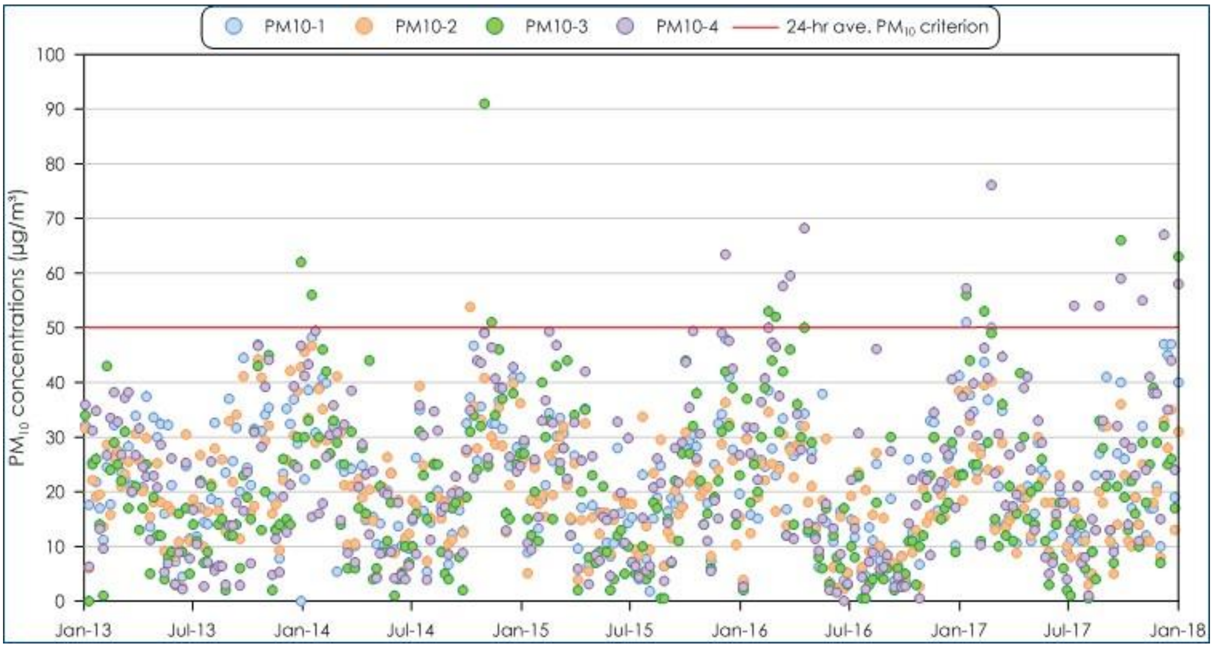

Figure 3-3: 24-hour average PM_{10} concentrations at Bengalla monitors

The available $PM_{2.5}$ monitoring data are summarised in **Table 3-5**. A review of the data indicates that the annual average $PM_{2.5}$ concentrations for the Muswellbrook monitoring station were above the relevant criterion of 8µg/m^3 for the periods reviewed. The annual average levels of $PM_{2.5}$ concentrations for the DC02 and DC05 were well below the relevant criterion of 8µg/m^3 with levels approximately less than half of the level recorded at Muswellbrook.

Recorded 24-hour average $PM_{2.5}$ concentrations are presented graphically in **Figure 3-4**. A seasonal trend in 24-hour average $PM_{2.5}$ concentrations for the Muswellbrook monitoring station can be seen in **Figure 3-4** with elevated levels occurring in the cooler months. This is opposite to the seasonal trend for PM_{10} concentrations which has elevated levels during the warmer months.

Ambient $PM_{2.5}$ levels at the Muswellbrook monitoring station are likely to be governed by many non-mining background sources such as wood heaters and motor vehicles. Whilst it was assumed by Todoroski Air Sciences in the *Air Quality Impact and Greenhouse Gas Assessment Continuation of Bengalla Mine* (**Todoroski Air Sciences, 2013a**), it is now well established that the wintertime peak in $PM_{2.5}$ levels arises due to emissions from urban wood heaters in the nearby residential areas (**Hibberd et al., 2013**).

The $PM_{2.5}$ monitors located near mining operations (and away from towns, i.e. DC02 and DC05) have no significant seasonal trends in comparison to the Muswellbrook monitoring station. This suggests the influence of anthropogenic sources on $PM_{2.5}$ levels is localised to the towns and does not significantly affect the areas that are sparsely populated near the mining operations.

Table 3-5: Summary of ambient $PM_{2.5}$ levels (µg/m^3)

Monitor ID	Type	2013	2014	2015	2016	2017	Ave. all years
Muswellbrook (NSW OEH)	BAM	9.4	9.7	8.7	8.4	9.4	9.1
DC02 (Mt Arthur)	TEOM	4.5	4.4	4.0	4.3	4.2	4.2
DC05 (Mt Arthur)*	TEOM	N/A	N/A	4.3	4.4	N/A	4.3

N/A – data not available

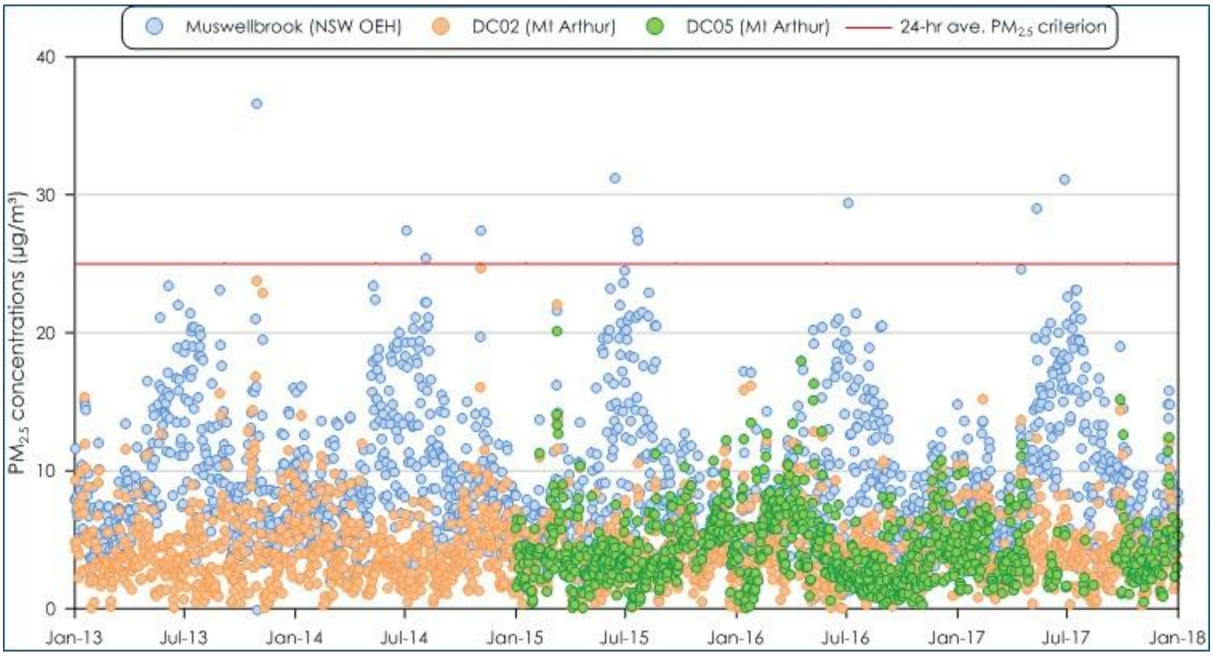

Figure 3-4: 24-hour average $PM_{2.5}$ concentrations

The publically available TSP monitoring data are summarised in **Table 3-6**. A review of **Table 3-6** indicates that the annual average TSP concentrations for each monitoring station were typically below the relevant criterion of 90µg/m³.

Recorded 24-hour average TSP concentrations for the Bengalla TSP monitors are presented graphically in **Figure 3-5**. A seasonal trend can be seen in **Figure 3-5,** similar to the PM_{10}, with TSP concentrations nominally highest in the spring and summer months.

Table 3-6: Summary of ambient TSP levels (µg/m³)

Monitor ID	Type	2013	2014	2015	2016	2017	Ave. all years
HV1 (Bengalla)	HVAS	45.5	60.3	45.8	52.8	58.9	52.7
HV2 (Bengalla)	HVAS	61.3	67.3	54.1	52.7	60	59.1
HV3 (Bengalla)	HVAS	42.6	49.3	39.1	37.6	43.9	42.5
HV4 (Bengalla)	HVAS	51.6	60.9	44.5	44.9	49.3	50.2
HV6 (Bengalla)	HVAS	66.1	80.1	73.1	68.7	96.4	76.9
D02-TSP (Mangoola)	HVAS	42.9	47	37.3	35.4	42.9	41.1
D03-TSP (Mangoola)	HVAS	43.5	50	38	41.7	41.7	43.0
D04-TSP (Mangoola)	HVAS	36.7	38.6	39.5	35	37.8	37.5
Site 1 (MCC)	HVAS	33.6	36.4	29.8	28.2	32.6	32.1
Site 2 (MCC)	HVAS	44	40.4	29.7	30.1	32.9	35.4
Site 3 (MCC)	HVAS	37.3	41.5	32.9	35.9	36.7	36.9

Note that MCC data for 2013 and 2014 is for a financial year

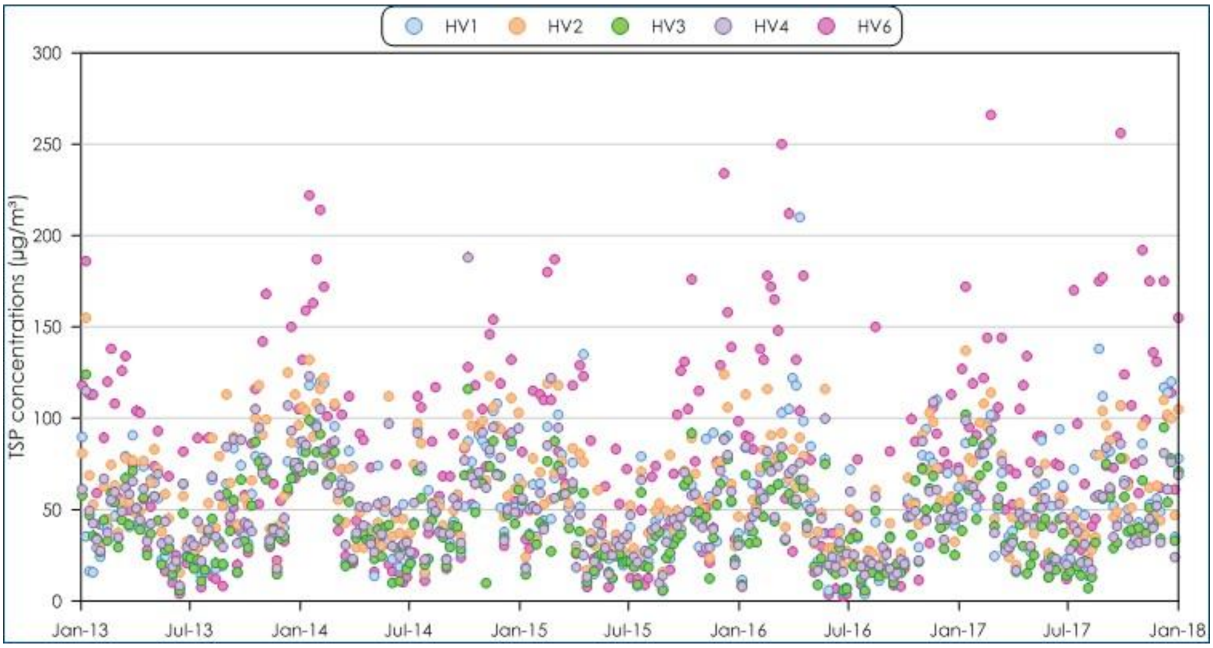

Figure 3-5: 24-hour average TSP concentrations at Bengalla monitors

3.3.1 Background dust levels

To account for the contribution from other non-mining sources of particulate matter in the wider area an allowance has been added to the modelling predictions to fully assess the total potential impact.

The contribution to the prevailing annual average background dust level of other non-modelled dust sources was estimated by modelling the past (known) mining activities (including Bengalla Mine, Mt Arthur Coal Mine, Mangoola Coal and Muswellbrook Coal Mine) during 2015 and comparing model predictions with the actual measured data from the corresponding monitoring stations.

The average difference between the measured and predicted PM_{10}, $PM_{2.5}$, TSP and deposited dust levels from each of the monitoring points was considered to be the contribution from other non-modelled dust sources, and was added to the future predicted values to account for the background dust levels (not explicitly in the model and arising from numerous small or distant, non-modelled dust sources).

Due to the high density of available PM_{10} monitors in the central area of the modelling domain, and the presence of Muswellbrook, a large, but not modelled source of emissions, it is possible to apply various spatially varying background levels to account for the variation in the background dust level in the central modelling domain. This provides a more realistic representation of background dust levels in this area than adding a constant level across the domain.

The estimated annual average contribution from other non-modelled dust sources applied in the assessment is presented in **Table 3-7**.

Table 3-7: Estimated contribution from other non-modelled dust sources

Dust metric	Averaging period	Unit	Estimated contribution
TSP	Annual	µg/m³	30.4
PM_{10}	Annual	µg/m³	Variable (approx. 2 to 12)
$PM_{2.5}$	Annual	µg/m³	2.9
Dust deposition	Annual	g/m²/month	2.1

3.4 Meteorological modelling

The meteorological modelling methodology applied a 'hybrid' approach which includes a combination of prognostic model data from The Air Pollution Model (TAPM) with surface observations. TAPM was applied to generate prognostic upper air data for use in CALMET.

3.4.1 Selection of modelling year

The selection of the meteorological year for modelling considered various aspects including:

- the recorded background dust levels during the latest five years;
- the representativeness of meteorological data against available long-term datasets;
- the representativeness of meteorological data against the latest five years of data; and,
- the rainfall conditions during the last five years.

A statistical analysis of five contiguous years of meteorological data from the Scone Airport Automatic Weather Station (AWS) is presented in **Table 3-8**. The standard deviation of the five years was analysed against the long-term measured wind speed, temperature and relative humidity spanning a 14 to 19-year period recorded at the station.

The analysis indicates that 2014 and 2016 are closest to the long-term average for wind speed followed closely by 2015. 2013 is the closest to the long-term average for temperature followed by 2015. For relative humidity, 2015 is the closest and shows greater variation between the selected years.

This analysis suggests 2015 could be considered as the most representative of the long-term measured wind speed, temperature and relative humidity. Further analysis of 2015 against the other years was performed to determine its suitability.

Table 3-8: Statistical analysis results of standard deviation from long-term meteorological data at Scone Airport AWS

Year	Wind speed	Temperature	Relative humidity
2013	0.38	0.90	5.42
2014	0.30	1.03	5.82
2015	0.32	0.97	3.76
2016	0.30	1.16	6.35
2017	0.36	1.45	8.32

Figure 3-6 presents a graphical analysis of monthly meteorological conditions at the Scone Airport AWS from 2013 to 2015. The monthly conditions for a range of meteorological parameters are expressed as the maximum, minimum, 25th and 75th percentile. The 2015 data are presented as the orange line for comparison with the range of the data set shown in the blue colours.

The 2015 data trend relatively well with the monthly average of the dataset values for temperature and overall show little inter-annual variation for temperature. The relative humidity during 2015 shows typically above average levels for most of the year. The wind speed indicates levels above the monthly average in the first half of the year and typically below in the second half.

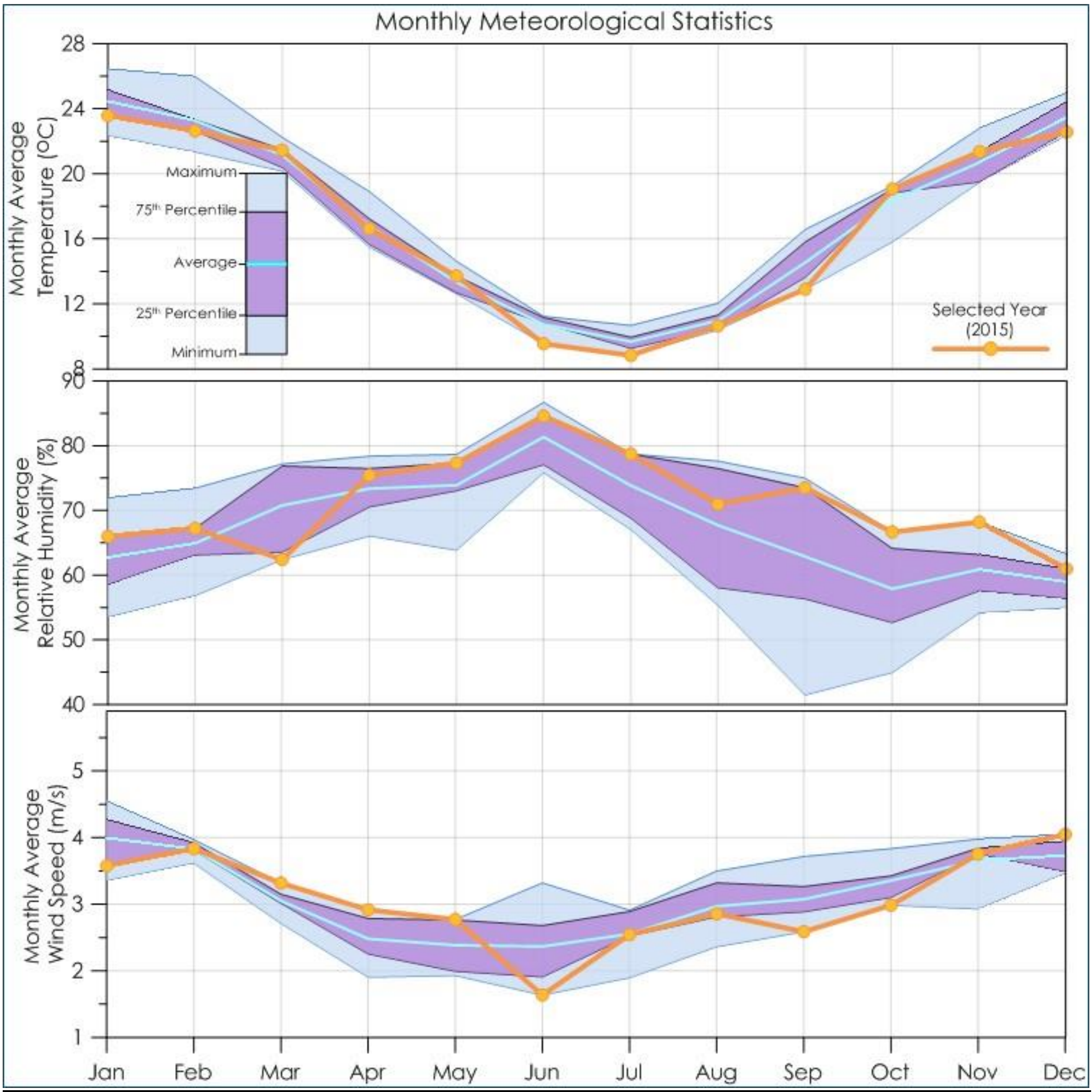

Figure 3-6: Graphical analysis of meteorological conditions at Scone Airport AWS

A frequency distribution of the meteorological parameters is shown in **Figure 3-7**. The graphs indicate that the 2015 year trends very close to the mean value for each of the meteorological parameters assessed.

Further detailed analysis of the distribution of the meteorological parameters is shown in **Figure 3-8**. The graphs on the left-hand side show the frequency distribution for each year and the graphs on the right-hand side show the deviation from the mean value for each of the years.

For wind speed, each year shows a similar deviation from the mean. The wind direction in 2014 and 2016 shows noticeable deviation in frequency of winds from the south and from the northwest in 2016. Temperature in 2015 indicates a higher frequency of values approximately at 20 degrees Celsius and during 2017 for temperatures approximately ranging from 10 to 20 degrees Celsius. For relative humidity, 2015 and 2017 values at approximately 30% show noticeable deviation.

Overall this analysis indicates that 2015 is generally representative of the long-term average and does not indicate any significant variation of the last five years of data.

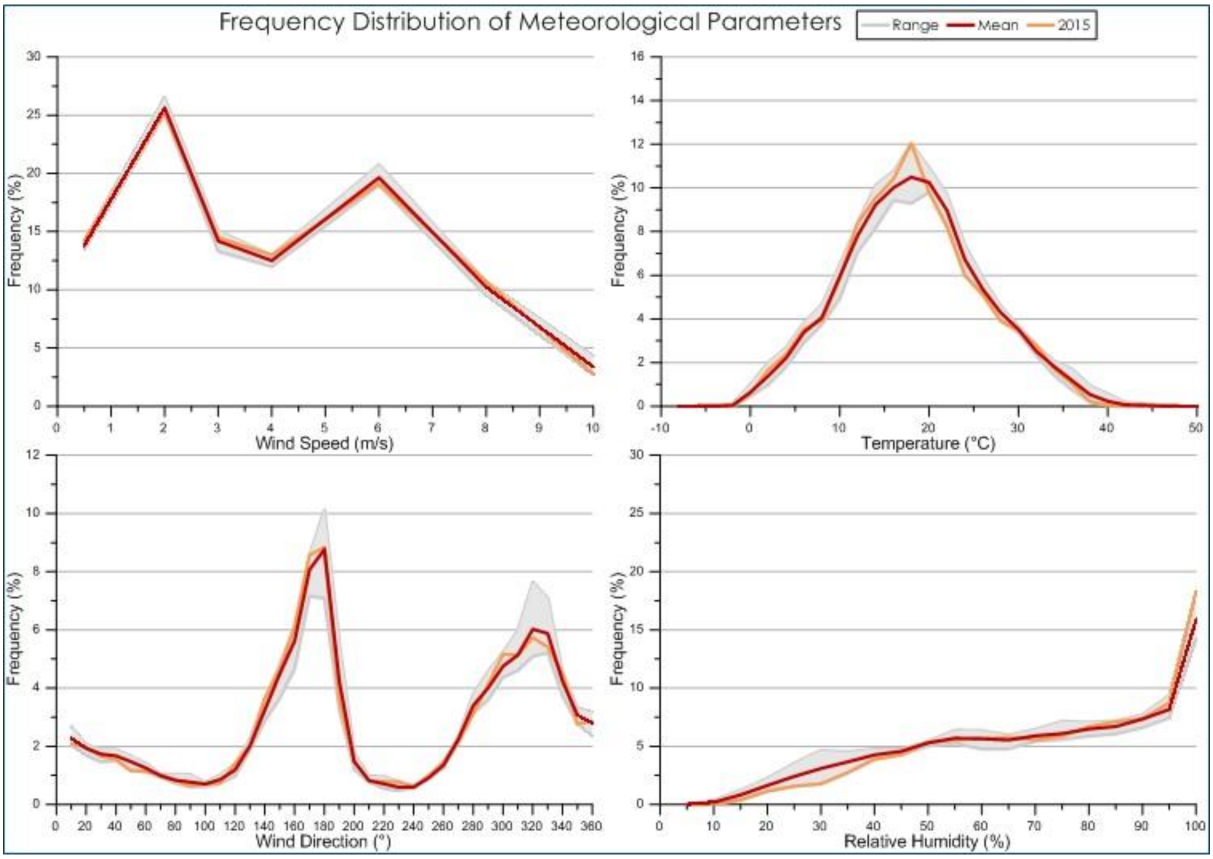

Figure 3-7: Frequency distribution of meteorological parameters (2013 – 2017)

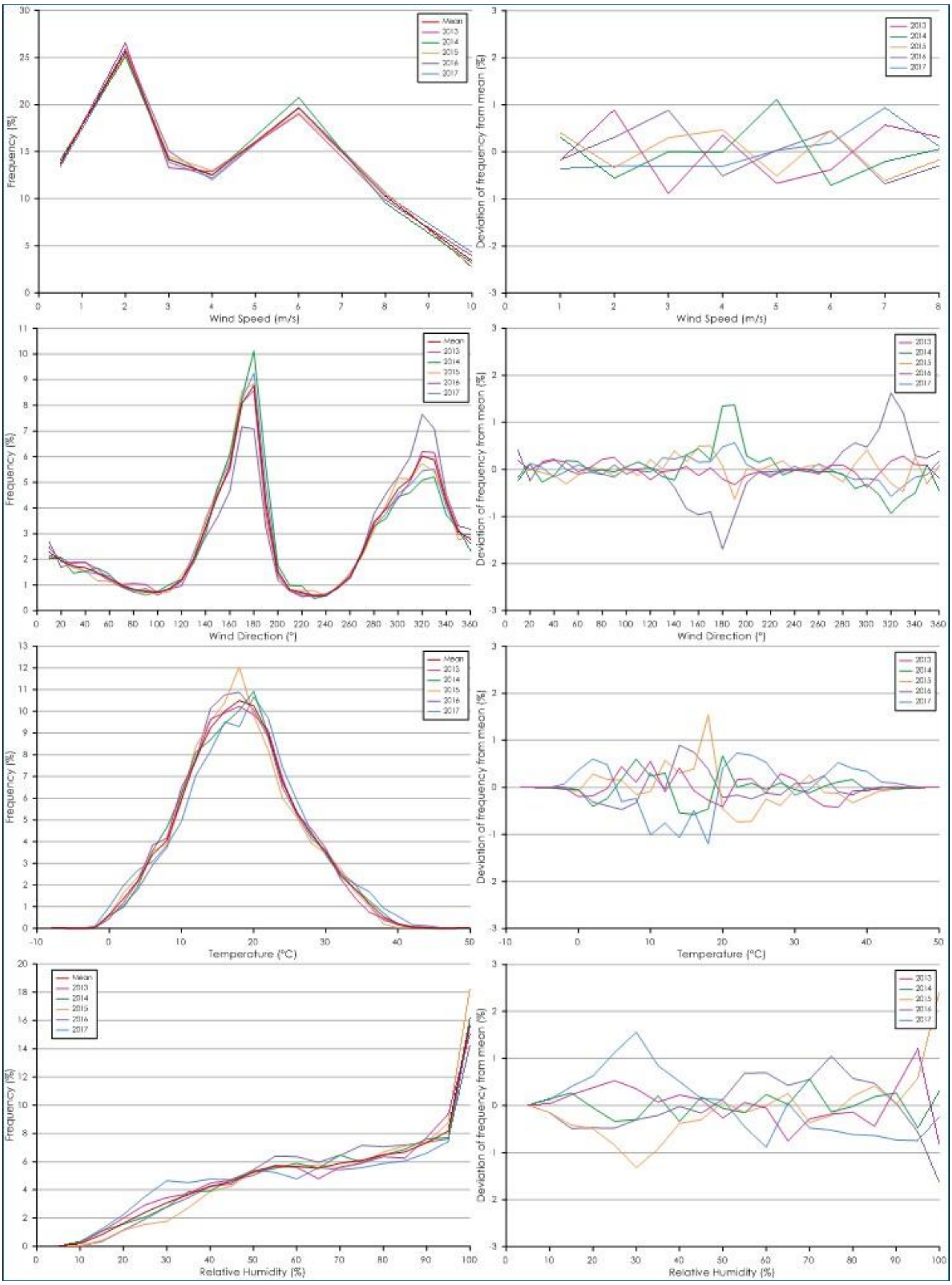

Figure 3-8: Frequency distribution of meteorological parameters and standard deviation from mean (2013 – 2017)

Annual rainfall over the last five year period at the Scone Airport AWS with the long-term average is shown in **Figure 3-9**. Annual rainfall during 2014 and 2017 was below the long-term average of 616 millimetres (mm) with the 2013, 2015 and 2016 above the long-term average.

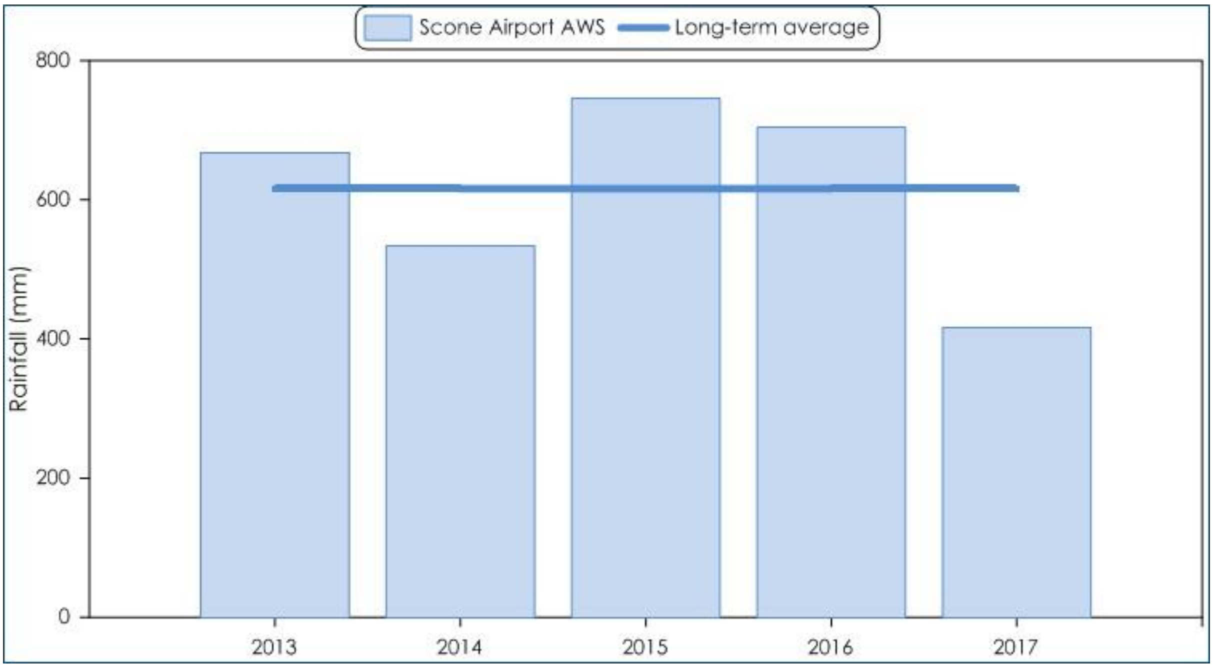

Figure 3-9: Annual rainfall – Scone Airport AWS

Background dust levels can reduce due to rainfall. **Figure 3-10** shows the monthly average PM_{10} concentrations with monthly rainfall levels in Muswellbrook. However, this does not mean there will be a relationship between high rainfall and low dust levels over the long-term, as can be seen in **Figure 3-11**. The figure presents annual average PM_{10} and $PM_{2.5}$ levels from the Muswellbrook OEH monitor compared with the annual rainfall for the 2013 to 2017 period from the Muswellbrook (Spring Creek) BoM station. It can be seen from the graphs in **Figure 3-11** that there is no clear correlation between annual dust levels and annual rainfall over the last five years of data in this location.

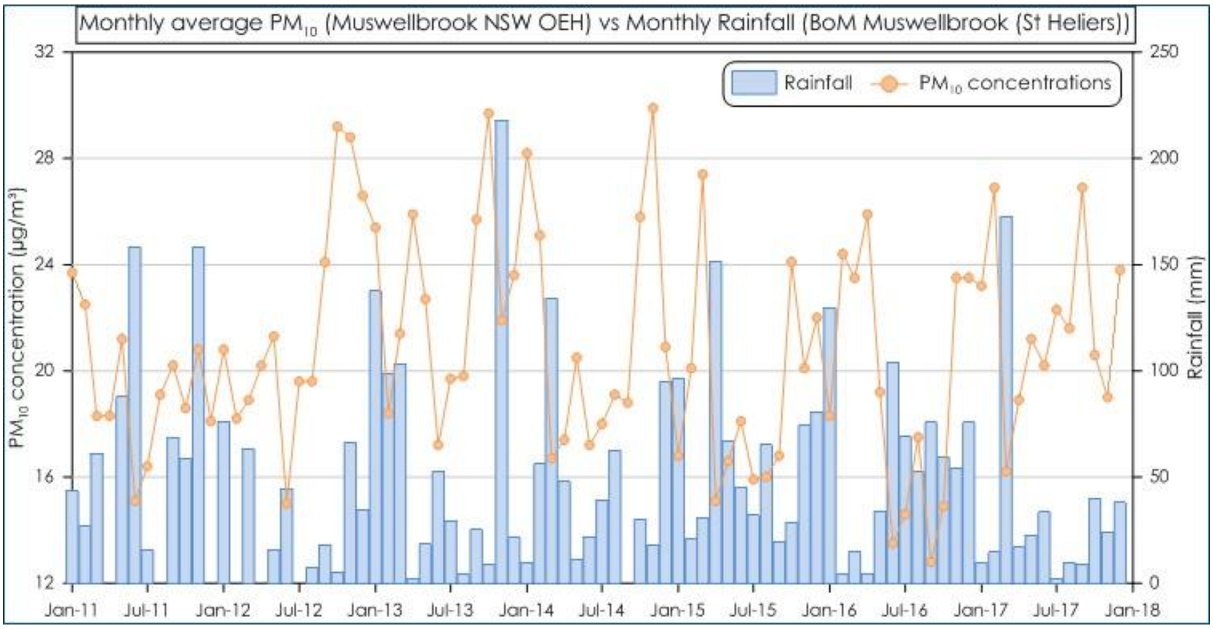

Figure 3-10: Monthly average PM_{10} levels vs monthly rainfall for Muswellbrook

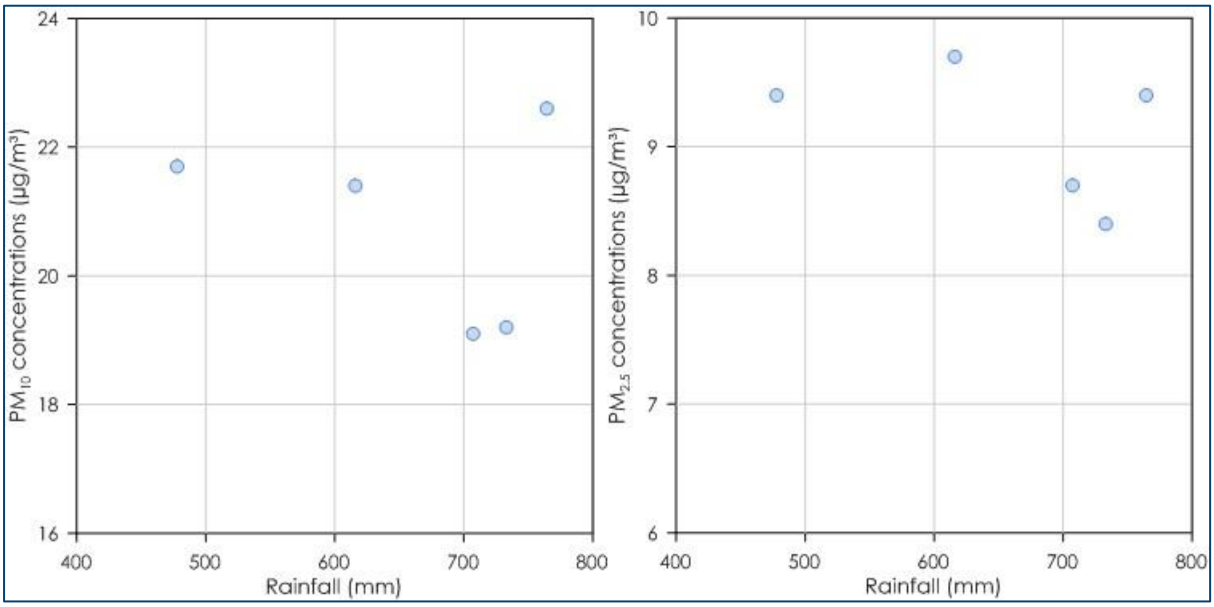

Figure 3-11: Correlation of annual average PM_{10} and $PM_{2.5}$ concentrations with rainfall

A score weighting analysis was performed to consider the deviation from the average for each of the last five years of meteorological and dust monitoring data in **Table 3-9**. The values shaded in light-blue indicate the lowest deviation and in orange the highest deviation.

The score value is based on the weighting of the different parameters as considered most relevant for the purposes of air dispersion modelling and assessment. The score for 2015 is lowest indicating it is most representative. The meteorological year is generally selected only by considering representative meteorological data. In this case 2015 is also the most representative year, even when dust levels are also considered.

Table 3-9: Score weighting analysis of modelling year selection

	WS	WD	Temp.	R.H.	PM_{10}	$PM_{2.5}$	Score with dust	Score
Weighting	2	4	1	1	1	2		
2013	0.53	0.12	0.16	0.33	0.09	0.03	2.17	2.03
2014	0.37	0.29	0.17	0.21	0.03	0.06	2.44	2.28
2015	0.41	0.18	0.25	0.47	0.08	0.05	2.43	2.26
2016	0.42	0.39	0.19	0.46	0.08	0.08	3.27	3.03
2017	0.32	0.16	0.37	0.54	0.04	0.03	2.29	2.19

WS = wind speed, WD = wind direction, Temp. = temperature, R.H. = relative humidity

Based on the analysis presented in **Table 3-9**, the 2015 calendar year was chosen to be most suitable for use in dispersion modelling.

4 DISPERSION MODELLING RESULTS

The dispersion modelling predictions for each of the modelling scenarios are presented in this section. The results presented include those for the operation in isolation (incremental impact) and the operation with other sources and background levels (total (cumulative) impact).

Each of the privately-owned sensitive receptors shown in **Figure 2-1** and detailed in **Appendix A**, were assessed individually as discrete receptors with the predicted results presented in tabular form for each of the assessed years in **Appendix B**. Predicted exceedances of relevant criteria are **bolded**. Associated isopleth diagrams of the dispersion modelling results are presented in **Appendix C**.

Table 4-1 summarises the privately-owned sensitive receptors where air quality impacts are predicted to exceed relevant assessment criteria.

The modelling predictions indicate up to five receptors would experience annual average PM_{10} impacts above the criterion of 25µg/m^3.

Fourteen receptors are predicted to experience 24-hour average PM_{10} impacts, with five of these receptors predicted to experience more than five days of 24-hour average PM_{10} impacts for the modelling scenarios.

Only one receptor is predicted to experience adverse $PM_{2.5}$ and TSP impacts for the modelling scenarios and is also subject to elevated PM_{10} levels. Two receptors are predicted to experience adverse dust deposition levels and elevated levels for other dust metrics.

A distribution of the annual average $PM_{2.5}$ and PM_{10} impacts for Year 4 and Year 8 is presented in **Appendix D**. The incremental modelling predictions for Bengalla, Mount Pleasant and Mt Arthur are presented with the combined total impacts which includes the contribution from other modelled mines and the underlying background level.

Table 4-1: Summary of modelled predictions where predicted impacts exceed assessment criteria

Receptor ID	$PM_{2.5}$			PM_{10}			TSP	DD	
	24-hr ave.		Ann. ave.	24-hr ave.		Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria								
	25µg/m³		8µg/m³	50µg/m³		25µg/m³	90µg/m³	2g/m²/mth	4g/m²/mth
	Year (level of impact)	No. days above 25µg/m³	Year (level of impact)	Year (level of impact)	No. days above 50µg/m³	Year (level of impact)	Year (level of impact)	Year (level of impact)	Year (level of impact)
66	-	-	-	Year 8 (51.2)	1	-	-	-	-
109	-	-	-	Year 24 (50.7)	1	-	-	-	-
112	-	-	-	Year 24 (60.1)	1	-	-	-	-
113	-	-	-	Year 24 (67.7)	2	-	-	-	-
114	-	-	-	Year 24 (74.5)	6	-	-	-	-
118	-	-	-	Year 15 (69.9) Year 24 (76.9)	5 16	Year 8 (30.4)	-	-	-
119	-	-	-	-	-	Year 8 (26.3)	-	-	-
120	-	-	-	Year 24 (69.8)	2	-	-	-	-
152	-	-	-	Year 24 (54.5)	1	-	-	-	-
154	-	-	-	Year 24 (57.6)	1	Year 8 (25.1)	-	-	-
155	-	-	-	Year 24 (80.3)	6	Year 8 (25.9)	-	-	-
156a	-	-	-	Year 24 (74.2)	4	-	-	-	-
156b	-	-	-	Year 24 (57.3)	1	-	-	-	-
168	Year 24 (25.8)	1	Year 24 (10.7)	Year 8 (62.3) Year 15 (72.1) Year 24 (180.8)	2 17 188	Year 15 (25.4) Year 24 (63.6)	Year 24 (186.0)	Year 24 (5.2)	Year 24 (7.3)
171	-	-	-	Year 24 (69.4)	11	-	-	-	Year 24 (4.1)

5 SUMMARY AND CONCLUSIONS

This study provides an updated assessment of the potential air quality impacts associated with the approved and proposed Bengalla operations. The assessment includes an updated modelling methodology in line with contemporary approaches, using the most recent and comprehensive weather and dust monitoring data and considering proposed changes to all nearby coal mining operations.

The results indicate that annual average PM_{10} dust impacts may potentially arise at a number of privately-owned receptor locations. A number of receptors are predicted to experience adverse 24-hour average PM_{10} impacts that typically occur during Year 24. Only one receptor is predicted to experience elevated $PM_{2.5}$ and TSP concentrations and two receptors are predicted to experience dust deposition levels above the relevant criterion.

Overall, the updated modelling predictions do not indicate any significant change relative to the previously assessed impacts for the approved and proposed modifications to Bengalla (MOD 4), or other mine projects. Generally, changes are due to the new criteria applied to Bengalla for $PM_{2.5}$ and PM_{10} as outlined in the NSW Environment Protection Authority (EPA) documents *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (**NSW EPA, 2017**).

6 REFERENCES

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"Air Quality and Greenhouse Gas Assessment Mangoola Coal", prepared by Todoroski Air Sciences for EMGA Mitchell McLennan, May 2013.

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"Air Quality Impact and Greenhouse Gas Assessment Muswellbrook Coal Continuation Project", prepared by Todoroski Air Sciences for EMM Consulting, April 2016.

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"Mount Pleasant Operation Mine Optimisation Modification Air Quality and Greenhouse Gas Assessment", prepared for MACH Energy Australia by Todoroski Air Sciences, May 2017.

Todoroski Air Sciences (2017b)
"Air Quality Assessment - Bengalla Mine Development Consent Modification 4", prepared for Hansen Bailey by Todoroski Air Sciences, December 2017.

Appendix A

Sensitive receptors

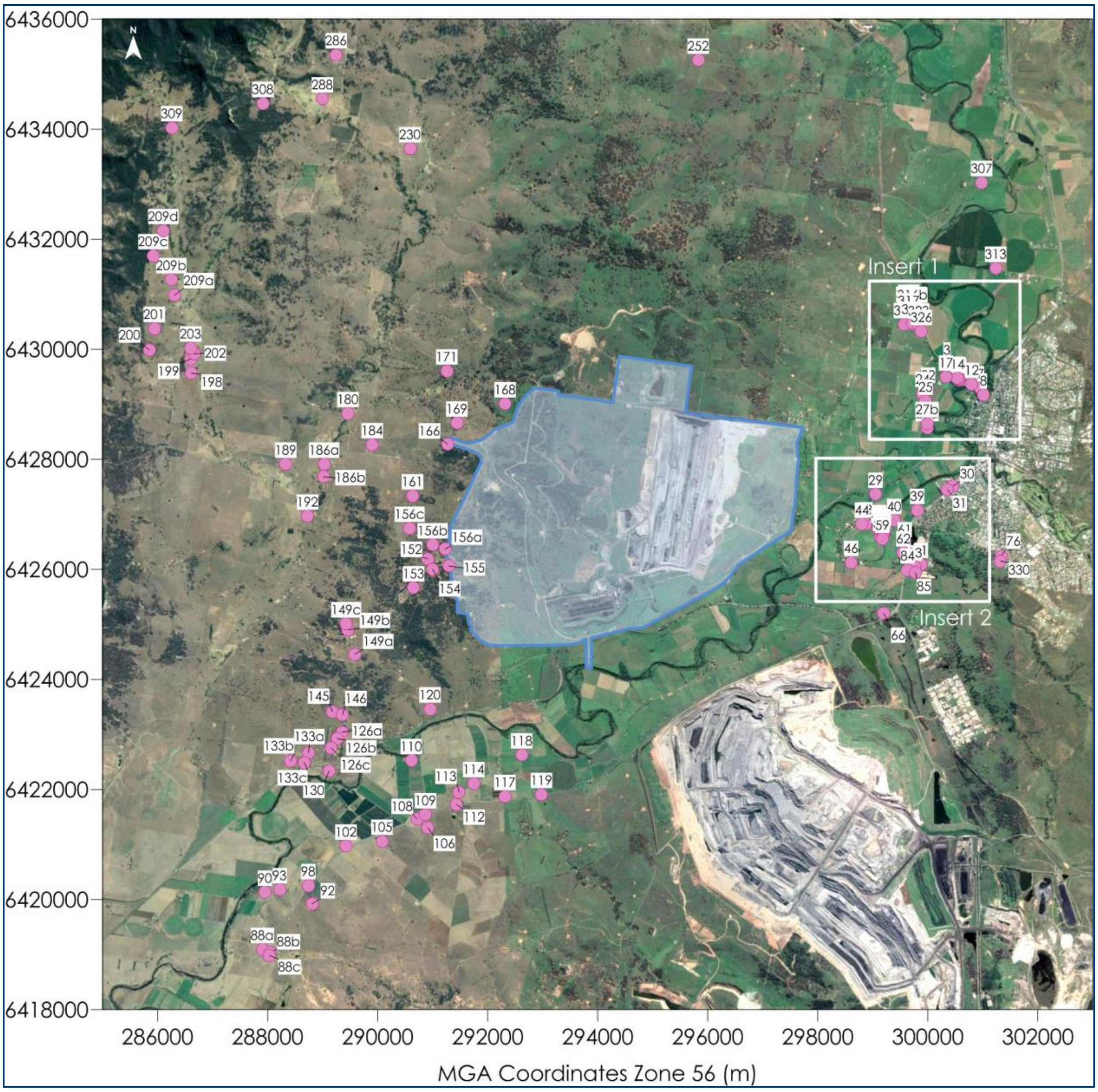

Figure A-1: Sensitive receptor locations

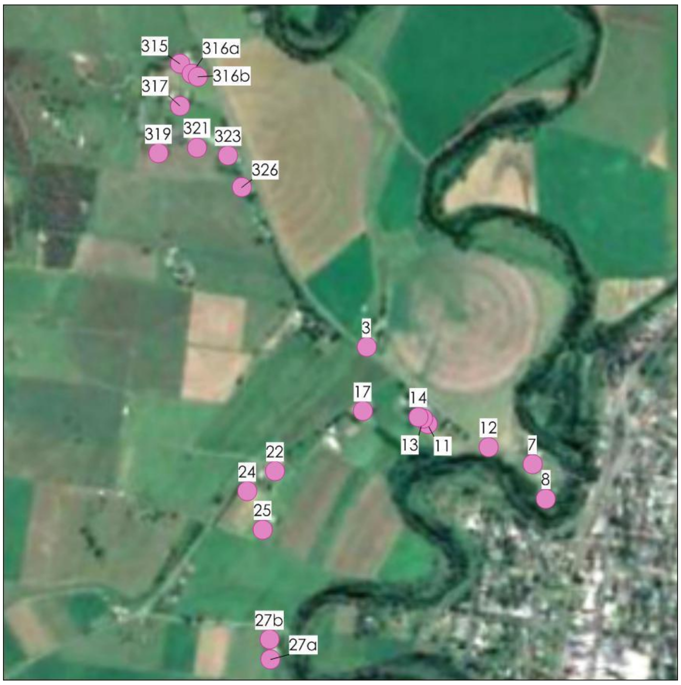

Figure A-2: Sensitive receptor locations – Insert 1

Figure A-3: Sensitive receptor locations – Insert 2

Table A-1: Sensitive receptor locations

ID	Name	Easting (m)	Northing (m)
3	COWTIME INVESTMENTS PTY LIMITED	300346	6429733
7	LG & CM KELMAN	300961	6429300
8	CK BIRCH	301012	6429172
11	RA ADNUM	300572	6429448
12	GE PITMAN	300798	6429363
13	WJ ADNUM	300557	6429469
14	LG WICKS	300538	6429475
17	DM PURSER	300332	6429496
22	N & M SORMAZ	300007	6429274
24	JM SIMPSON	299904	6429199
25	RK & NV GOOGE	299961	6429057
27a	C HORNE	299991	6428577
27b	C HORNE	299986	6428651
29	JABETIN PTY LIMITED	299050	6427367
30	TELSTRA CORPORATION LIMITED	300461	6427519
31	THE COUNCIL OF THE MUNICIPALITY OF MUSWELLBROOK	300359	6427450
39	WJ HARDES	299808	6427074
40	SW & KL BARKLEY	299390	6426889
42	DP ENGLEBRECHT	299121	6426775
43	KB & JA BARNETT	298868	6426831
44	MJ MCGOLDRICK	298805	6426823
46	MUSWELLBROOK RACE CLUB LIMITED	298607	6426127
47	DL ROBINSON	299098	6426730
48	MC & LJ DOBIE	299125	6426722
49	ML & EA SWEENEY	299153	6426716
50	TD BARRON	299146	6426679
51	RA BYRNES & MA MOLLER	299141	6426634
52	GL & KL ANDREWS	299139	6426610
53	SY JOHNSON	299136	6426585
54	JR GLEESON & MR CRANFIELD	299205	6426702
55	RRA FARNSWORTH	299197	6426672
56	NJ KEEVERS	299187	6426638
57	WJ & CB MCINTOSH	299188	6426608
58	RC WEIR & AL THOMSON-WEIR	299178	6426557
59	ENGLEBRECHT RACING STABLES PTY LIMITED	299173	6426549
61	JR GLEESON & MR CRANFIELD	299581	6426469
62	DR & CJ TUBB	299555	6426302
66	JR SCRIVEN	299200	6425201
76	BP & CJ HONEYSETT	301339	6426241
81	MONADELPHOUS PROPERTIES PTY LTD	299874	6426090
83	JR & JA BUCKLEY	299769	6426047
84	SRP & RF RAY	299633	6425991
85	DJ & SE & TP & MV HALLETT & KL & J CAMPBELL & JE ANDERSON	299778	6425939
88a	PR & M BURGMANN	287905	6419094
88b	PR & M BURGMANN	288037	6419039
88c	PR & M BURGMANN	288034	6418984
90	RW JONES	287951	6420133
92	TR & KM PAULSEN	288807	6419921
93	DJ PHILLIPS	288219	6420180
98	RL WILKS	288739	6420255
102	LA & CA MACPHERSON	289423	6420972
105	MW TURNER	290078	6421062
106	MJ & MJ DUNCAN	290911	6421305
108	MJ & MJ DUNCAN	290714	6421463
109	EJ & CA DENTON	290868	6421543
110	GR & MK WALSH	290611	6422527
112	MG & LJ LATHAM	291434	6421730
113	MG & LJ LATHAM	291481	6421952

ID	Name	Easting (m)	Northing (m)
114	JM WILD	291745	6422110
117	E RANKIN	292313	6421874
118	E & WJ RANKIN	292618	6422630
119	E & WJ RANKIN	292977	6421911
120	TW ROOTS	290950	6423466
126a	JDM MARKHAM	289358	6423043
126b	JDM MARKHAM	289265	6422923
126c	JDM MARKHAM	289154	6422752
130	AA & BT MEYER	289114	6422336
133a	S.R. & J. W. LAWSON (LINDISFARNE) PTY LIMITED	288742	6422671
133b	S.R. & J. W. LAWSON (LINDISFARNE) PTY LIMITED	288416	6422517
133c	S.R. & J. W. LAWSON (LINDISFARNE) PTY LIMITED	288665	6422488
145	PJ BROWN	289176	6423412
146	JI & PJ BROWN	289361	6423361
149a	RM & KF MERRICK	289587	6424458
149b	RM & KF MERRICK	289456	6424902
149c	RM & KF MERRICK	289427	6425012
152	MR PEEL	290911	6426194
153	PR ELLIS	290653	6425665
154	PSJ MURRAY	290998	6426004
155	PG & CM LANE	291295	6426062
156a	NJ & RY ELLIS	291223	6426368
156b	NJ & RY ELLIS	290999	6426447
156c	NJ & RY ELLIS	290581	6426749
161	RB & SA PARKINSON	290632	6427338
166	BA & TE STRACHAN	291269	6428281
168	JB MOORE	292315	6429011
169	JB MOORE	291438	6428661
171	BL & ML BATES	291256	6429607
180	JE & JL LONERGAN	289458	6428835
184	JL SMITH & KL BALMER	289900	6428268
186a	RB & SA PARKINSON	289026	6427914
186b	RB & SA PARKINSON	289011	6427682
189	FN & WL GOOGE	288329	6427915
192	GT MCNEILL	288725	6426970
198	IV & CA INGOLD	286615	6429565
199	SH JENNAR	286604	6429824
200	MA PERKINS	285853	6429984
201	DG PEACE	285938	6430379
202	SH JENNAR	286665	6429916
203	RG GOWING	286600	6430024
209a	RG GOWING	286306	6430981
209b	RG GOWING	286248	6431266
209c	RG GOWING	285918	6431702
209d	RG GOWING	286103	6432158
230	GC SPARRE	290586	6433646
252	GM CASEY	295826	6435256
286	IJ & CM RICHARDS	289245	6435354
288	DS MACDONALD & DE KILGANNON	288995	6434553
307	DAPKOS PTY LIMITED	300979	6433032
308	AP & PE MCMANUS	287914	6434468
309	GT KEAST	286256	6434028
313	DAPKOS PTY LIMITED	301235	6431473
315	C & JM MOORE	299654	6430782
316a	DL & PA MOORE	299698	6430746
316b	DL & PA MOORE	299722	6430734
317	JM & CA HAYES	299654	6430627
319	BD BARRY	299575	6430450
321	JS GIBSON	299718	6430473

ID	Name	Easting (m)	Northing (m)
323	AJPS MATHER	299833	6430442
326	RP GRAY	299883	6430324
330	BM KILLEN	301324	6426150

Appendix B

Modelling predictions

Table B-1: Modelling predictions for Year 4

Receptor ID	$PM_{2.5}$ (µg/m³)		PM_{10} (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	$PM_{2.5}$ (µg/m³)	PM_{10} (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
3	2.9	0.3	15.3	1.6	2.7	0.1	4.0	17.8	42.8	2.5
7	2.4	0.2	12.5	1.3	2.3	0.1	3.8	16.8	39.9	2.4
8	2.4	0.2	12.5	1.3	2.3	0.1	3.8	16.8	39.8	2.5
11	2.7	0.3	14.5	1.5	2.6	0.1	3.9	17.4	41.6	2.4
12	2.5	0.2	13.3	1.4	2.4	0.1	3.8	17.0	40.5	2.4
13	2.8	0.3	14.5	1.5	2.6	0.1	3.9	17.5	41.6	2.4
14	2.8	0.3	14.6	1.5	2.6	0.1	3.9	17.5	41.7	2.5
17	3.0	0.3	15.9	1.6	2.9	0.1	4.1	17.9	42.9	2.5
22	3.5	0.4	18.9	2.0	3.5	0.1	4.3	18.1	45.2	2.5
24	3.7	0.4	20.0	2.1	3.7	0.1	4.3	18.2	46.0	2.6
25	3.6	0.4	19.8	2.1	3.7	0.1	4.3	18.0	45.4	2.5
27a	3.8	0.4	20.8	2.4	4.2	0.1	4.2	17.6	45.2	2.5
27b	3.7	0.4	20.6	2.3	4.1	0.1	4.2	17.7	45.2	2.5
29	6.5	0.9	34.8	5.2	9.9	0.5	4.7	15.4	50.8	2.8
30	3.5	0.4	18.2	2.5	4.7	0.2	4.0	17.8	42.9	2.6
31	3.7	0.5	18.9	2.7	5.0	0.3	4.1	17.5	43.4	2.6
39	4.6	0.6	24.6	3.7	7.0	0.4	4.3	15.6	46.2	2.7
40	5.7	0.8	30.7	4.7	8.9	0.5	4.5	14.3	48.4	2.8
42	6.4	0.9	35.2	5.4	10.4	0.5	4.6	13.9	50.2	2.8
43	7.3	1.0	39.9	6.2	11.9	0.6	4.8	14.3	52.1	2.9
44	7.5	1.1	41.1	6.4	12.3	0.6	4.8	14.5	52.6	2.9
46	8.0	1.2	43.6	7.1	13.9	0.7	5.0	15.3	54.5	2.9
47	6.5	0.9	35.4	5.5	10.5	0.5	4.6	13.8	50.3	2.8
48	6.4	0.9	35.0	5.4	10.4	0.5	4.6	13.7	50.1	2.8
49	6.3	0.9	34.5	5.3	10.2	0.5	4.6	13.7	50.0	2.8
50	6.3	0.9	34.5	5.4	10.3	0.5	4.6	13.6	50.0	2.8
51	6.3	0.9	34.4	5.4	10.3	0.5	4.6	13.5	50.0	2.8
52	6.3	0.9	34.3	5.4	10.4	0.5	4.6	13.5	50.0	2.8
53	6.3	0.9	34.3	5.4	10.4	0.5	4.6	13.4	50.0	2.8
54	6.2	0.9	33.6	5.2	10.0	0.5	4.6	13.7	49.6	2.8
55	6.2	0.9	33.7	5.2	10.0	0.5	4.6	13.6	49.7	2.8
56	6.2	0.9	33.7	5.3	10.1	0.5	4.6	13.5	49.7	2.8
57	6.1	0.9	33.6	5.3	10.1	0.5	4.6	13.5	49.7	2.8
58	6.1	0.9	33.5	5.3	10.2	0.5	4.6	13.3	49.7	2.8
59	6.1	0.9	33.6	5.3	10.2	0.5	4.6	13.3	49.8	2.8
61	5.2	0.8	28.5	4.4	8.5	0.4	4.4	14.1	47.4	2.7
62	5.2	0.8	29.9	4.5	8.7	0.4	4.4	14.0	47.7	2.7
66	7.7	0.9	39.8	5.6	11.3	0.5	4.7	16.3	52.4	2.7
76	3.3	0.4	18.7	2.3	4.5	0.2	3.8	17.7	41.3	2.5
81	5.0	0.7	29.1	4.0	7.8	0.4	4.3	14.7	46.3	2.6
83	5.2	0.7	30.0	4.2	8.2	0.4	4.3	14.6	46.9	2.6
84	5.4	0.8	31.1	4.5	8.8	0.4	4.4	14.4	47.8	2.7
85	5.3	0.7	30.5	4.3	8.3	0.4	4.3	14.7	47.1	2.6
88a	1.0	0.1	6.3	0.6	1.2	0.0	3.4	12.3	36.6	2.2

Receptor ID	$PM_{2.5}$ (µg/m³)		PM_{10} (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	$PM_{2.5}$ (µg/m³)	PM_{10} (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
88b	1.0	0.1	6.7	0.6	1.2	0.0	3.4	12.4	36.7	2.2
88c	1.0	0.1	6.7	0.6	1.2	0.0	3.4	12.4	36.6	2.2
90	1.0	0.1	5.4	0.6	1.2	0.0	3.5	12.6	38.5	2.2
92	1.4	0.2	8.9	0.9	1.9	0.0	3.6	13.0	39.0	2.2
93	1.1	0.1	6.1	0.7	1.3	0.0	3.6	12.8	38.9	2.2
98	1.3	0.2	7.8	0.9	1.7	0.0	3.6	12.9	39.2	2.2
102	1.6	0.2	8.7	1.1	2.1	0.0	3.6	12.7	39.9	2.2
105	2.0	0.3	11.6	1.5	3.0	0.0	3.7	12.9	40.9	2.3
106	2.7	0.4	17.1	2.2	4.7	0.1	3.9	13.9	43.5	2.3
108	2.5	0.3	14.4	1.9	4.0	0.1	3.8	13.5	42.7	2.3
109	2.7	0.4	15.3	2.1	4.3	0.1	3.9	13.8	43.3	2.3
110	2.3	0.3	13.1	1.5	2.8	0.0	3.9	13.8	43.0	2.3
112	3.3	0.5	19.6	2.8	5.9	0.1	4.1	15.1	46.1	2.3
113	3.5	0.5	20.5	2.8	5.8	0.1	4.1	15.4	46.6	2.3
114	4.1	0.6	24.2	3.3	6.8	0.1	4.3	16.5	48.9	2.4
117	5.0	0.8	32.3	4.6	10.0	0.2	4.6	18.4	53.2	2.5
118	7.0	1.0	42.5	6.0	12.5	0.2	5.2	23.6	62.0	2.7
119	5.9	0.9	38.5	5.7	12.3	0.2	5.0	22.0	59.7	2.6
120	3.1	0.3	17.1	1.9	3.3	0.0	4.2	17.2	47.5	2.4
126a	1.4	0.2	7.6	0.9	1.7	0.0	3.7	13.0	41.1	2.3
126b	1.4	0.2	7.2	0.9	1.6	0.0	3.7	12.8	40.8	2.3
126c	1.3	0.1	6.7	0.8	1.5	0.0	3.7	12.6	40.6	2.3
130	1.3	0.1	6.6	0.8	1.5	0.0	3.7	12.3	40.1	2.3
133a	1.1	0.1	5.7	0.7	1.3	0.0	3.6	12.3	40.1	2.3
133b	1.0	0.1	5.2	0.6	1.2	0.0	3.6	12.2	40.0	2.3
133c	1.1	0.1	5.6	0.7	1.3	0.0	3.6	12.3	40.0	2.3
145	1.3	0.2	7.0	0.8	1.5	0.0	3.7	13.0	41.1	2.3
146	1.4	0.2	7.6	0.9	1.6	0.0	3.7	13.2	41.4	2.3
149a	1.6	0.2	9.3	1.0	1.7	0.0	3.9	15.3	44.1	2.3
149b	1.6	0.2	9.3	0.9	1.6	0.0	3.9	15.5	44.6	2.4
149c	1.6	0.2	9.2	0.9	1.6	0.0	4.0	15.6	44.8	2.4
152	2.7	0.3	15.5	1.8	3.3	0.0	4.7	21.8	55.5	2.6
153	2.3	0.3	12.6	1.6	2.9	0.0	4.6	21.0	53.5	2.5
154	2.8	0.3	15.7	1.9	3.4	0.1	4.7	22.2	56.1	2.6
155	3.3	0.4	18.8	2.3	4.2	0.1	4.9	23.5	58.5	2.6
156a	3.3	0.4	19.0	2.2	4.0	0.1	4.8	22.7	57.6	2.6
156b	3.0	0.3	16.9	1.9	3.5	0.1	4.7	21.7	55.9	2.6
156c	2.3	0.3	13.3	1.4	2.7	0.0	4.5	19.7	52.5	2.6
161	2.3	0.3	13.5	1.4	2.7	0.1	4.3	18.3	50.8	2.6
166	2.8	0.4	15.9	2.5	5.3	0.2	4.2	16.4	49.5	2.6
168	5.3	1.3	33.8	8.1	18.4	0.7	5.1	20.4	61.4	3.0
169	2.9	0.5	15.5	3.1	6.6	0.3	4.3	16.1	49.6	2.7
171	3.2	0.7	20.5	4.1	9.3	0.5	4.2	15.5	49.4	2.8
180	1.5	0.2	6.8	0.9	2.0	0.1	3.8	13.7	43.4	2.4
184	1.6	0.2	8.4	1.0	2.1	0.1	4.0	15.0	45.5	2.5

Receptor ID	$PM_{2.5}$ (µg/m³)		PM_{10} (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	$PM_{2.5}$ (µg/m³)	PM_{10} (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
186a	1.2	0.1	6.4	0.7	1.4	0.0	3.9	14.4	44.3	2.4
186b	1.2	0.1	6.4	0.7	1.3	0.0	3.9	14.6	44.5	2.4
189	1.1	0.1	5.3	0.6	1.1	0.0	3.8	13.3	42.6	2.3
192	1.1	0.1	6.1	0.6	1.2	0.0	3.9	14.3	43.9	2.4
198	0.8	0.1	3.8	0.4	0.8	0.0	3.5	11.1	38.7	2.3
199	0.8	0.1	3.9	0.4	0.9	0.0	3.5	11.1	38.5	2.3
200	0.7	0.1	3.3	0.4	0.8	0.0	3.5	10.7	37.8	2.2
201	0.7	0.1	3.2	0.4	0.9	0.0	3.4	10.7	37.6	2.2
202	0.8	0.1	3.9	0.4	0.9	0.0	3.5	11.1	38.5	2.3
203	0.8	0.1	3.8	0.4	0.9	0.0	3.5	11.0	38.3	2.3
209a	0.8	0.1	4.9	0.5	1.2	0.0	3.4	10.9	37.5	2.2
209b	0.9	0.1	5.5	0.6	1.3	0.0	3.4	10.9	37.4	2.2
209c	0.9	0.1	5.8	0.6	1.3	0.0	3.4	11.0	37.0	2.2
209d	1.0	0.1	6.0	0.7	1.6	0.0	3.4	11.2	37.1	2.2
230	2.7	0.5	16.8	2.8	6.5	0.2	3.6	12.7	40.9	2.4
252	1.6	0.2	9.6	1.1	2.1	0.0	3.6	13.2	38.2	2.4
286	2.1	0.3	13.0	1.9	4.3	0.1	3.4	12.7	37.8	2.3
288	1.9	0.3	12.3	2.0	4.6	0.1	3.5	12.6	38.5	2.3
307	1.8	0.1	12.0	0.7	1.1	0.0	3.6	15.3	37.7	2.2
308	1.6	0.3	9.8	1.7	3.7	0.1	3.4	12.5	37.8	2.3
309	1.7	0.2	9.3	1.1	2.4	0.1	3.4	12.1	36.8	2.2
313	1.7	0.1	11.3	0.8	1.4	0.0	3.5	15.5	37.4	2.3
315	2.9	0.3	18.2	1.7	3.0	0.0	4.6	19.6	48.8	2.7
316a	2.8	0.3	17.9	1.7	3.0	0.0	4.5	19.1	48.2	2.7
316b	2.8	0.3	17.7	1.7	2.9	0.0	4.5	19.0	47.9	2.7
317	3.0	0.3	18.0	1.8	3.1	0.1	4.6	19.7	49.0	2.8
319	3.2	0.3	18.3	2.0	3.4	0.1	4.7	20.3	50.5	2.8
321	3.1	0.3	17.2	1.8	3.1	0.1	4.5	19.1	48.2	2.7
323	3.0	0.3	16.3	1.7	3.0	0.0	4.4	18.7	46.8	2.7
326	3.0	0.3	16.2	1.7	3.0	0.0	4.4	18.6	46.3	2.6
330	3.5	0.4	19.9	2.4	4.6	0.2	3.9	17.7	41.4	2.5

Table B-2: Modelling predictions for Year 8

Receptor ID	PM2.5 (µg/m³)		PM10 (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	PM2.5 (µg/m³)	PM10 (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
3	2.8	0.2	14.9	1.4	2.4	0.1	4.0	17.6	43.2	2.5
7	2.3	0.2	11.9	1.1	2.1	0.1	3.7	16.4	39.8	2.4
8	2.3	0.2	11.8	1.2	2.1	0.1	3.7	16.4	39.6	2.5
11	2.6	0.2	13.9	1.3	2.3	0.1	3.9	17.2	41.7	2.5
12	2.4	0.2	12.7	1.2	2.2	0.1	3.8	16.7	40.5	2.4
13	2.7	0.2	14.0	1.3	2.3	0.1	3.9	17.2	41.8	2.5
14	2.7	0.2	14.1	1.3	2.4	0.1	3.9	17.3	41.9	2.5
17	2.9	0.3	15.4	1.4	2.6	0.1	4.0	17.7	43.2	2.5
22	3.3	0.3	18.0	1.7	3.1	0.1	4.2	18.0	45.5	2.6
24	3.5	0.3	18.9	1.8	3.2	0.1	4.3	18.0	46.3	2.6
25	3.4	0.3	18.5	1.8	3.3	0.1	4.3	17.8	45.7	2.6
27a	3.8	0.4	18.7	2.0	3.7	0.1	4.2	17.3	45.2	2.5
27b	3.6	0.3	18.7	2.0	3.6	0.1	4.2	17.4	45.3	2.5
29	7.1	0.7	36.6	4.3	8.1	0.4	4.7	14.7	50.1	2.8
30	4.1	0.4	20.6	2.2	4.1	0.2	4.0	17.2	42.4	2.6
31	4.2	0.4	21.1	2.3	4.3	0.2	4.0	16.9	42.9	2.6
39	4.9	0.6	25.3	3.2	6.0	0.3	4.3	15.0	45.6	2.7
40	5.9	0.7	32.6	4.0	7.7	0.4	4.4	13.7	47.8	2.8
42	6.6	0.8	37.5	4.7	9.0	0.5	4.6	13.1	49.4	2.8
43	7.5	0.9	41.9	5.3	10.2	0.6	4.7	13.5	51.1	2.9
44	7.7	0.9	43.2	5.5	10.6	0.6	4.8	13.7	51.6	2.9
46	8.7	1.1	46.8	6.5	12.7	0.7	4.9	14.2	53.2	3.0
47	6.6	0.8	37.9	4.8	9.2	0.5	4.6	13.0	49.5	2.8
48	6.6	0.8	37.4	4.7	9.1	0.5	4.6	13.0	49.3	2.8
49	6.5	0.8	37.0	4.7	9.0	0.5	4.6	13.0	49.2	2.8
50	6.5	0.8	37.1	4.7	9.1	0.5	4.6	12.9	49.2	2.8
51	6.5	0.8	37.1	4.8	9.2	0.5	4.6	12.8	49.2	2.8
52	6.4	0.8	37.1	4.8	9.2	0.5	4.6	12.7	49.2	2.8
53	6.4	0.8	37.1	4.8	9.2	0.5	4.6	12.7	49.2	2.8
54	6.3	0.8	36.2	4.6	8.8	0.5	4.5	13.0	48.8	2.8
55	6.3	0.8	36.3	4.6	8.8	0.5	4.5	12.9	48.9	2.8
56	6.3	0.8	36.4	4.7	8.9	0.5	4.5	12.8	48.9	2.8
57	6.3	0.8	36.4	4.7	9.0	0.5	4.5	12.7	48.9	2.8
58	6.3	0.8	36.4	4.7	9.1	0.5	4.5	12.6	49.0	2.8
59	6.3	0.8	36.5	4.7	9.1	0.5	4.5	12.6	49.0	2.8
61	5.3	0.7	31.0	4.0	7.6	0.4	4.3	13.4	46.7	2.7
62	5.5	0.7	32.0	4.1	8.0	0.4	4.3	13.2	46.9	2.7
66	9.9	0.9	**51.2**	5.2	10.4	0.5	4.6	14.7	50.5	2.7
76	3.3	0.4	19.4	2.2	4.2	0.2	3.8	16.8	40.3	2.5
81	5.4	0.6	31.0	3.7	7.2	0.4	4.2	14.0	45.5	2.6
83	5.6	0.7	32.4	3.9	7.6	0.4	4.3	13.8	46.1	2.7
84	5.9	0.7	34.2	4.2	8.1	0.4	4.3	13.6	46.8	2.7
85	5.8	0.7	33.3	4.0	7.7	0.4	4.3	13.9	46.2	2.7
88a	1.2	0.1	7.1	0.7	1.4	0.0	3.4	12.7	37.3	2.2

Receptor ID	PM2.5 (µg/m³)		PM10 (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	PM2.5 (µg/m³)	PM10 (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
88b	1.2	0.1	7.5	0.7	1.5	0.0	3.4	12.8	37.4	2.2
88c	1.2	0.1	7.5	0.7	1.5	0.0	3.4	12.8	37.3	2.2
90	1.1	0.1	5.9	0.7	1.4	0.0	3.6	13.1	39.3	2.2
92	1.7	0.2	10.5	1.0	2.3	0.0	3.6	13.7	40.3	2.2
93	1.2	0.1	6.9	0.8	1.6	0.0	3.6	13.4	39.9	2.2
98	1.5	0.2	9.2	1.0	2.1	0.0	3.7	13.6	40.5	2.2
102	1.7	0.2	9.4	1.2	2.6	0.0	3.8	13.8	41.9	2.3
105	2.2	0.3	13.8	1.7	3.8	0.1	3.9	14.5	43.6	2.3
106	3.3	0.4	21.1	2.6	6.1	0.1	4.1	16.2	47.7	2.4
108	2.8	0.4	17.9	2.2	5.1	0.1	4.1	15.7	46.6	2.4
109	3.0	0.4	19.1	2.4	5.5	0.1	4.1	16.1	47.5	2.4
110	2.6	0.3	15.3	1.6	3.3	0.1	4.1	16.4	47.2	2.4
112	3.9	0.5	25.2	3.3	7.7	0.1	4.4	18.1	51.6	2.4
113	3.9	0.5	23.9	3.3	7.6	0.1	4.5	18.6	52.5	2.5
114	4.5	0.6	27.6	3.9	9.0	0.1	4.7	20.3	55.7	2.5
117	5.9	0.8	39.6	5.1	12.2	0.2	5.0	22.4	60.6	2.6
118	7.4	1.1	48.2	6.9	16.5	0.3	5.9	**30.4**	74.7	2.9
119	6.8	0.9	43.9	5.4	12.8	0.2	5.4	**26.3**	67.0	2.8
120	3.3	0.3	19.5	1.9	3.8	0.1	4.6	21.7	54.5	2.5
126a	1.4	0.2	8.1	0.9	1.8	0.0	3.9	15.2	44.5	2.3
126b	1.4	0.2	7.7	0.9	1.8	0.0	3.9	14.9	44.0	2.3
126c	1.3	0.1	7.3	0.8	1.7	0.0	3.9	14.5	43.5	2.3
130	1.3	0.1	7.0	0.8	1.7	0.0	3.8	14.0	42.6	2.3
133a	1.1	0.1	6.6	0.7	1.5	0.0	3.8	14.0	42.6	2.3
133b	1.0	0.1	6.1	0.7	1.3	0.0	3.8	13.6	42.1	2.3
133c	1.1	0.1	5.9	0.7	1.4	0.0	3.8	13.8	42.3	2.3
145	1.4	0.2	8.7	0.9	1.7	0.0	4.0	15.4	44.7	2.3
146	1.4	0.2	8.9	0.9	1.8	0.0	4.0	15.7	45.1	2.3
149a	1.8	0.2	10.9	1.0	1.9	0.0	4.3	19.0	49.7	2.4
149b	1.8	0.2	10.6	0.9	1.8	0.0	4.3	19.2	50.4	2.5
149c	1.7	0.2	10.4	0.9	1.8	0.0	4.3	19.2	50.5	2.5
152	2.6	0.3	15.7	1.8	3.5	0.1	4.9	24.2	59.8	2.6
153	2.3	0.3	14.1	1.5	3.1	0.0	4.9	24.7	59.6	2.6
154	2.7	0.3	15.9	1.9	3.7	0.1	5.0	**25.1**	61.0	2.6
155	3.2	0.4	19.3	2.3	4.5	0.1	5.2	**25.9**	62.9	2.7
156a	3.3	0.4	20.0	2.1	4.3	0.1	5.0	24.4	60.8	2.6
156b	2.9	0.3	17.7	1.8	3.7	0.1	4.9	23.5	59.1	2.6
156c	2.3	0.2	14.2	1.4	2.9	0.1	4.7	21.4	55.6	2.6
161	2.4	0.2	14.4	1.4	3.0	0.1	4.4	19.2	52.7	2.6
166	2.6	0.4	15.6	2.8	6.2	0.3	4.2	15.8	49.3	2.6
168	9.3	1.7	**62.3**	11.0	25.5	1.1	5.4	21.9	66.4	3.3
169	2.8	0.6	16.0	3.5	7.9	0.4	4.2	15.4	49.3	2.7
171	4.5	0.8	29.0	5.3	12.0	0.6	4.3	15.6	50.6	2.9
180	1.6	0.2	7.5	1.0	2.3	0.1	3.9	14.2	44.5	2.4
184	1.6	0.2	8.7	1.1	2.4	0.1	4.0	15.6	46.9	2.5

Receptor ID	$PM_{2.5}$ (µg/m³)		PM_{10} (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	$PM_{2.5}$ (µg/m³)	PM_{10} (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
186a	1.3	0.1	6.8	0.7	1.5	0.0	4.0	15.5	46.2	2.5
186b	1.2	0.1	6.8	0.7	1.5	0.0	4.0	15.9	46.7	2.5
189	1.2	0.1	5.5	0.6	1.2	0.0	3.9	14.6	44.7	2.4
192	1.2	0.1	6.8	0.6	1.3	0.0	4.1	16.4	47.3	2.5
198	0.8	0.1	4.7	0.5	1.0	0.0	3.6	11.8	39.9	2.3
199	0.8	0.1	4.7	0.5	1.1	0.0	3.6	11.7	39.5	2.3
200	0.7	0.1	4.3	0.4	0.9	0.0	3.5	11.3	38.9	2.2
201	0.7	0.1	3.8	0.5	1.0	0.0	3.5	11.2	38.5	2.2
202	0.8	0.1	4.6	0.5	1.1	0.0	3.6	11.6	39.4	2.3
203	0.8	0.1	4.5	0.5	1.1	0.0	3.6	11.6	39.3	2.3
209a	0.9	0.1	6.0	0.7	1.4	0.0	3.5	11.3	38.3	2.2
209b	1.1	0.1	6.9	0.7	1.6	0.0	3.5	11.3	38.1	2.2
209c	1.2	0.1	7.8	0.8	1.7	0.0	3.4	11.3	37.7	2.2
209d	1.3	0.2	8.6	1.0	2.1	0.1	3.4	11.5	37.8	2.2
230	4.3	0.6	27.7	3.9	9.1	0.3	3.8	13.6	43.3	2.5
252	1.8	0.2	11.3	0.9	1.6	0.0	3.7	13.6	39.4	2.4
286	3.1	0.4	19.7	2.5	5.7	0.2	3.5	13.1	39.0	2.3
288	3.1	0.4	19.2	2.8	6.1	0.2	3.6	13.0	39.7	2.3
307	2.2	0.1	14.2	0.6	1.0	0.0	3.5	14.8	37.3	2.2
308	2.5	0.4	15.5	2.3	5.0	0.2	3.5	12.8	38.6	2.3
309	2.7	0.2	15.4	1.5	3.1	0.1	3.4	12.3	37.4	2.3
313	1.9	0.1	12.4	0.7	1.3	0.0	3.5	15.1	37.2	2.3
315	2.9	0.3	19.3	1.4	2.6	0.0	4.7	20.3	51.2	2.7
316a	2.9	0.3	18.7	1.4	2.5	0.0	4.6	19.7	50.3	2.7
316b	2.9	0.3	18.4	1.4	2.5	0.0	4.6	19.6	49.9	2.7
317	3.0	0.3	18.3	1.5	2.6	0.0	4.7	20.4	51.4	2.7
319	3.3	0.3	17.6	1.6	2.8	0.0	4.9	21.1	53.1	2.8
321	3.1	0.3	16.5	1.5	2.7	0.0	4.6	19.7	50.2	2.7
323	3.0	0.3	15.9	1.4	2.6	0.0	4.5	19.1	48.3	2.7
326	3.0	0.3	16.1	1.4	2.6	0.0	4.4	18.9	47.7	2.6
330	3.4	0.4	19.9	2.3	4.3	0.2	3.8	16.8	40.4	2.5

Table B-3: Modelling predictions for Year 15

Receptor ID	PM2.5 (µg/m³)		PM10 (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	PM2.5 (µg/m³)	PM10 (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
3	2.7	0.2	14.4	1.2	2.3	0.1	3.1	9.0	32.7	2.2
7	2.3	0.2	12.2	1.1	2.1	0.1	3.1	8.9	32.5	2.2
8	2.3	0.2	12.3	1.1	2.1	0.1	3.1	8.9	32.5	2.2
11	2.5	0.2	13.8	1.2	2.3	0.1	3.1	9.0	32.7	2.2
12	2.4	0.2	12.8	1.1	2.2	0.1	3.1	8.9	32.6	2.2
13	2.5	0.2	13.8	1.2	2.3	0.1	3.1	9.0	32.7	2.2
14	2.6	0.2	13.9	1.2	2.3	0.1	3.1	9.0	32.7	2.2
17	2.7	0.2	15.0	1.3	2.5	0.1	3.1	9.1	32.9	2.2
22	3.1	0.3	17.3	1.5	2.9	0.1	3.2	9.3	33.3	2.2
24	3.2	0.3	18.1	1.6	3.1	0.1	3.2	9.4	33.5	2.2
25	3.2	0.3	18.0	1.6	3.1	0.1	3.2	9.4	33.5	2.2
27a	3.3	0.3	18.5	1.8	3.5	0.1	3.2	9.6	33.9	2.2
27b	3.3	0.3	18.5	1.8	3.4	0.1	3.2	9.6	33.8	2.2
29	5.2	0.6	27.9	3.6	7.0	0.4	3.5	11.4	37.4	2.5
30	3.1	0.3	16.2	2.0	3.9	0.2	3.2	9.8	34.3	2.3
31	3.2	0.4	16.7	2.1	4.1	0.2	3.3	9.9	34.5	2.3
39	3.9	0.5	21.2	2.8	5.4	0.3	3.4	10.6	35.8	2.4
40	4.8	0.6	26.6	3.4	6.6	0.4	3.5	11.2	37.0	2.5
42	5.5	0.6	30.3	3.8	7.5	0.4	3.5	11.6	37.9	2.5
43	6.0	0.7	33.4	4.2	8.3	0.4	3.6	12.0	38.7	2.5
44	6.2	0.7	34.3	4.3	8.6	0.5	3.6	12.1	39.0	2.6
46	6.4	0.9	35.6	5.2	10.3	0.6	3.8	13.0	40.7	2.7
47	5.5	0.6	30.7	3.9	7.6	0.4	3.5	11.7	38.0	2.5
48	5.5	0.6	30.4	3.8	7.6	0.4	3.5	11.6	38.0	2.5
49	5.4	0.6	30.0	3.8	7.5	0.4	3.5	11.6	37.9	2.5
50	5.4	0.6	30.1	3.8	7.5	0.4	3.5	11.6	37.9	2.5
51	5.4	0.6	30.2	3.9	7.6	0.4	3.5	11.7	38.0	2.5
52	5.4	0.6	30.2	3.9	7.6	0.4	3.5	11.7	38.0	2.5
53	5.4	0.6	30.2	3.9	7.7	0.4	3.5	11.7	38.1	2.5
54	5.3	0.6	29.4	3.7	7.3	0.4	3.5	11.5	37.7	2.5
55	5.3	0.6	29.6	3.8	7.4	0.4	3.5	11.6	37.8	2.5
56	5.3	0.6	29.7	3.8	7.4	0.4	3.5	11.6	37.8	2.5
57	5.3	0.6	29.7	3.8	7.5	0.4	3.5	11.6	37.9	2.5
58	5.3	0.6	29.7	3.8	7.6	0.4	3.5	11.6	38.0	2.5
59	5.4	0.6	29.7	3.8	7.6	0.4	3.5	11.6	38.0	2.5
61	4.6	0.6	25.7	3.3	6.5	0.4	3.5	11.1	36.9	2.5
62	4.7	0.6	26.9	3.4	6.8	0.4	3.5	11.2	37.2	2.5
66	7.2	0.7	39.1	4.5	9.1	0.4	3.6	12.3	39.5	2.5
76	2.8	0.3	16.9	2.0	3.9	0.2	3.2	9.8	34.3	2.3
81	4.4	0.5	26.3	3.2	6.3	0.3	3.4	11.0	36.7	2.4
83	4.6	0.6	27.4	3.3	6.5	0.3	3.5	11.1	36.9	2.4
84	4.8	0.6	28.6	3.5	7.0	0.4	3.5	11.3	37.4	2.5
85	4.7	0.6	28.0	3.4	6.7	0.3	3.5	11.2	37.1	2.4
88a	1.7	0.1	9.7	0.7	1.6	0.0	3.0	8.5	32.0	2.1

Receptor ID	PM2.5 (µg/m³)		PM10 (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	PM2.5 (µg/m³)	PM10 (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
88b	1.7	0.1	9.9	0.8	1.7	0.0	3.0	8.6	32.1	2.1
88c	1.7	0.1	9.8	0.8	1.7	0.0	3.0	8.6	32.1	2.1
90	1.5	0.1	8.8	0.8	1.6	0.0	3.0	8.6	32.0	2.1
92	2.4	0.2	14.4	1.2	2.7	0.0	3.1	9.0	33.1	2.1
93	1.7	0.2	10.2	0.9	1.9	0.0	3.1	8.7	32.3	2.1
98	2.2	0.2	13.5	1.1	2.5	0.0	3.1	8.9	32.9	2.1
102	2.3	0.2	15.4	1.5	3.3	0.1	3.1	9.3	33.7	2.2
105	3.2	0.3	21.3	2.1	4.9	0.1	3.2	9.9	35.3	2.2
106	4.0	0.5	27.1	3.2	7.7	0.1	3.4	11.0	38.1	2.2
108	3.9	0.5	25.4	3.0	6.9	0.1	3.4	10.8	37.3	2.2
109	4.0	0.5	26.3	3.2	7.6	0.1	3.4	11.0	38.0	2.2
110	3.8	0.4	24.7	2.4	5.1	0.1	3.3	10.2	35.5	2.2
112	5.2	0.7	35.8	4.3	10.3	0.2	3.6	12.1	40.7	2.3
113	5.2	0.7	35.9	4.6	10.9	0.2	3.6	12.4	41.3	2.3
114	6.2	0.8	43.3	5.4	12.9	0.2	3.7	13.2	43.3	2.3
117	6.9	0.9	46.9	5.5	13.2	0.2	3.8	13.3	43.6	2.3
118	10.3	1.3	**69.9**	8.7	20.8	0.3	4.2	16.5	51.2	2.4
119	5.7	0.8	37.6	5.2	12.2	0.2	3.7	13.0	42.6	2.3
120	5.1	0.4	33.5	2.8	5.8	0.1	3.3	10.6	36.2	2.2
126a	2.0	0.2	12.0	1.2	2.4	0.0	3.1	9.0	32.8	2.1
126b	1.9	0.2	11.6	1.1	2.3	0.0	3.1	8.9	32.7	2.1
126c	1.8	0.2	11.0	1.1	2.2	0.0	3.1	8.9	32.6	2.1
130	1.8	0.2	10.9	1.1	2.2	0.0	3.1	8.9	32.6	2.1
133a	1.5	0.2	9.4	0.9	1.9	0.0	3.1	8.7	32.3	2.1
133b	1.3	0.1	8.7	0.8	1.7	0.0	3.0	8.6	32.1	2.1
133c	1.4	0.2	8.5	0.9	1.8	0.0	3.1	8.7	32.2	2.1
145	2.0	0.2	12.8	1.1	2.3	0.0	3.1	8.9	32.7	2.1
146	2.0	0.2	13.1	1.2	2.4	0.0	3.1	9.0	32.8	2.1
149a	2.2	0.2	14.1	1.3	2.7	0.0	3.1	9.1	33.1	2.1
149b	2.1	0.2	13.4	1.2	2.5	0.0	3.1	9.0	32.9	2.1
149c	2.1	0.2	13.2	1.2	2.4	0.0	3.1	9.0	32.8	2.1
152	3.8	0.4	24.4	2.7	5.7	0.1	3.3	10.5	36.1	2.2
153	3.0	0.4	19.6	2.2	4.6	0.1	3.3	10.0	35.0	2.2
154	4.0	0.5	25.3	2.8	6.0	0.1	3.4	10.6	36.4	2.2
155	5.1	0.6	32.6	3.6	7.6	0.1	3.5	11.4	38.0	2.2
156a	4.8	0.6	31.0	3.5	7.5	0.1	3.5	11.3	37.9	2.2
156b	4.0	0.5	25.9	2.9	6.3	0.1	3.4	10.7	36.7	2.2
156c	2.9	0.4	18.2	2.2	4.8	0.1	3.3	10.0	35.2	2.2
161	2.7	0.4	16.9	2.5	5.5	0.2	3.3	10.3	35.9	2.3
166	3.4	0.8	22.6	5.5	12.8	0.6	3.7	13.3	43.2	2.7
168	10.7	2.7	**72.1**	17.6	44.1	1.8	5.6	**25.4**	74.5	3.9
169	5.3	1.0	33.0	6.6	15.5	0.9	3.9	14.4	45.9	3.0
171	6.4	1.2	41.5	7.7	18.6	1.0	4.1	15.5	49.0	3.1
180	1.6	0.3	8.2	1.8	4.0	0.2	3.2	9.6	34.4	2.3
184	1.7	0.3	10.2	1.9	4.2	0.2	3.2	9.7	34.6	2.3

Receptor ID	$PM_{2.5}$ (µg/m³)		PM_{10} (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	$PM_{2.5}$ (µg/m³)	PM_{10} (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
186a	1.4	0.2	7.9	1.1	2.4	0.1	3.1	8.9	32.8	2.2
186b	1.4	0.2	8.2	1.1	2.3	0.1	3.1	8.9	32.7	2.2
189	1.3	0.1	6.9	0.9	1.9	0.0	3.0	8.7	32.3	2.1
192	1.5	0.1	8.7	0.9	1.9	0.0	3.0	8.7	32.3	2.1
198	0.9	0.1	5.3	0.7	1.5	0.0	3.0	8.5	31.9	2.1
199	0.9	0.1	5.3	0.7	1.6	0.1	3.0	8.5	32.0	2.2
200	0.8	0.1	4.4	0.6	1.4	0.0	3.0	8.4	31.8	2.1
201	0.8	0.1	4.7	0.7	1.5	0.0	3.0	8.5	31.9	2.1
202	0.9	0.1	5.4	0.8	1.7	0.1	3.0	8.6	32.1	2.2
203	0.9	0.1	5.2	0.8	1.7	0.1	3.0	8.6	32.1	2.2
209a	1.0	0.2	6.6	0.9	2.1	0.1	3.1	8.7	32.5	2.2
209b	1.1	0.2	7.1	1.0	2.3	0.1	3.1	8.8	32.7	2.2
209c	1.3	0.2	8.2	1.1	2.4	0.1	3.1	8.9	32.8	2.2
209d	1.6	0.2	9.3	1.3	2.9	0.1	3.1	9.1	33.3	2.2
230	4.0	0.6	25.7	3.8	9.2	0.3	3.5	11.6	39.6	2.4
252	1.6	0.1	10.0	0.7	1.4	0.0	3.0	8.5	31.8	2.1
286	3.3	0.4	21.5	2.5	5.8	0.2	3.3	10.3	36.2	2.3
288	3.7	0.5	24.2	3.3	7.6	0.2	3.4	11.1	38.0	2.3
307	1.9	0.1	12.3	0.5	0.9	0.0	3.0	8.3	31.3	2.1
308	2.9	0.4	18.3	2.8	6.4	0.2	3.3	10.6	36.8	2.3
309	2.5	0.3	14.5	1.9	4.2	0.1	3.2	9.7	34.6	2.2
313	1.6	0.1	10.3	0.6	1.2	0.0	3.0	8.4	31.6	2.1
315	2.8	0.2	14.8	1.2	2.2	0.0	3.1	9.0	32.6	2.1
316a	2.8	0.2	14.8	1.1	2.2	0.0	3.1	8.9	32.6	2.1
316b	2.8	0.2	14.7	1.1	2.2	0.0	3.1	8.9	32.6	2.1
317	2.9	0.2	15.4	1.2	2.3	0.0	3.1	9.0	32.7	2.1
319	3.0	0.2	16.5	1.3	2.5	0.0	3.1	9.1	32.9	2.1
321	2.9	0.2	15.7	1.2	2.3	0.0	3.1	9.0	32.7	2.1
323	2.8	0.2	15.3	1.2	2.3	0.0	3.1	9.0	32.7	2.1
326	2.8	0.2	15.4	1.2	2.3	0.0	3.1	9.0	32.7	2.1
330	2.9	0.3	17.5	2.0	4.0	0.2	3.2	9.8	34.4	2.3

Table B-4: Modelling predictions for Year 24

Receptor ID	$PM_{2.5}$ (µg/m³)		PM_{10} (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	$PM_{2.5}$ (µg/m³)	PM_{10} (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
3	2.2	0.2	11.8	1.0	1.9	0.1	3.1	8.8	32.3	2.2
7	1.8	0.1	9.9	0.9	1.8	0.1	3.0	8.7	32.2	2.2
8	1.8	0.2	9.9	0.9	1.8	0.1	3.1	8.7	32.2	2.2
11	2.1	0.2	11.3	1.0	1.9	0.1	3.1	8.8	32.3	2.2
12	1.9	0.2	10.5	0.9	1.8	0.1	3.1	8.7	32.2	2.2
13	2.1	0.2	11.3	1.0	1.9	0.1	3.1	8.8	32.3	2.2
14	2.1	0.2	11.4	1.0	1.9	0.1	3.1	8.8	32.3	2.2
17	2.2	0.2	12.2	1.0	2.0	0.1	3.1	8.8	32.4	2.2
22	2.4	0.2	13.8	1.2	2.3	0.1	3.1	9.0	32.7	2.2
24	2.5	0.2	14.3	1.2	2.5	0.1	3.1	9.0	32.9	2.2
25	2.5	0.2	14.1	1.3	2.5	0.1	3.1	9.1	32.9	2.2
27a	2.5	0.2	14.0	1.4	2.7	0.1	3.1	9.2	33.1	2.2
27b	2.5	0.2	14.1	1.4	2.7	0.1	3.1	9.2	33.1	2.2
29	3.3	0.4	18.1	2.5	5.0	0.2	3.3	10.3	35.4	2.3
30	2.1	0.2	11.3	1.5	3.0	0.2	3.1	9.3	33.4	2.3
31	2.2	0.3	11.7	1.6	3.1	0.2	3.2	9.4	33.5	2.3
39	2.7	0.3	14.6	2.0	4.1	0.2	3.2	9.8	34.5	2.3
40	3.2	0.4	17.4	2.5	4.9	0.2	3.3	10.3	35.3	2.3
42	3.5	0.5	19.6	2.8	5.6	0.3	3.4	10.6	36.0	2.4
43	3.8	0.5	21.3	3.0	6.1	0.3	3.4	10.8	36.5	2.4
44	3.9	0.5	21.8	3.1	6.2	0.3	3.4	10.9	36.6	2.4
46	4.2	0.6	24.7	3.9	8.0	0.4	3.5	11.7	38.4	2.5
47	3.6	0.5	19.8	2.8	5.7	0.3	3.4	10.6	36.1	2.4
48	3.5	0.5	19.7	2.8	5.6	0.3	3.4	10.6	36.0	2.4
49	3.5	0.5	19.5	2.8	5.6	0.3	3.4	10.6	36.0	2.4
50	3.5	0.5	19.6	2.8	5.6	0.3	3.4	10.6	36.0	2.4
51	3.5	0.5	19.8	2.8	5.7	0.3	3.4	10.6	36.1	2.4
52	3.5	0.5	19.8	2.8	5.7	0.3	3.4	10.6	36.1	2.4
53	3.6	0.5	19.9	2.9	5.8	0.3	3.4	10.7	36.2	2.4
54	3.4	0.4	19.1	2.7	5.5	0.3	3.3	10.5	35.9	2.4
55	3.5	0.4	19.3	2.7	5.6	0.3	3.3	10.5	36.0	2.4
56	3.5	0.5	19.4	2.8	5.6	0.3	3.4	10.6	36.0	2.4
57	3.5	0.5	19.5	2.8	5.6	0.3	3.4	10.6	36.0	2.4
58	3.5	0.5	19.6	2.8	5.7	0.3	3.4	10.6	36.1	2.4
59	3.5	0.5	19.7	2.8	5.8	0.3	3.4	10.6	36.2	2.4
61	3.1	0.4	17.2	2.5	5.1	0.3	3.3	10.3	35.5	2.4
62	3.1	0.4	17.7	2.6	5.3	0.3	3.3	10.4	35.7	2.4
66	4.3	0.6	26.8	3.8	8.0	0.4	3.5	11.6	38.4	2.5
76	2.1	0.3	12.1	1.6	3.2	0.2	3.2	9.4	33.6	2.3
81	2.9	0.4	17.4	2.5	5.1	0.2	3.3	10.3	35.5	2.3
83	3.0	0.4	18.3	2.6	5.3	0.3	3.3	10.4	35.7	2.4
84	3.2	0.4	19.5	2.8	5.6	0.3	3.3	10.6	36.0	2.4
85	3.2	0.4	19.3	2.7	5.4	0.3	3.3	10.5	35.8	2.4
88a	1.8	0.2	10.6	1.1	2.3	0.0	3.1	8.9	32.7	2.1

Receptor ID	PM2.5 (µg/m³)		PM10 (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	PM2.5 (µg/m³)	PM10 (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
88b	1.8	0.2	11.1	1.1	2.5	0.0	3.1	8.9	32.9	2.1
88c	1.8	0.2	11.1	1.1	2.4	0.0	3.1	8.9	32.8	2.1
90	2.2	0.2	13.0	1.2	2.6	0.0	3.1	9.0	33.0	2.1
92	2.9	0.3	18.6	1.8	4.1	0.1	3.2	9.6	34.5	2.2
93	2.4	0.2	14.6	1.4	3.0	0.0	3.1	9.2	33.4	2.1
98	2.9	0.3	17.6	1.8	4.0	0.1	3.2	9.6	34.4	2.2
102	3.6	0.4	23.3	2.6	5.8	0.1	3.3	10.4	36.2	2.2
105	5.0	0.5	34.8	3.5	8.3	0.1	3.4	11.3	38.7	2.2
106	6.9	0.8	47.3	5.0	11.9	0.2	3.7	12.8	42.3	2.3
108	6.7	0.7	47.0	4.9	11.7	0.2	3.6	12.7	42.1	2.3
109	7.3	0.8	**50.7**	5.3	12.7	0.2	3.7	13.1	43.1	2.3
110	5.7	0.7	37.0	4.8	10.7	0.2	3.6	12.6	41.1	2.3
112	8.7	1.0	**60.1**	6.6	15.8	0.3	3.9	14.4	46.2	2.4
113	9.7	1.1	**67.7**	7.4	17.8	0.3	4.0	15.2	48.2	2.4
114	10.7	1.3	**74.5**	8.4	20.4	0.3	4.2	16.2	50.8	2.4
117	7.1	1.1	48.2	7.0	16.7	0.3	4.0	14.8	47.1	2.4
118	11.2	1.7	**76.9**	11.4	27.4	0.4	4.6	19.2	57.8	2.5
119	6.0	1.0	41.5	6.4	14.9	0.2	3.9	14.2	45.3	2.3
120	10.2	1.0	**69.8**	6.8	14.4	0.2	3.9	14.6	44.8	2.3
126a	4.0	0.4	26.1	2.3	4.7	0.1	3.3	10.1	35.1	2.2
126b	3.8	0.3	24.5	2.2	4.5	0.1	3.2	10.0	34.9	2.2
126c	3.5	0.3	22.3	2.1	4.2	0.1	3.2	9.9	34.6	2.2
130	3.0	0.3	18.9	1.9	4.0	0.1	3.2	9.7	34.4	2.2
133a	2.7	0.3	17.0	1.6	3.4	0.1	3.2	9.4	33.8	2.2
133b	2.3	0.2	14.1	1.4	2.9	0.0	3.1	9.2	33.3	2.1
133c	2.6	0.2	15.8	1.6	3.2	0.1	3.1	9.4	33.6	2.2
145	3.5	0.3	23.1	2.1	4.2	0.1	3.2	9.9	34.6	2.2
146	4.0	0.4	26.0	2.3	4.7	0.1	3.3	10.1	35.1	2.2
149a	3.4	0.4	22.4	2.5	5.0	0.1	3.3	10.3	35.4	2.2
149b	3.1	0.3	19.6	2.2	4.5	0.1	3.2	10.0	34.9	2.2
149c	3.0	0.3	19.0	2.2	4.4	0.1	3.2	10.0	34.8	2.2
152	7.7	0.9	**54.5**	6.0	13.2	0.2	3.8	13.8	43.6	2.3
153	5.3	0.7	36.5	4.5	9.5	0.2	3.6	12.3	39.9	2.3
154	8.2	0.9	**57.6**	6.3	13.7	0.2	3.8	14.1	44.1	2.3
155	11.3	1.3	**80.3**	8.8	19.6	0.4	4.2	16.6	50.0	2.5
156a	10.4	1.3	**74.2**	8.8	20.1	0.4	4.2	16.6	50.5	2.5
156b	8.1	1.0	**57.3**	7.1	15.9	0.3	3.9	14.9	46.3	2.4
156c	4.9	0.7	33.4	5.0	11.3	0.3	3.6	12.8	41.7	2.4
161	4.0	0.8	26.6	5.7	13.1	0.5	3.7	13.5	43.5	2.6
166	5.8	1.6	37.1	10.9	26.6	1.4	4.5	18.7	57.0	3.5
168	25.8	7.8	**180.8**	55.8	155.6	**5.2**	10.7	**63.6**	**186.0**	**7.3**
169	6.5	1.9	43.5	12.9	32.0	1.7	4.8	20.7	62.4	3.8
171	10.4	2.5	**69.4**	17.0	44.7	**2.0**	5.4	24.8	75.1	**4.1**
180	2.4	0.5	13.9	3.4	7.8	0.3	3.4	11.2	38.2	2.4
184	2.5	0.6	15.2	3.8	8.8	0.4	3.5	11.6	39.2	2.5

Receptor ID	PM2.5 (µg/m³)		PM10 (µg/m³)		TSP (µg/m³)	DD (g/m²/mth)	PM2.5 (µg/m³)	PM10 (µg/m³)	TSP (µg/m³)	DD (g/m²/mth)
	Incremental impact						Total impact			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	25	-	50	-	-	2	8	25	90	4
186a	2.1	0.3	11.2	2.2	4.9	0.2	3.2	10.0	35.3	2.3
186b	2.0	0.3	11.5	2.1	4.7	0.1	3.2	9.9	35.1	2.2
189	2.0	0.2	9.5	1.6	3.6	0.1	3.1	9.4	34.0	2.2
192	1.9	0.2	12.1	1.6	3.5	0.1	3.1	9.4	33.9	2.2
198	1.3	0.2	7.1	1.1	2.5	0.1	3.1	8.9	32.9	2.2
199	1.3	0.2	6.7	1.2	2.6	0.1	3.1	9.0	33.0	2.2
200	1.1	0.2	5.5	1.0	2.1	0.1	3.1	8.8	32.5	2.2
201	1.1	0.2	5.6	1.1	2.4	0.1	3.1	8.9	32.8	2.2
202	1.3	0.2	6.6	1.2	2.7	0.1	3.1	9.0	33.1	2.2
203	1.2	0.2	6.3	1.2	2.7	0.1	3.1	9.0	33.1	2.2
209a	1.5	0.2	9.0	1.5	3.4	0.1	3.1	9.3	33.8	2.2
209b	1.6	0.3	9.8	1.6	3.7	0.1	3.2	9.4	34.1	2.2
209c	1.7	0.3	10.2	1.7	3.8	0.1	3.2	9.5	34.2	2.2
209d	1.9	0.3	11.5	1.9	4.5	0.1	3.2	9.7	34.9	2.2
230	4.5	0.5	30.6	3.3	8.3	0.2	3.4	11.1	38.7	2.3
252	1.0	0.1	5.8	0.6	1.3	0.0	3.0	8.4	31.7	2.1
286	3.3	0.4	22.4	2.3	5.7	0.1	3.3	10.1	36.1	2.2
288	4.5	0.5	30.2	3.6	8.9	0.2	3.4	11.4	39.3	2.3
307	1.3	0.1	8.9	0.4	0.8	0.0	3.0	8.2	31.2	2.1
308	3.7	0.5	25.1	3.3	8.0	0.2	3.4	11.1	38.4	2.3
309	2.1	0.4	13.6	2.5	5.9	0.2	3.3	10.3	36.3	2.3
313	1.3	0.1	7.1	0.5	1.0	0.0	3.0	8.3	31.4	2.1
315	2.1	0.1	11.1	0.9	1.8	0.0	3.0	8.7	32.2	2.1
316a	2.1	0.1	11.1	0.9	1.8	0.0	3.0	8.7	32.2	2.1
316b	2.1	0.1	11.1	0.9	1.8	0.0	3.0	8.7	32.2	2.1
317	2.2	0.2	11.7	0.9	1.9	0.0	3.1	8.7	32.3	2.1
319	2.3	0.2	12.7	1.0	2.0	0.0	3.1	8.8	32.4	2.1
321	2.2	0.2	12.1	1.0	1.9	0.0	3.1	8.8	32.3	2.1
323	2.2	0.2	11.9	0.9	1.9	0.0	3.1	8.7	32.3	2.1
326	2.2	0.2	12.1	1.0	1.9	0.0	3.1	8.8	32.3	2.1
330	2.1	0.3	12.6	1.6	3.3	0.2	3.2	9.4	33.7	2.3

Appendix C

Isopleth diagrams

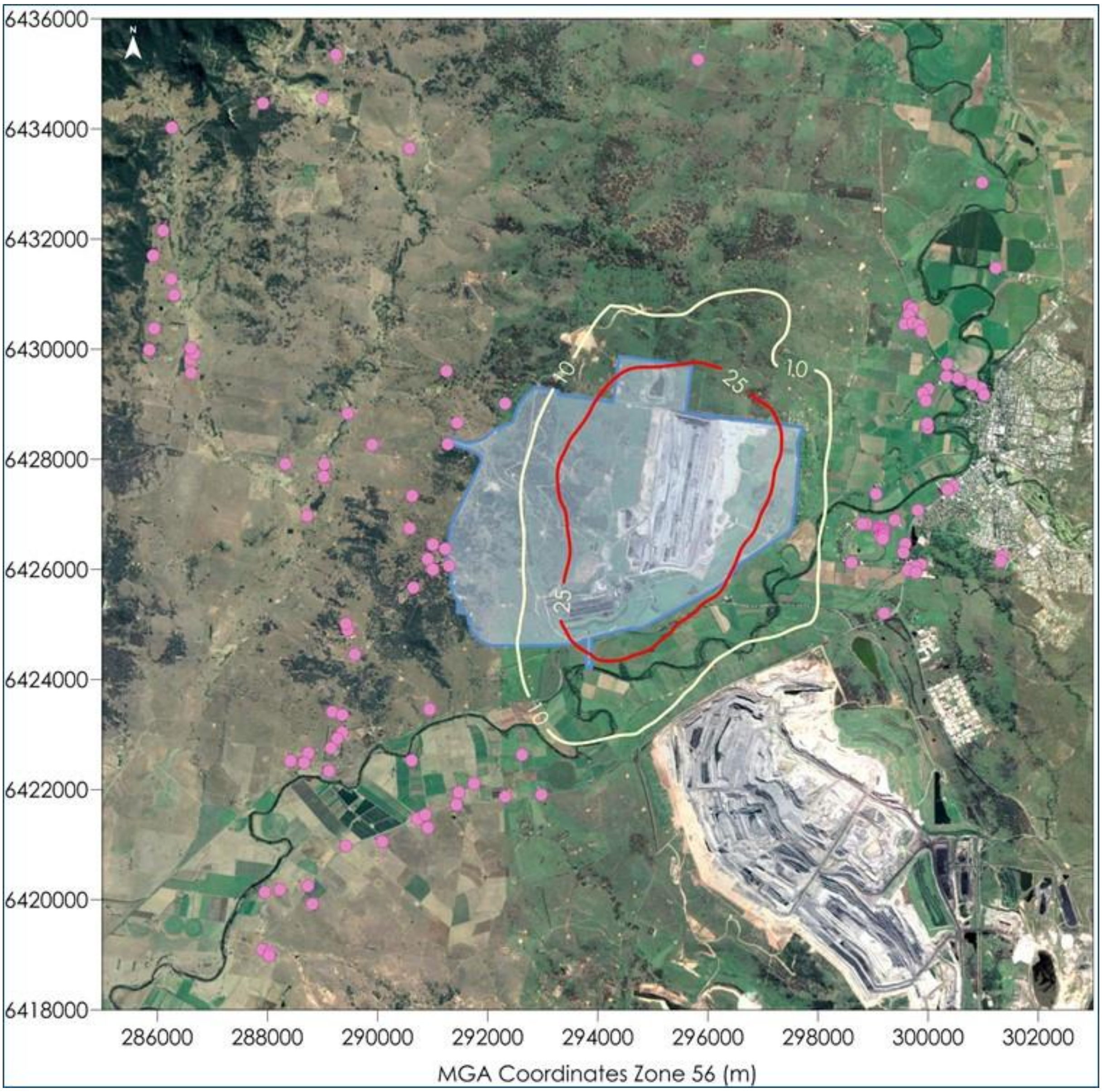

Figure C-1: Predicted maximum 24-hour average $PM_{2.5}$ concentrations due to emissions from Bengalla in Year 4 (µg/m³)

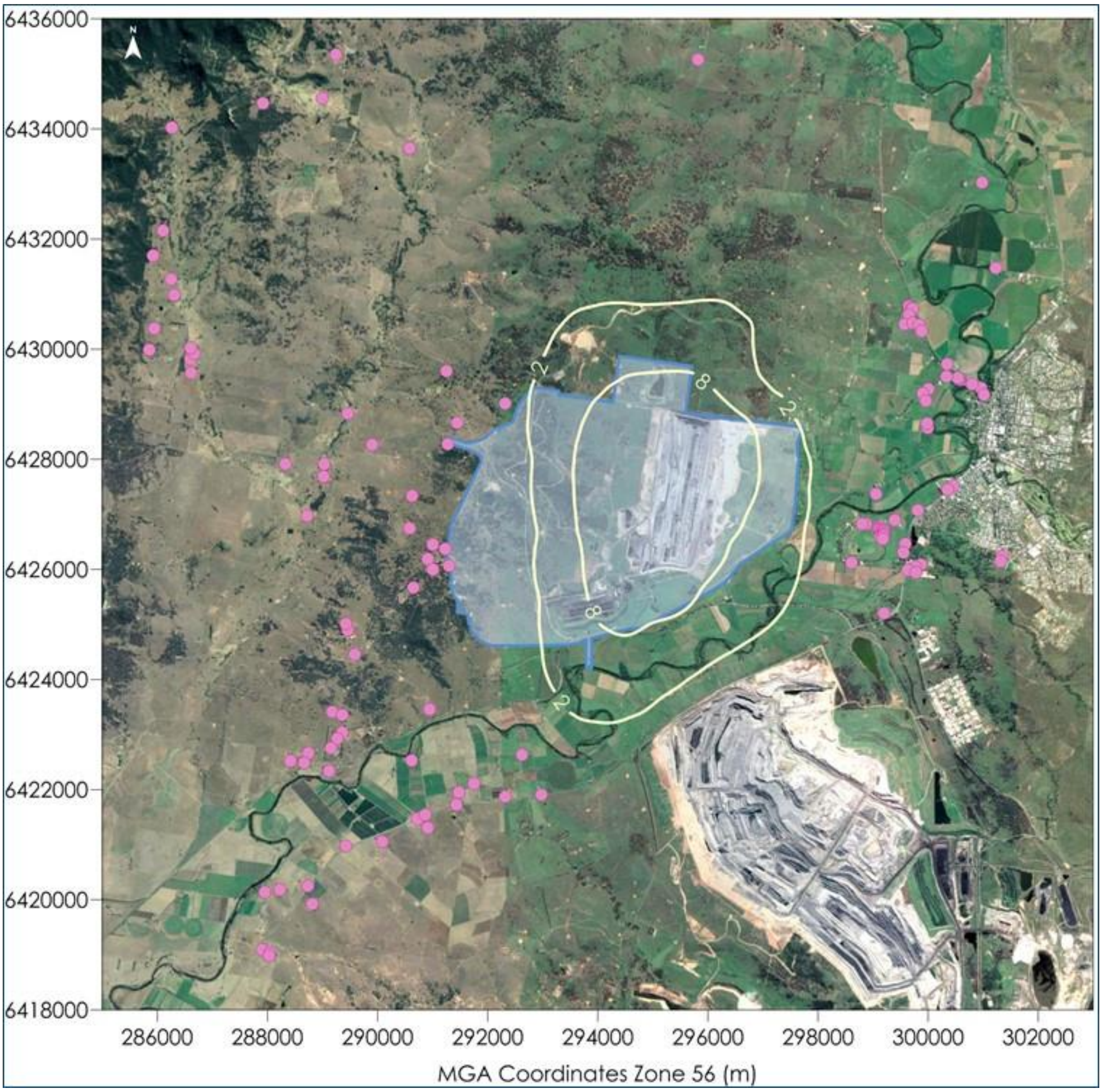

Figure C-2: Predicted annual average $PM_{2.5}$ concentrations due to emissions from Bengalla in Year 4 (µg/m³)

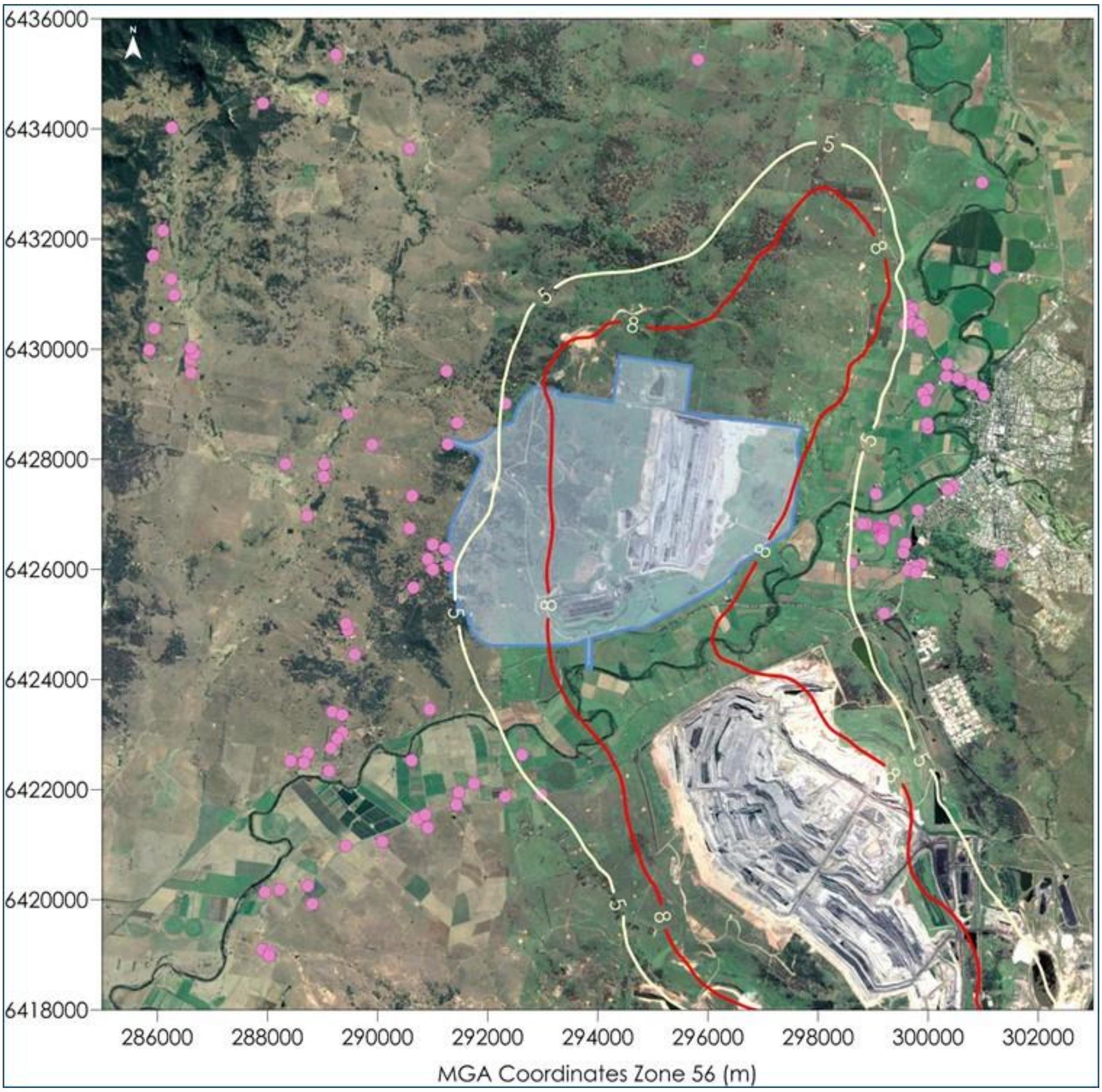

Figure C-3: Predicted annual average $PM_{2.5}$ concentrations due to emissions from Bengalla and other sources in Year 4 (µg/m³)

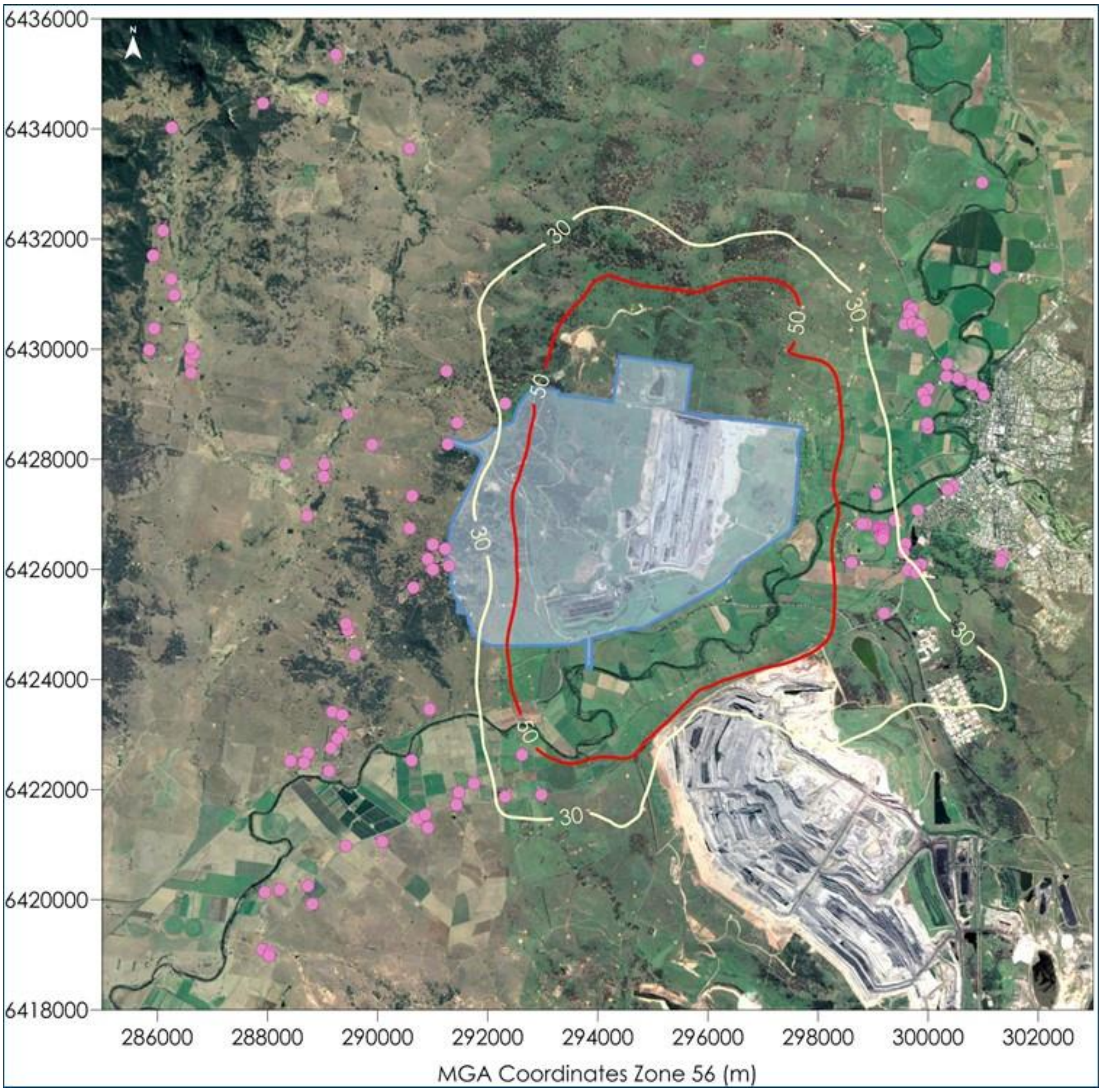

Figure C-4: Predicted maximum 24-hour average PM_{10} concentrations due to emissions from Bengalla in Year 4 (µg/m³)

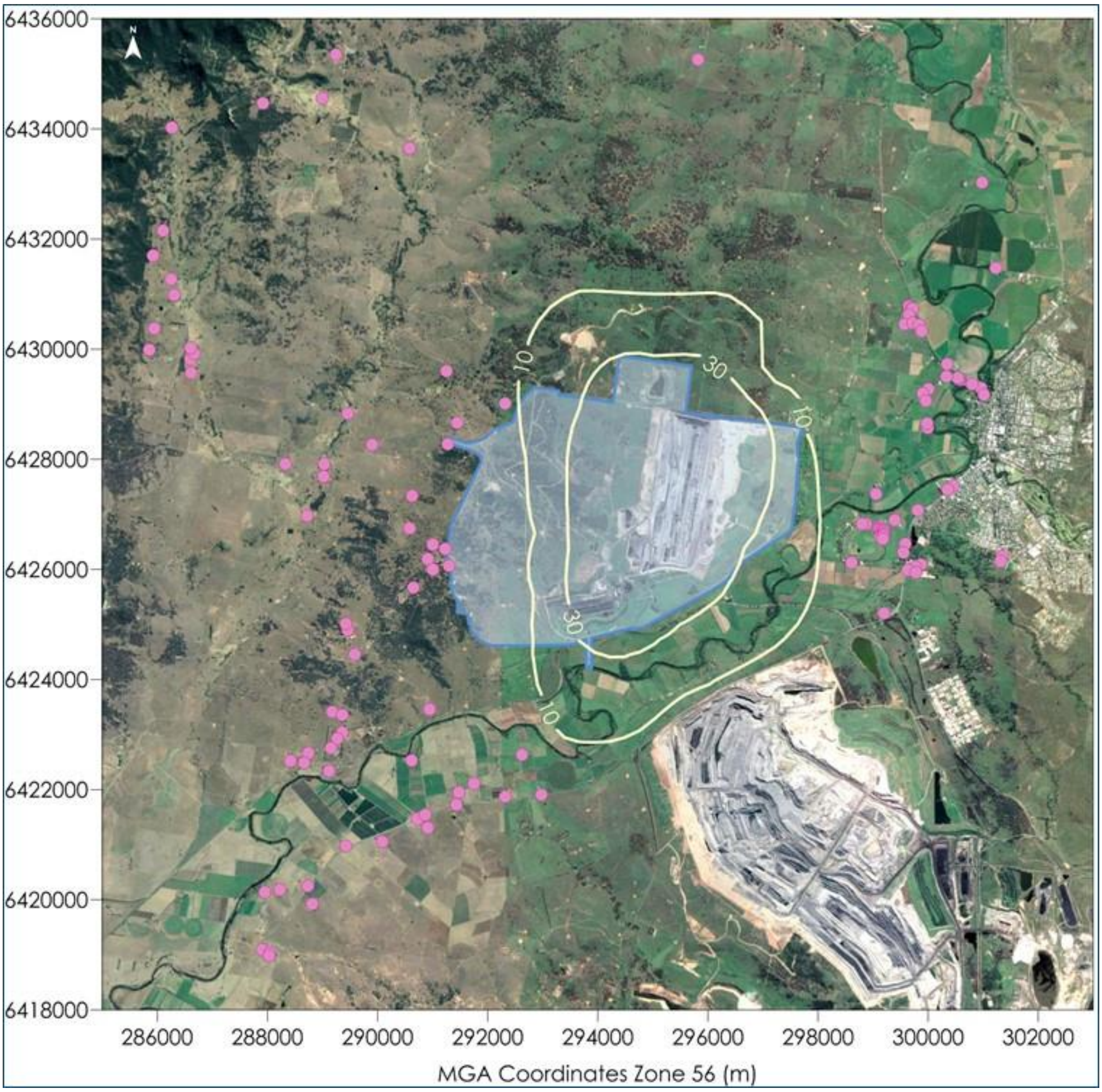

Figure C-5: Predicted annual average PM_{10} concentrations due to emissions from Bengalla in Year 4 (µg/m³)

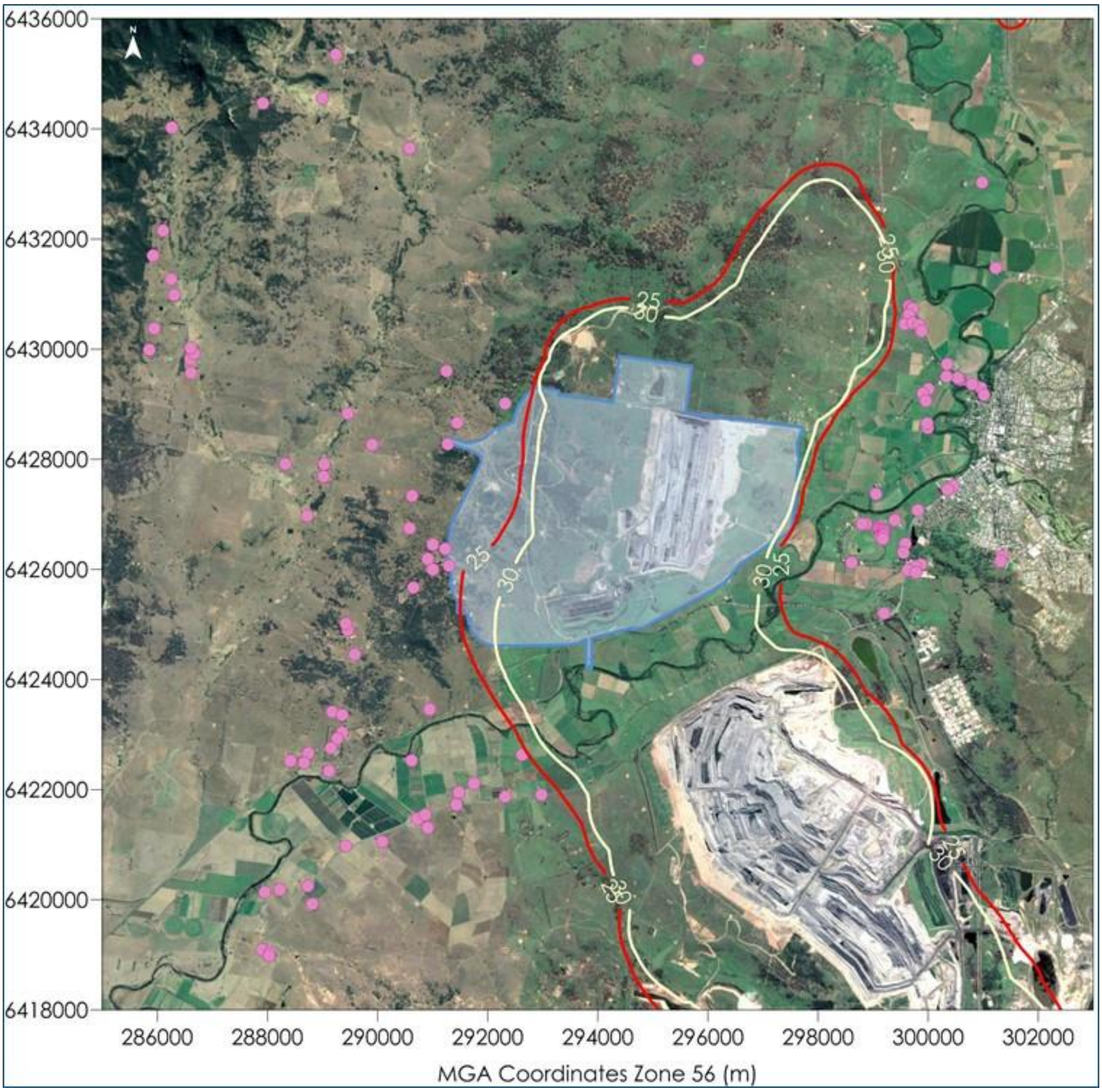

Figure C-6: Predicted annual average PM_{10} concentrations due to emissions from Bengalla and other sources in Year 4 (µg/m³)

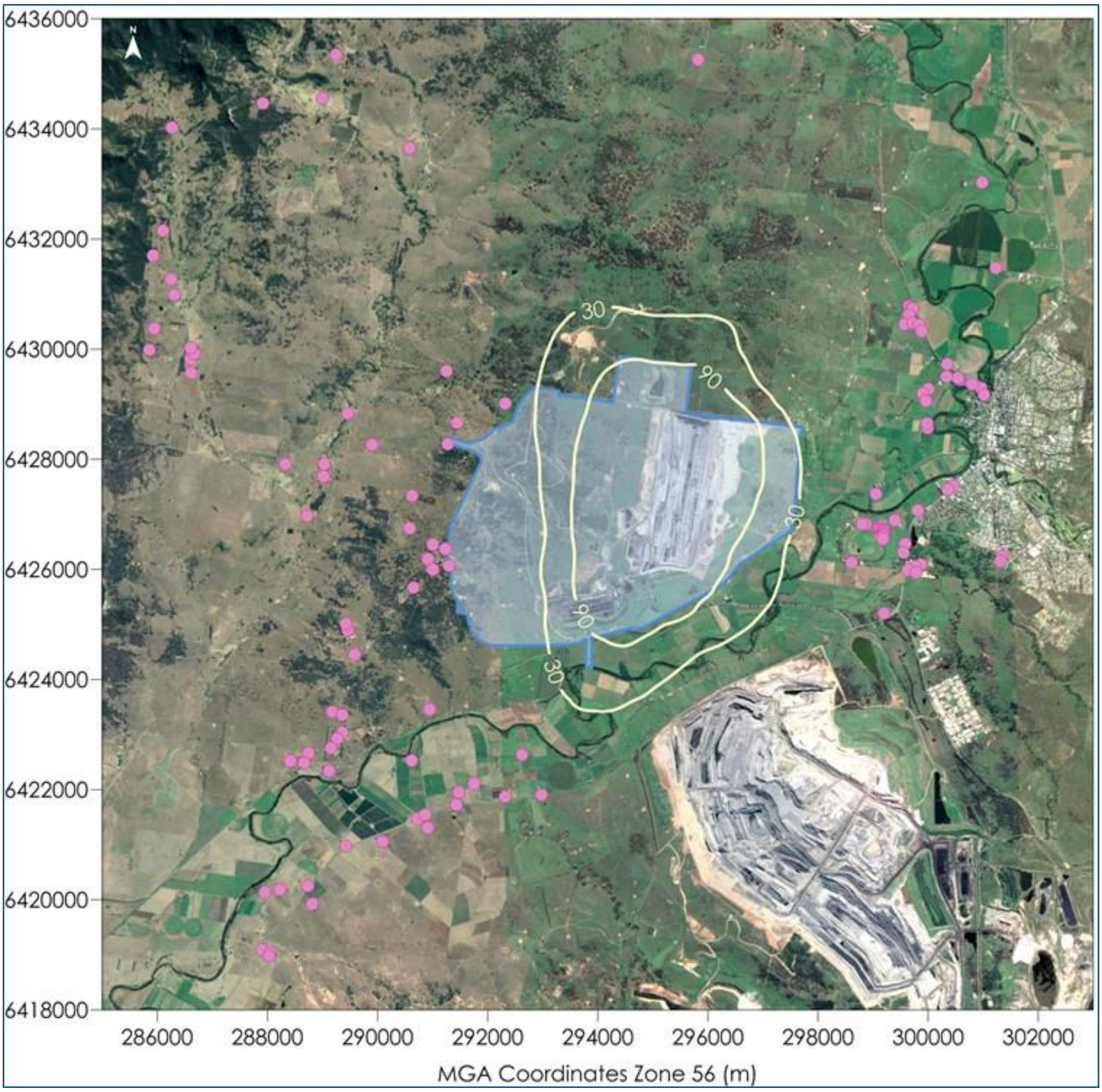

Figure C-7: Predicted annual average TSP concentrations due to emissions from Bengalla in Year 4 (µg/m³)

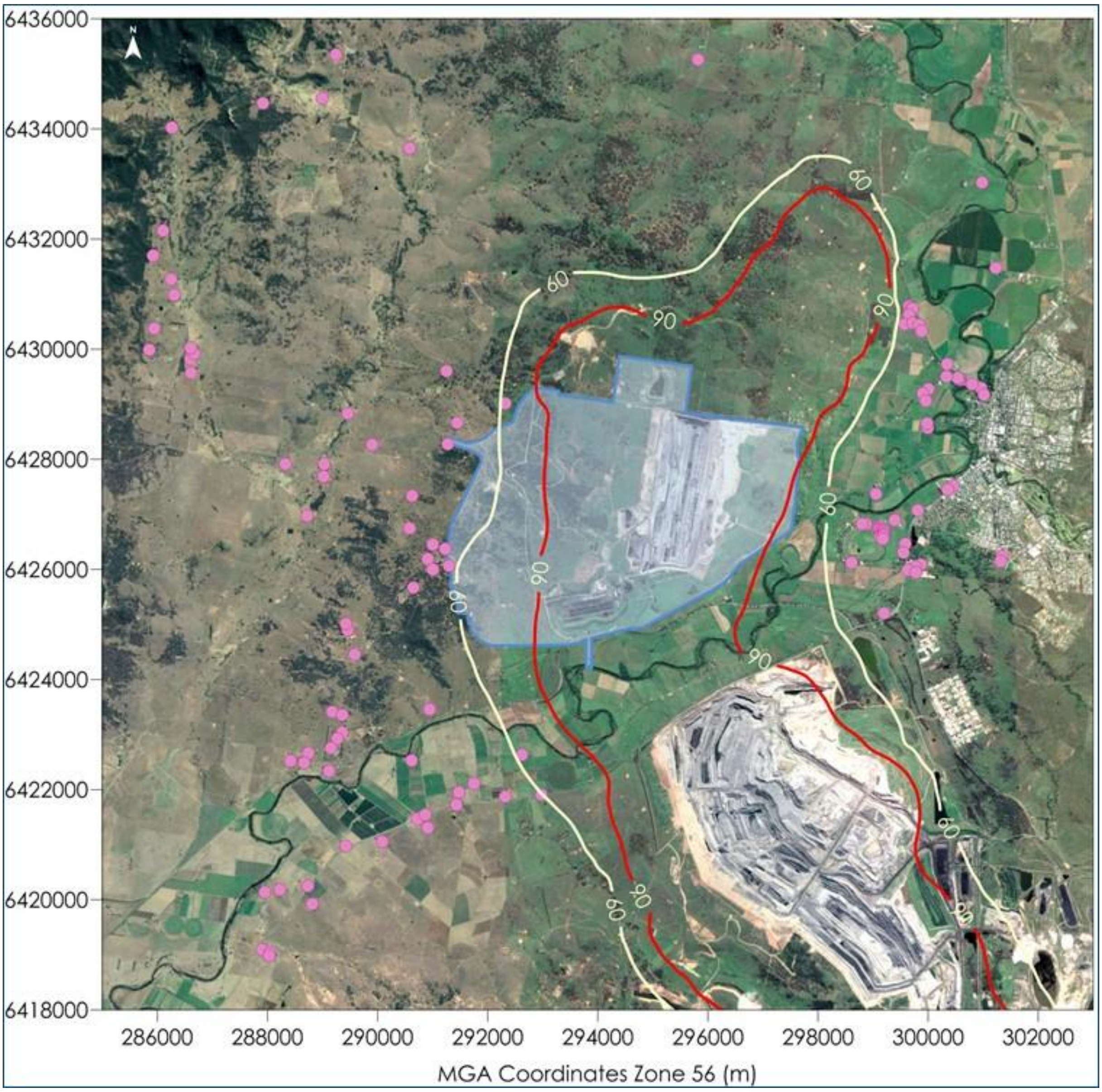

Figure C-8: Predicted annual average TSP concentrations due to emissions from Bengalla and other sources in Year 4 (µg/m³)

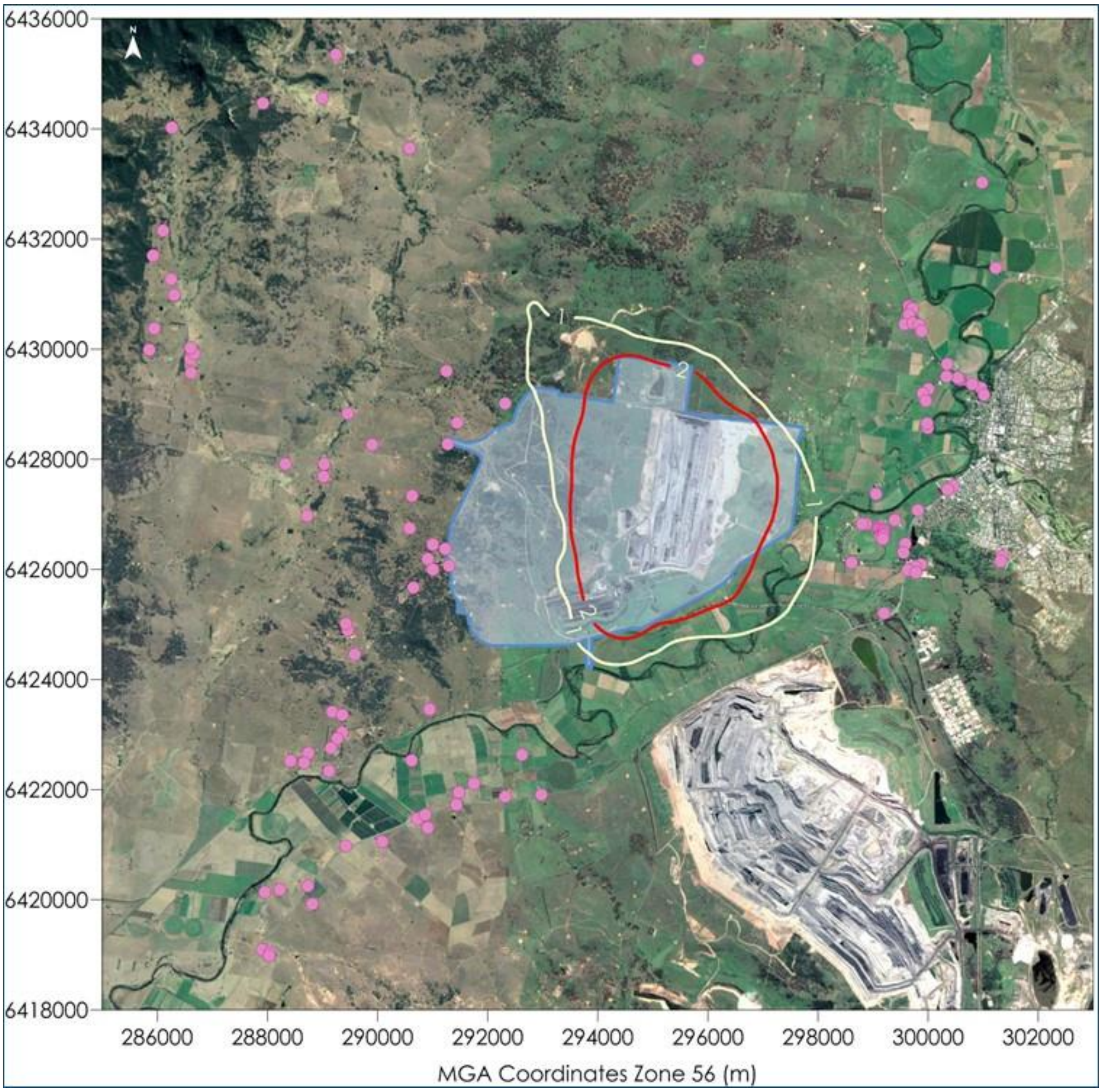

Figure C-9: Predicted annual average dust deposition levels due to emissions from Bengalla in Year 4 (g/m²/month)

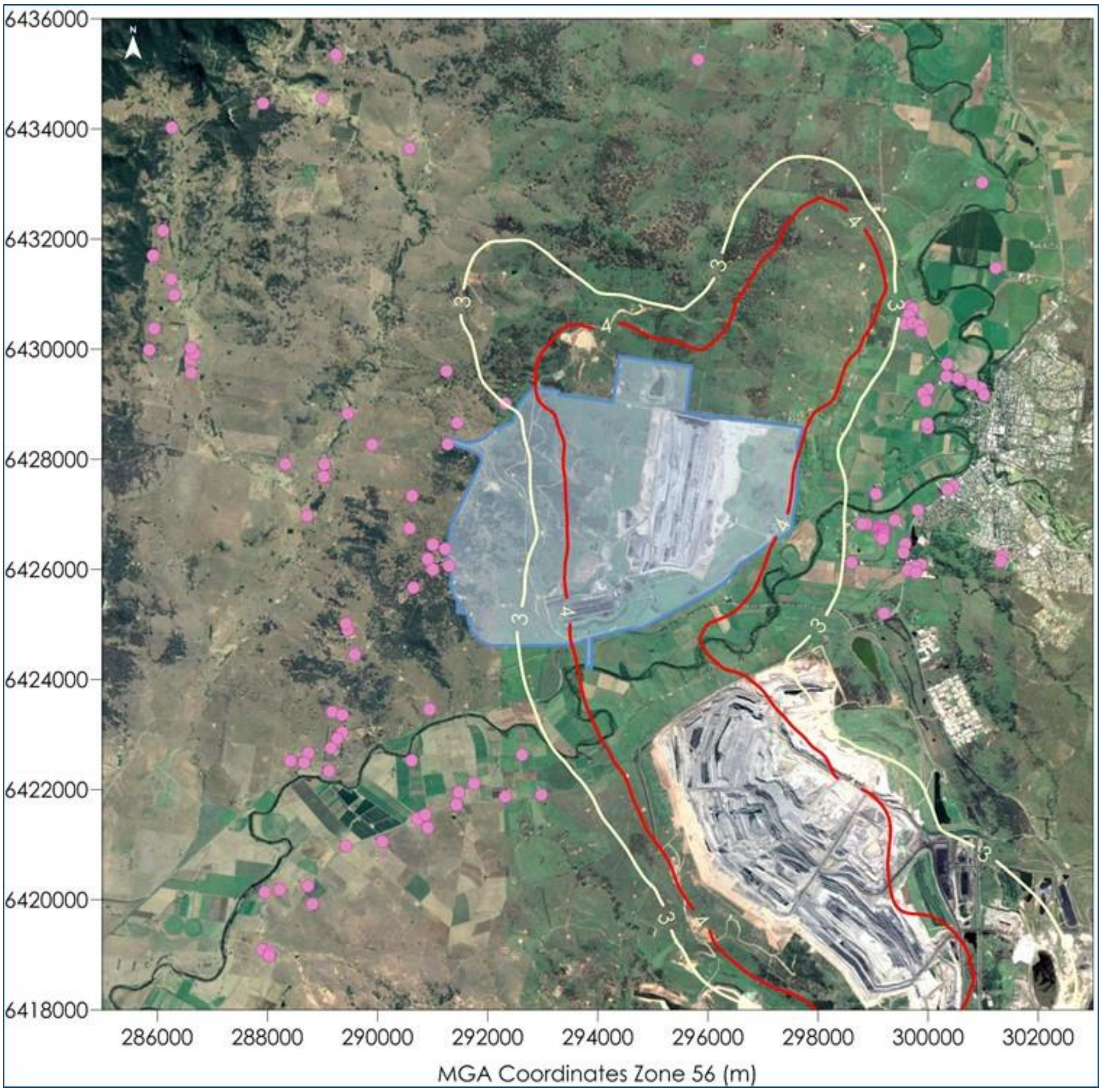

Figure C-10: Predicted annual average dust deposition levels due to emissions from Bengalla and other sources in Year 4 (g/m²/month)

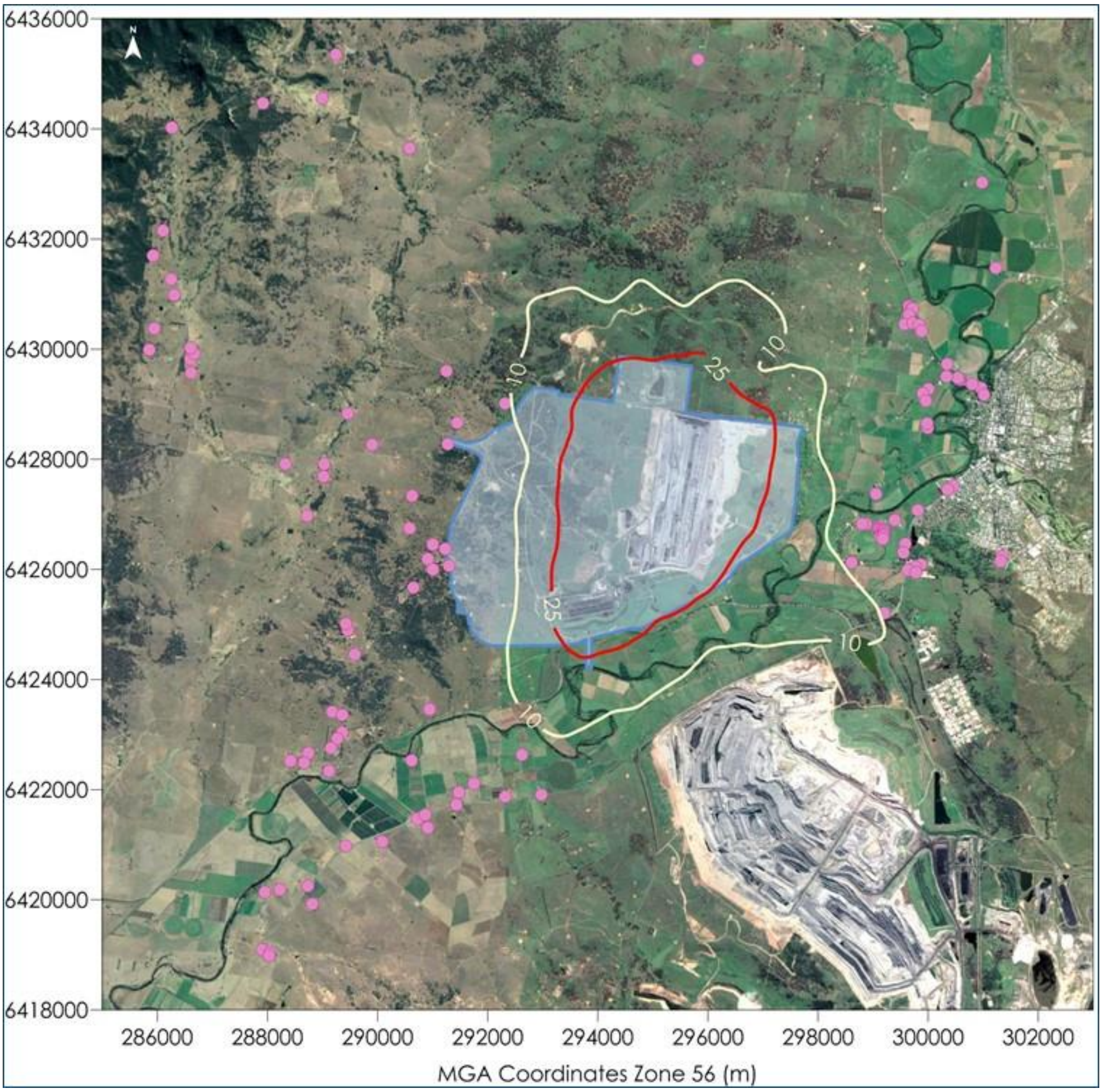

Figure C-11: Predicted maximum 24-hour average $PM_{2.5}$ concentrations due to emissions from Bengalla in Year 8 (µg/m³)

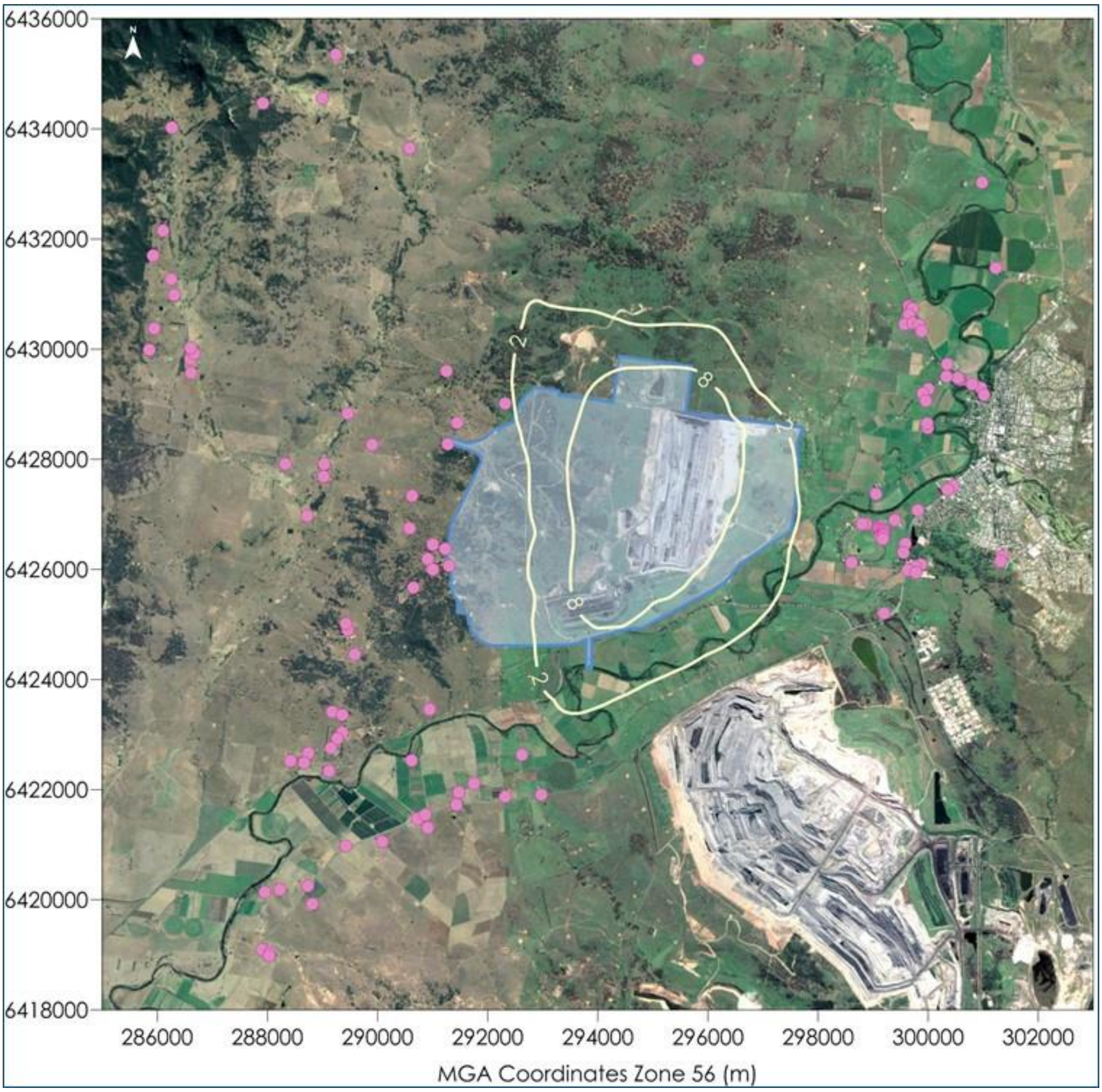

Figure C-12: Predicted annual average $PM_{2.5}$ concentrations due to emissions from Bengalla in Year 8 (µg/m³)

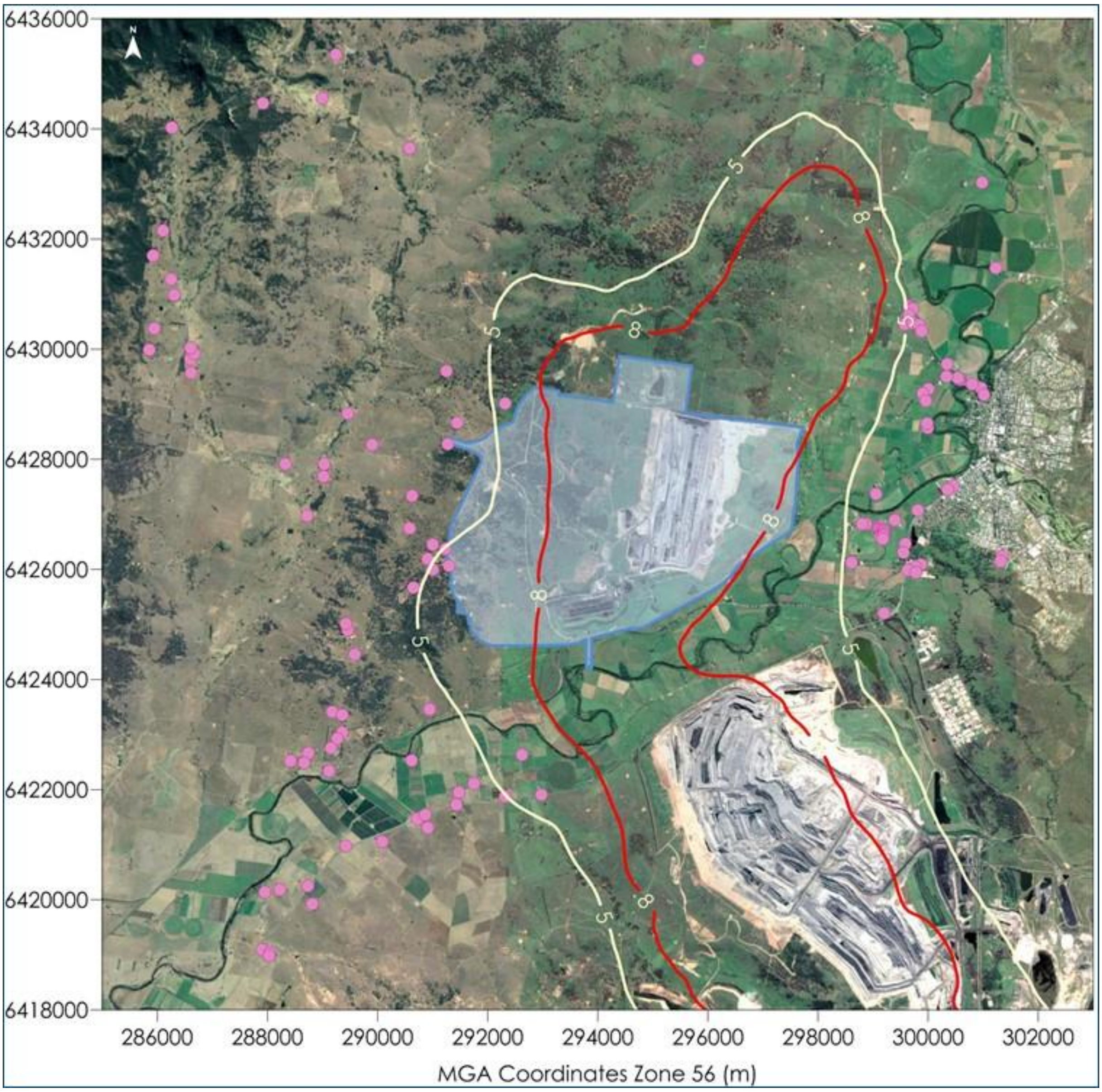

Figure C-13: Predicted annual average $PM_{2.5}$ concentrations due to emissions from Bengalla and other sources in Year 8 (µg/m³)

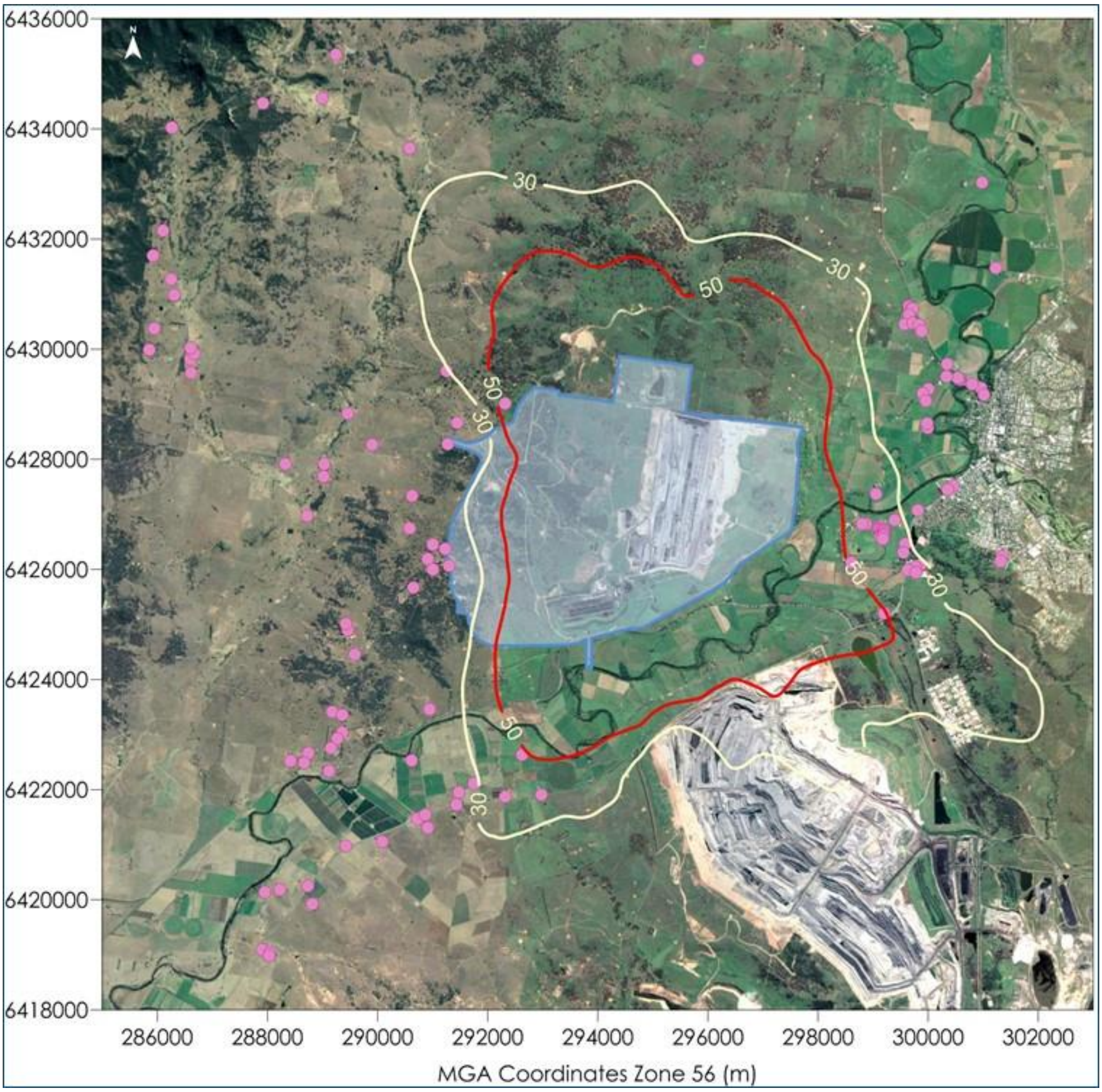

Figure C-14: Predicted maximum 24-hour average PM_{10} concentrations due to emissions from Bengalla in Year 8 (µg/m³)

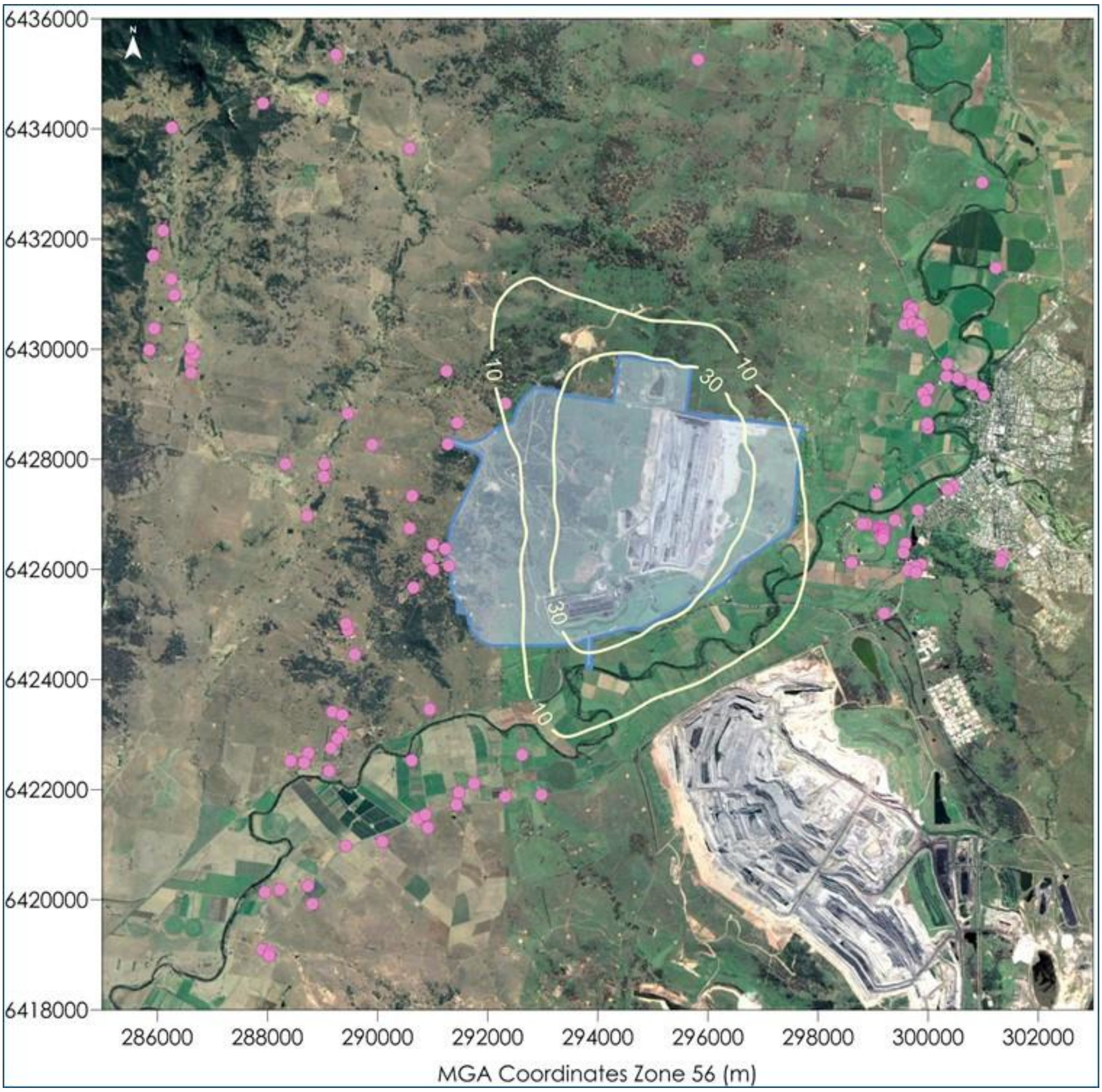

Figure C-15: Predicted annual average PM_{10} concentrations due to emissions from Bengalla in Year 8 (µg/m³)

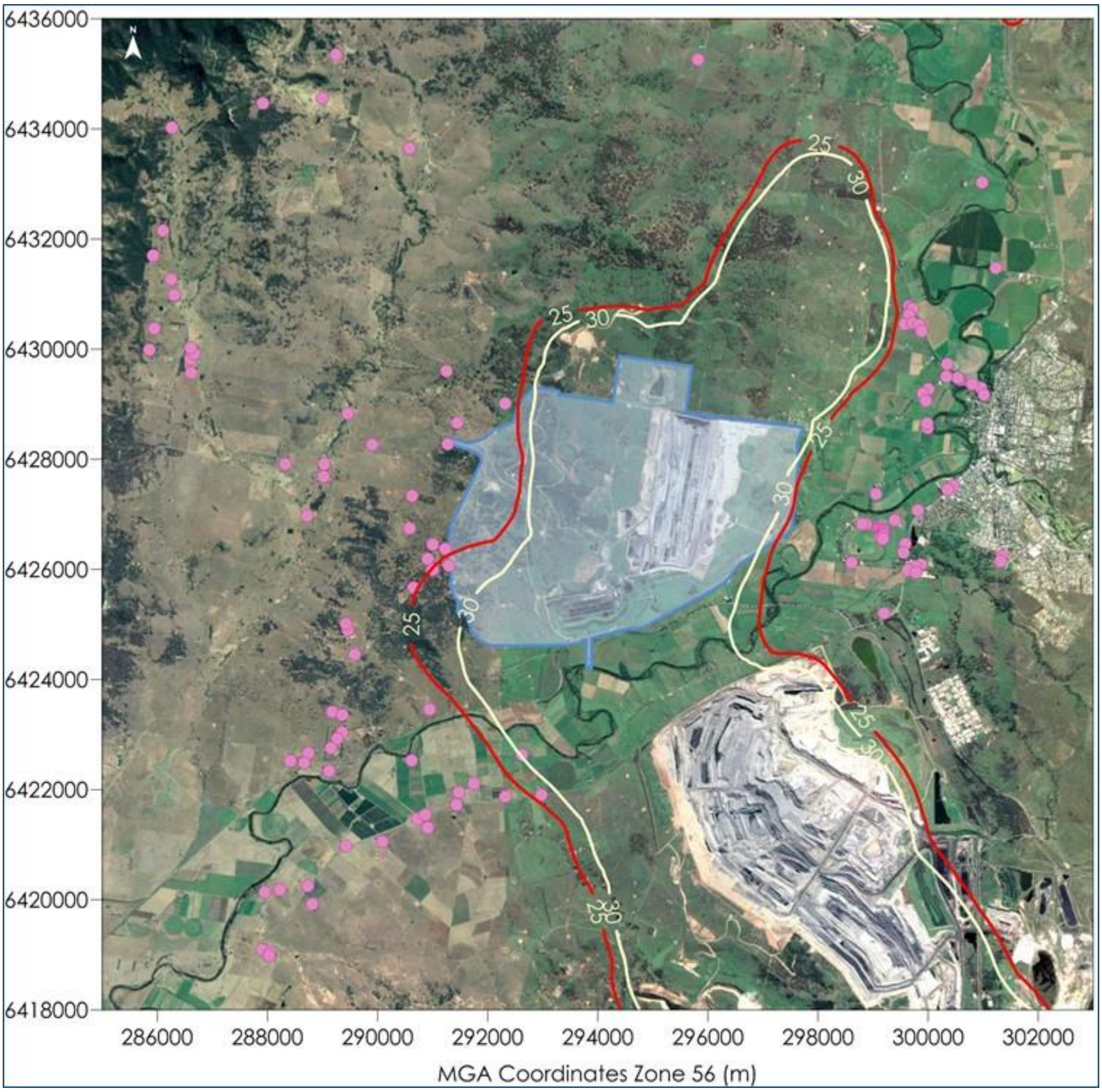

Figure C-16: Predicted annual average PM_{10} concentrations due to emissions from Bengalla and other sources in Year 8 (µg/m³)

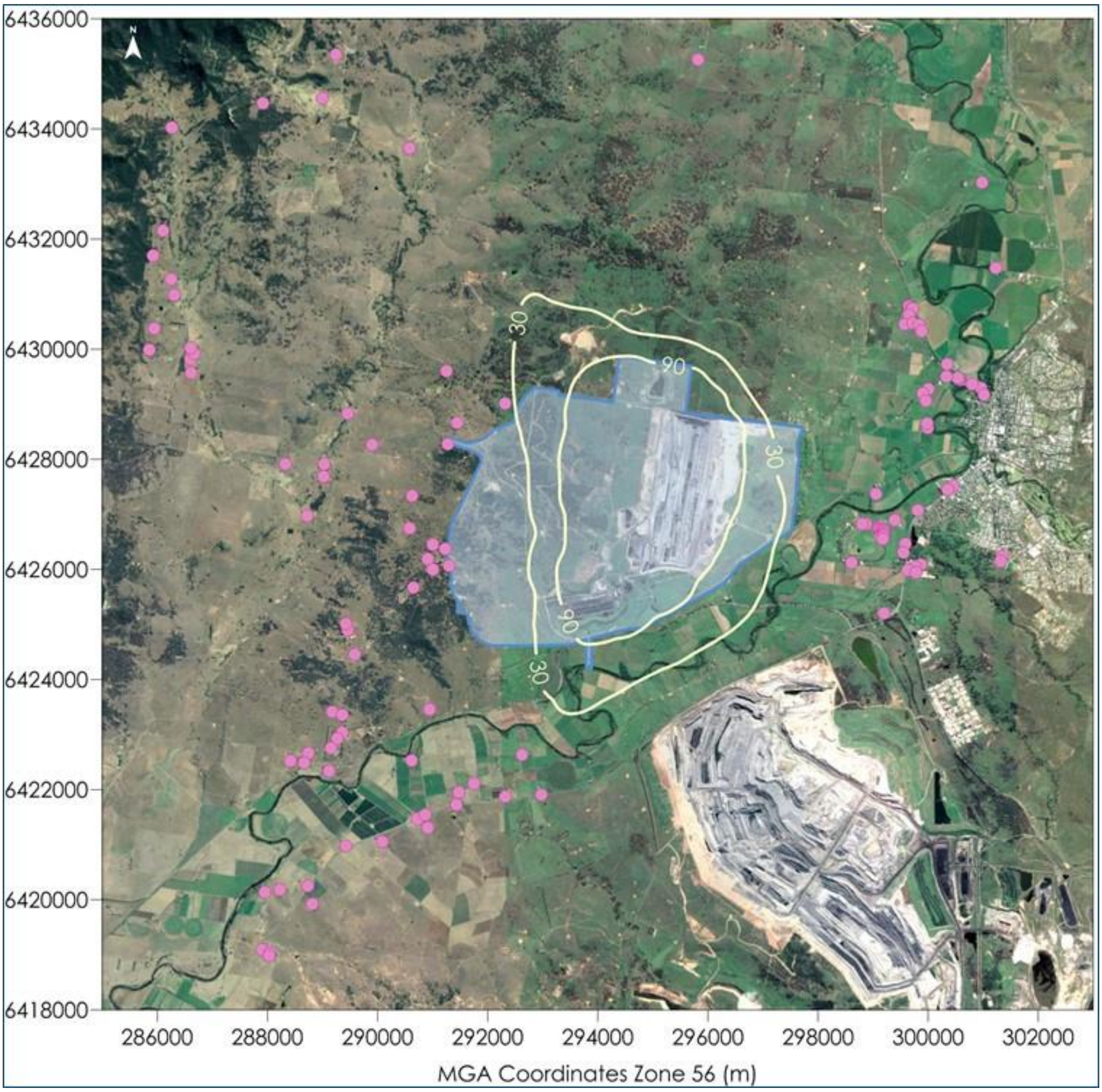

Figure C-17: Predicted annual average TSP concentrations due to emissions from Bengalla in Year 8 (µg/m³)

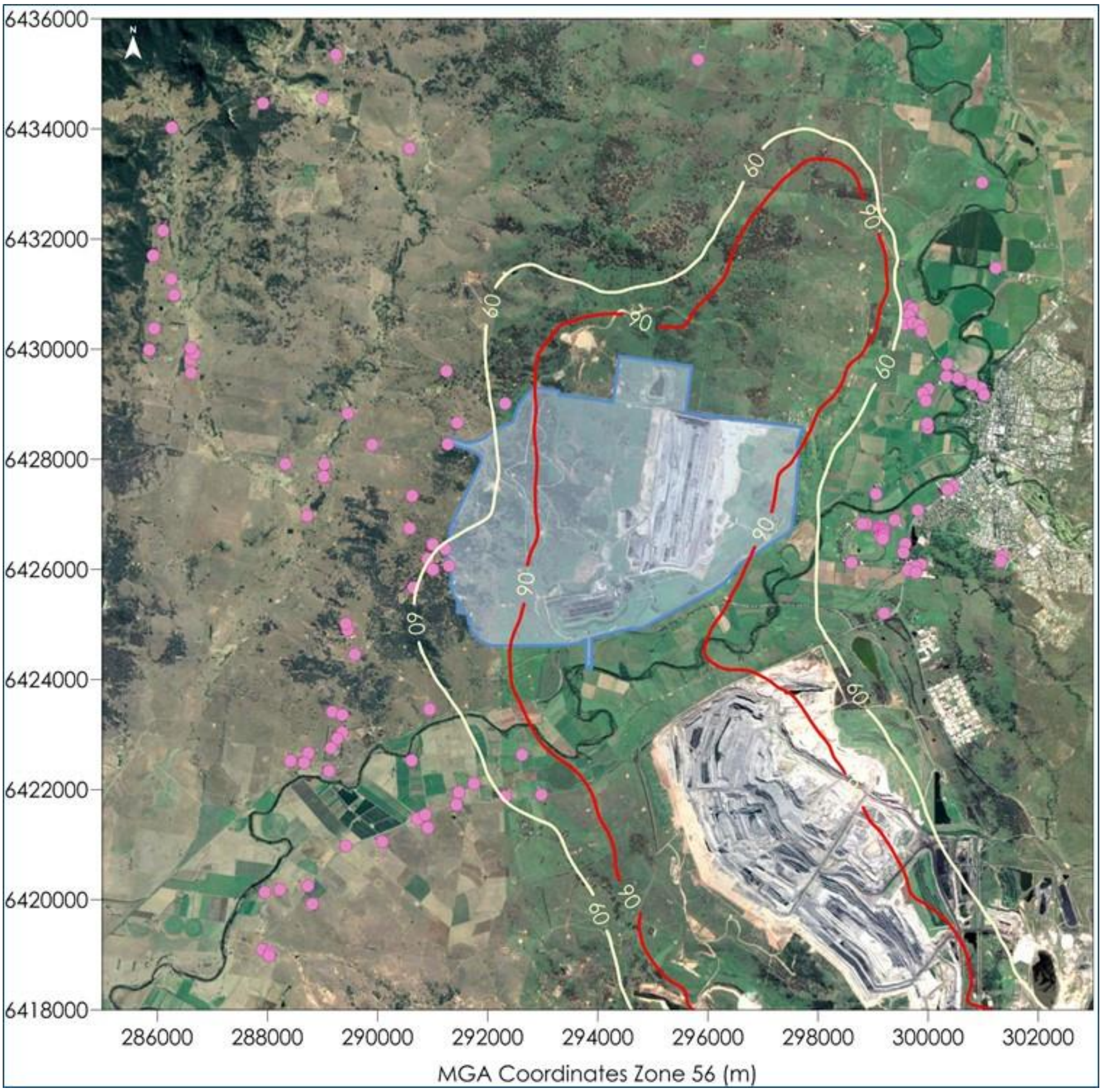

Figure C-18: Predicted annual average TSP concentrations due to emissions from Bengalla and other sources in Year 8 (µg/m³)

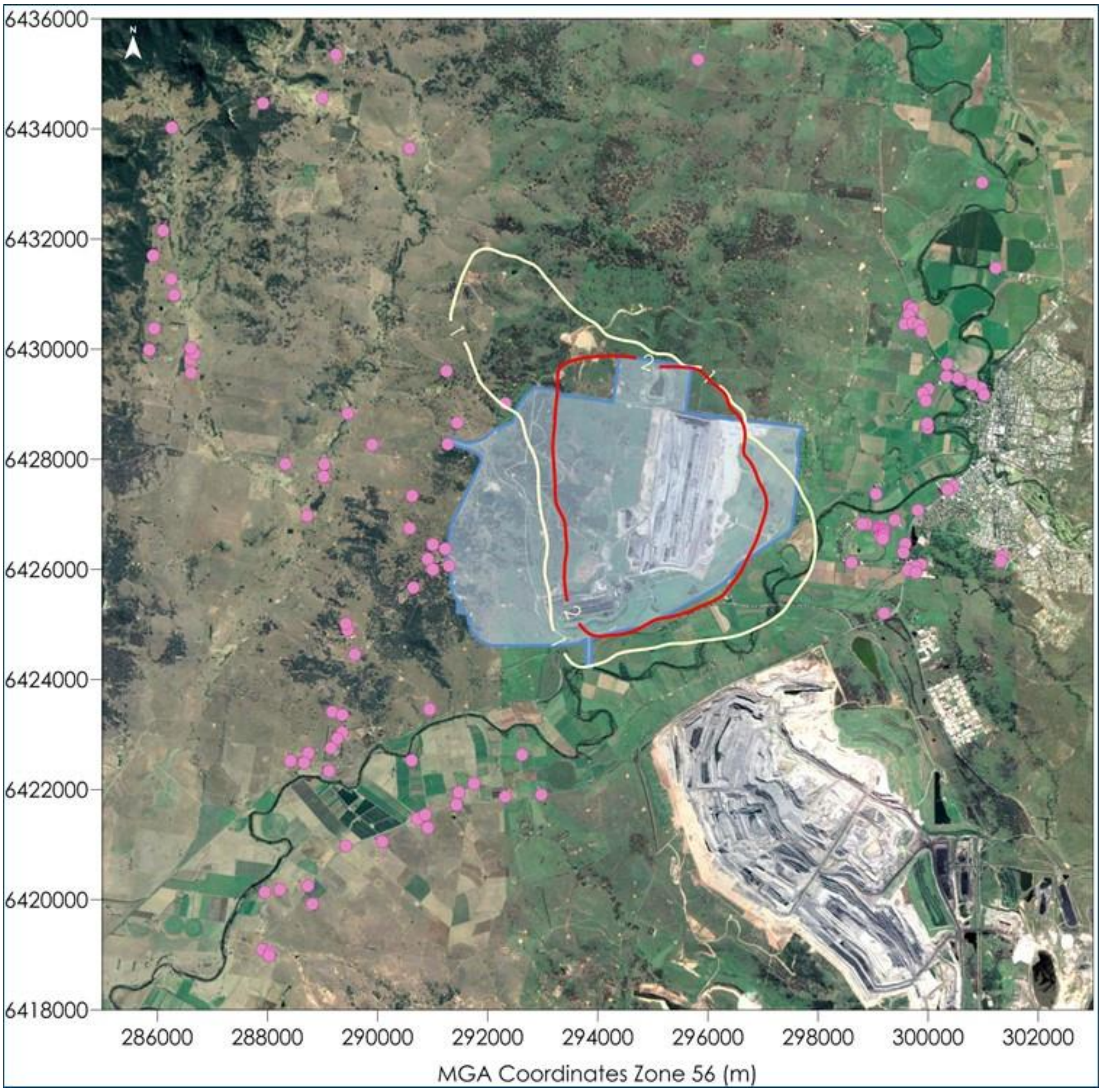

Figure C-19: Predicted annual average dust deposition levels due to emissions from Bengalla in Year 8 (g/m²/month)

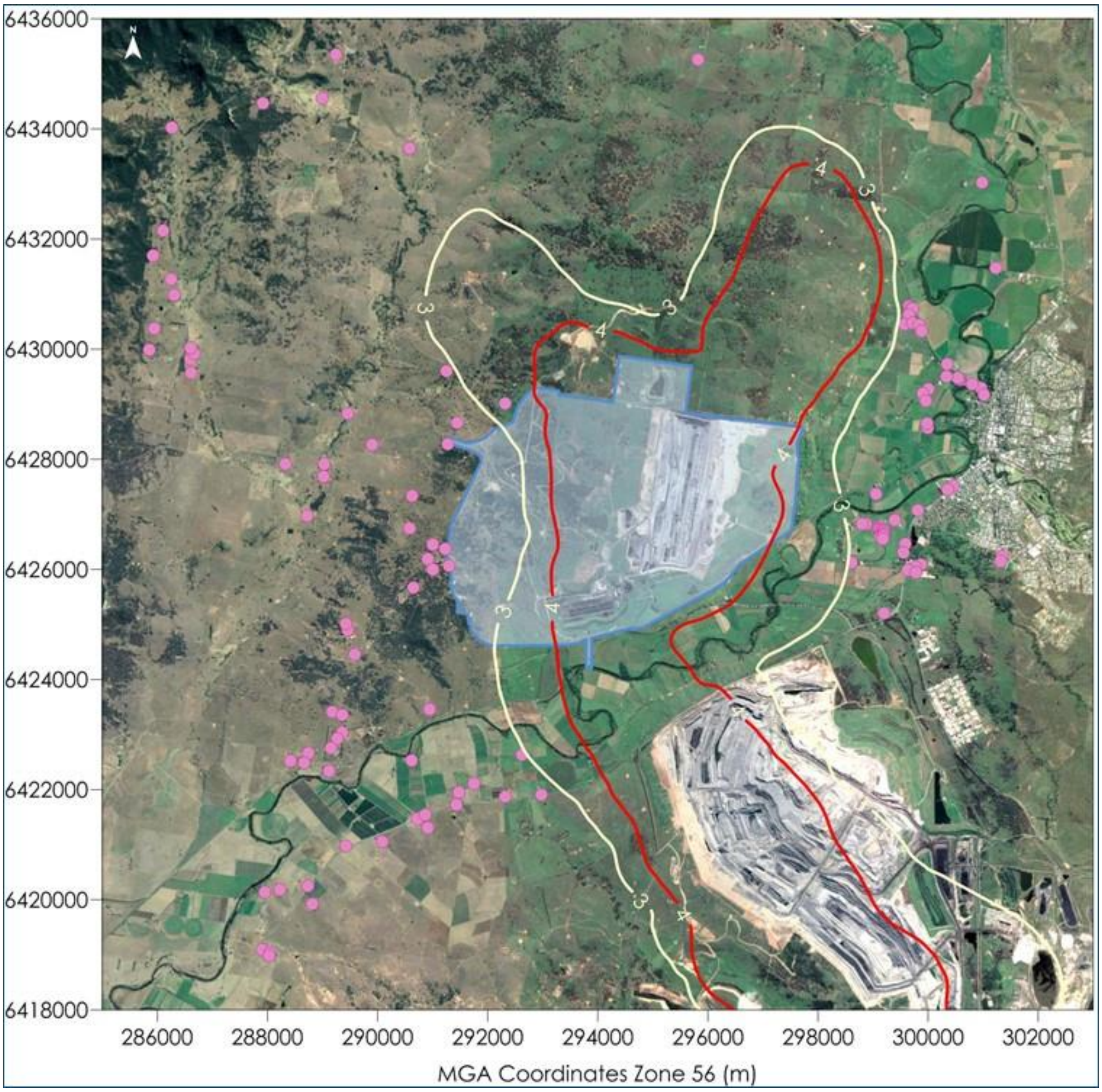

Figure C-20: Predicted annual average dust deposition levels due to emissions from Bengalla and other sources in Year 8 (g/m²/month)

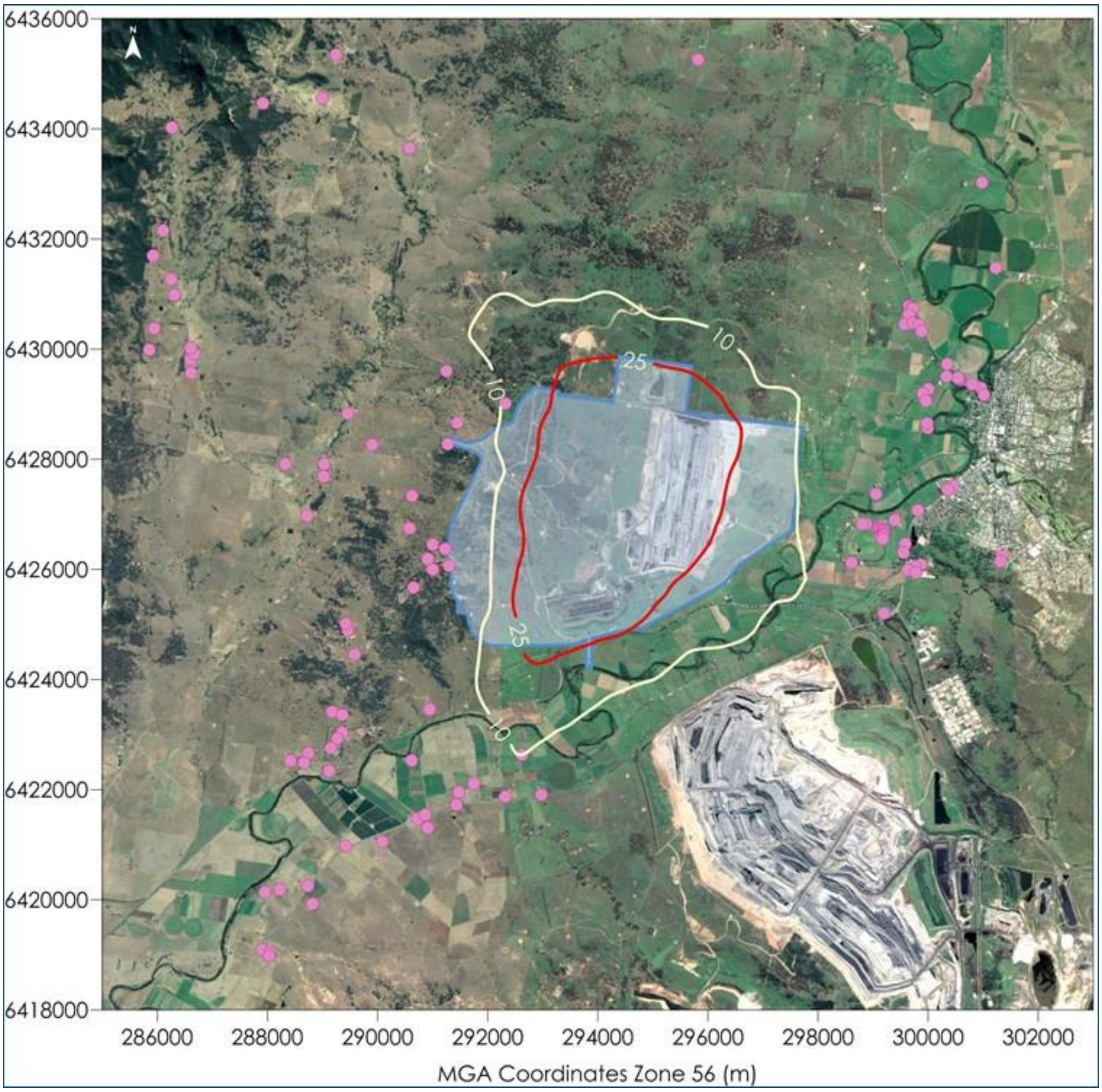

Figure C-21: Predicted maximum 24-hour average $PM_{2.5}$ concentrations due to emissions from Bengalla in Year 15 (µg/m³)

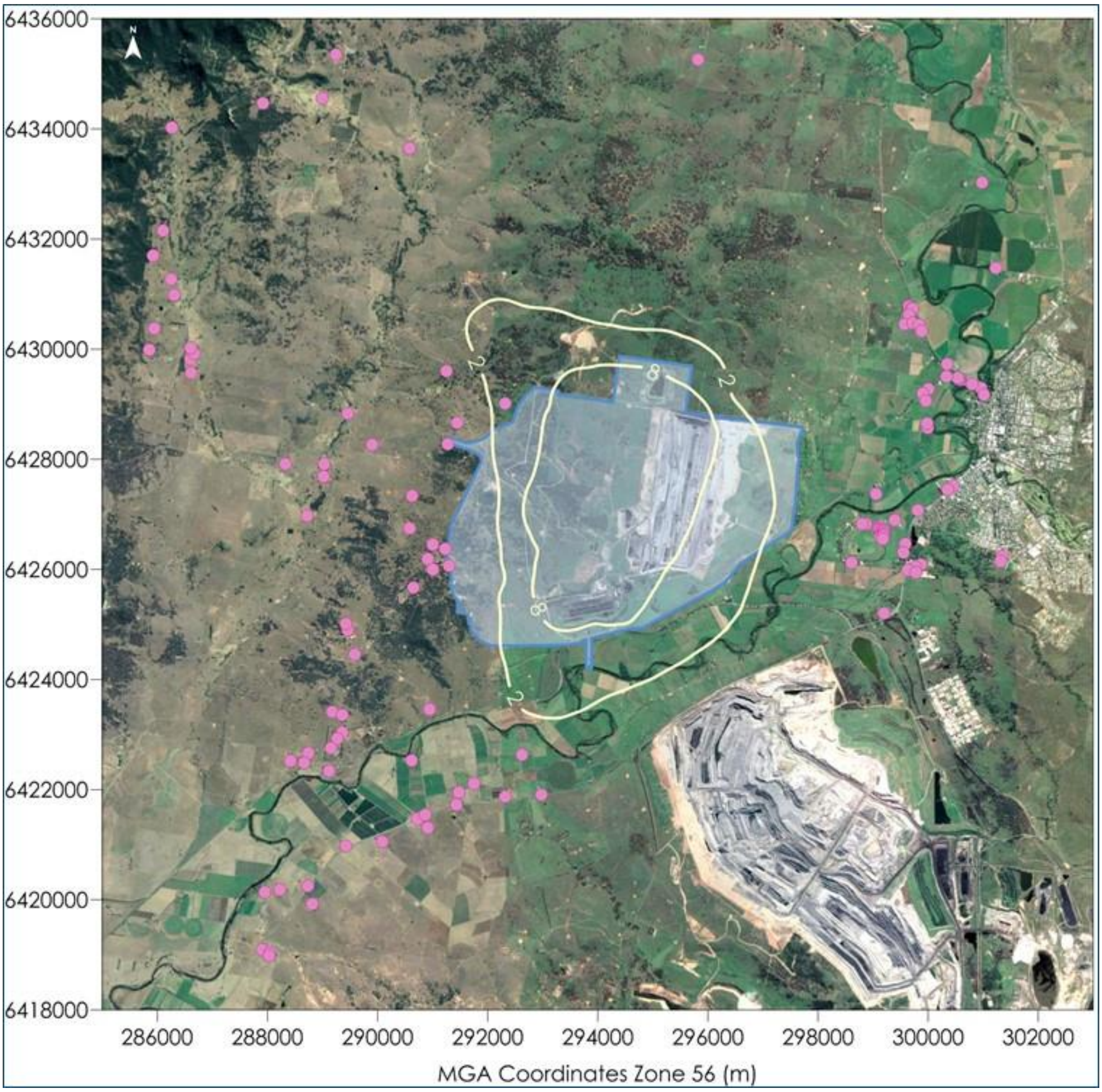

Figure C-22: Predicted annual average $PM_{2.5}$ concentrations due to emissions from Bengalla in Year 15 (µg/m³)

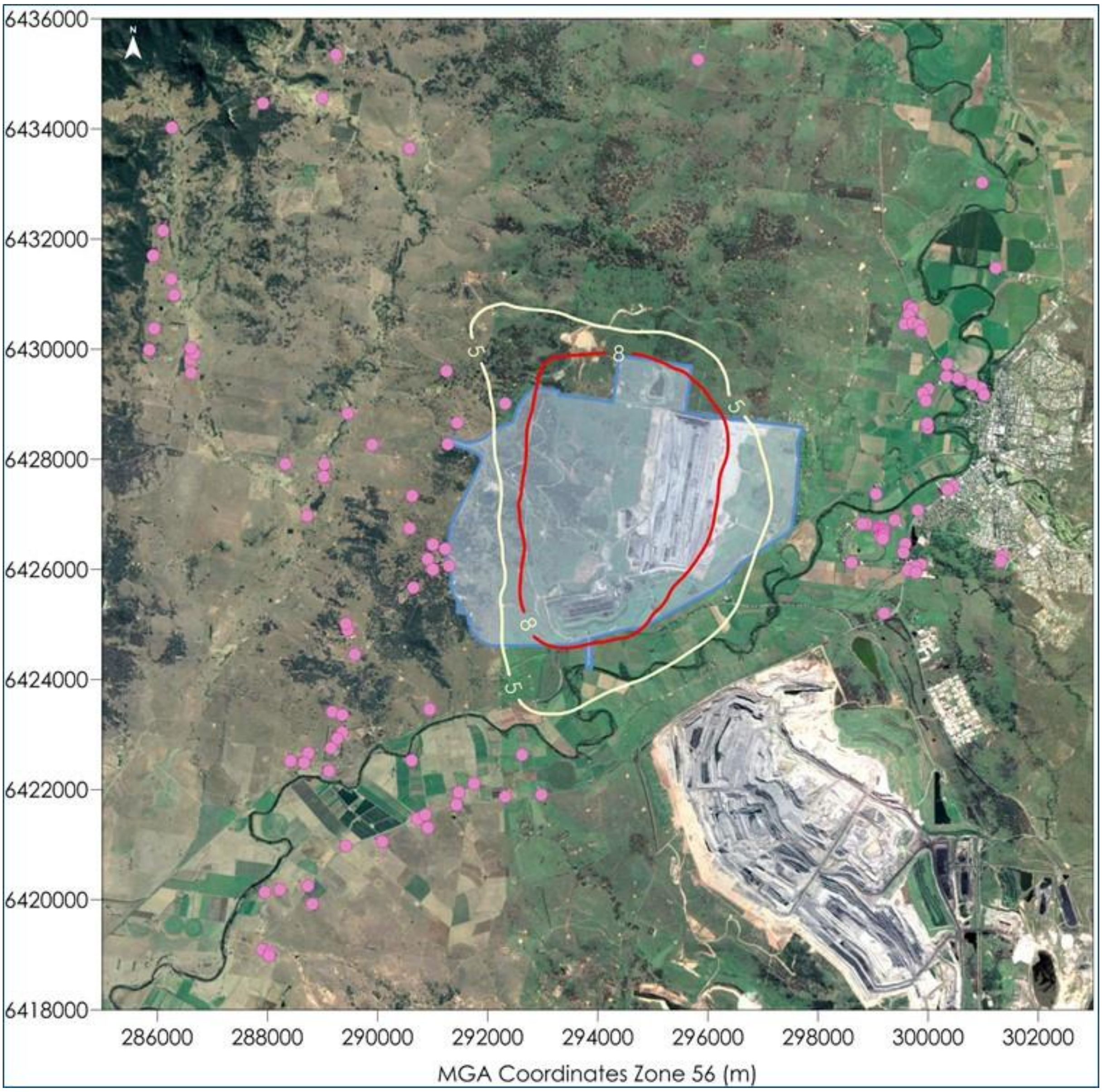

Figure C-23: Predicted annual average $PM_{2.5}$ concentrations due to emissions from Bengalla and other sources in Year 15 (µg/m³)

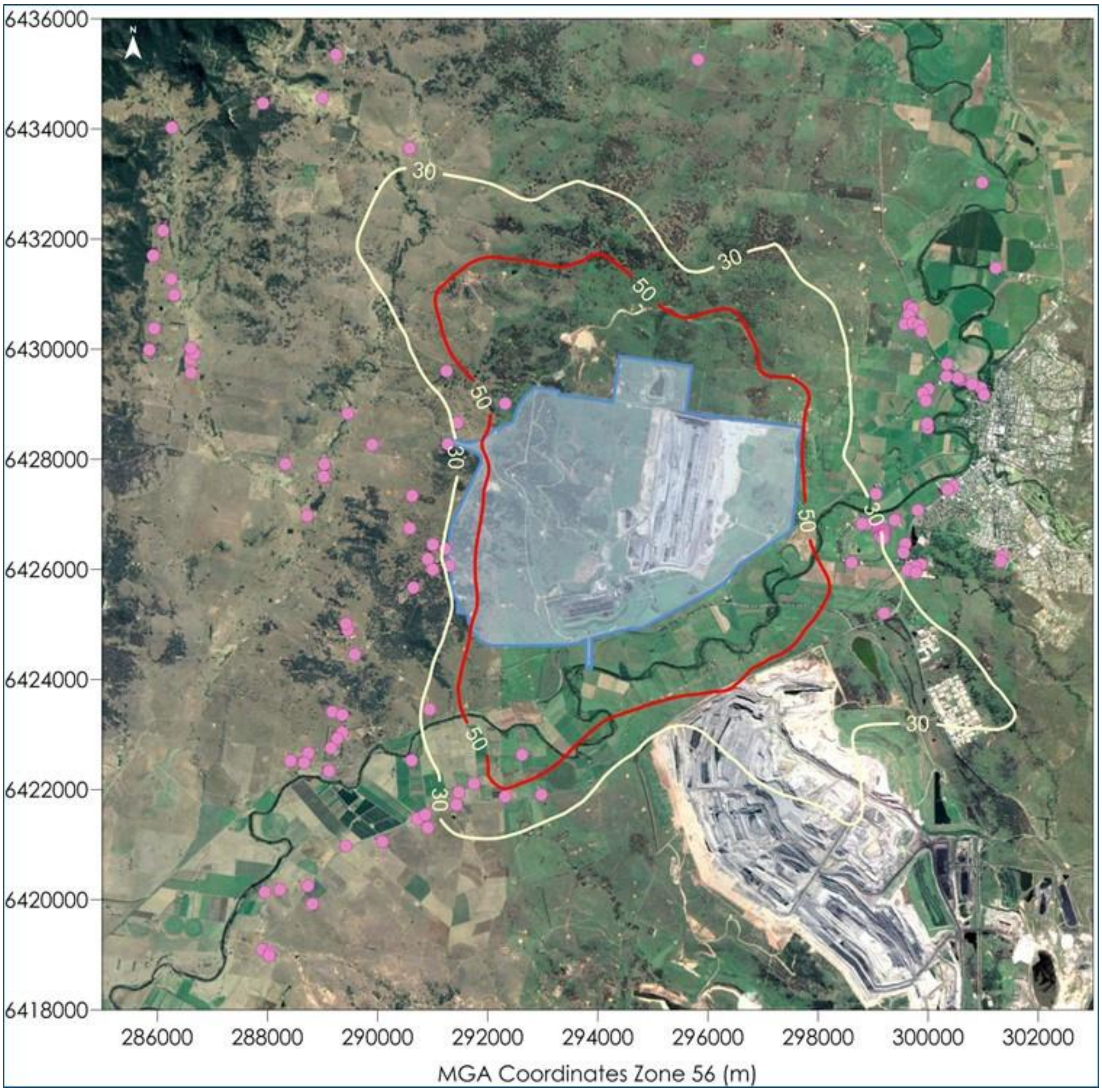

Figure C-24: Predicted maximum 24-hour average PM_{10} concentrations due to emissions from Bengalla in Year 15 (µg/m³)

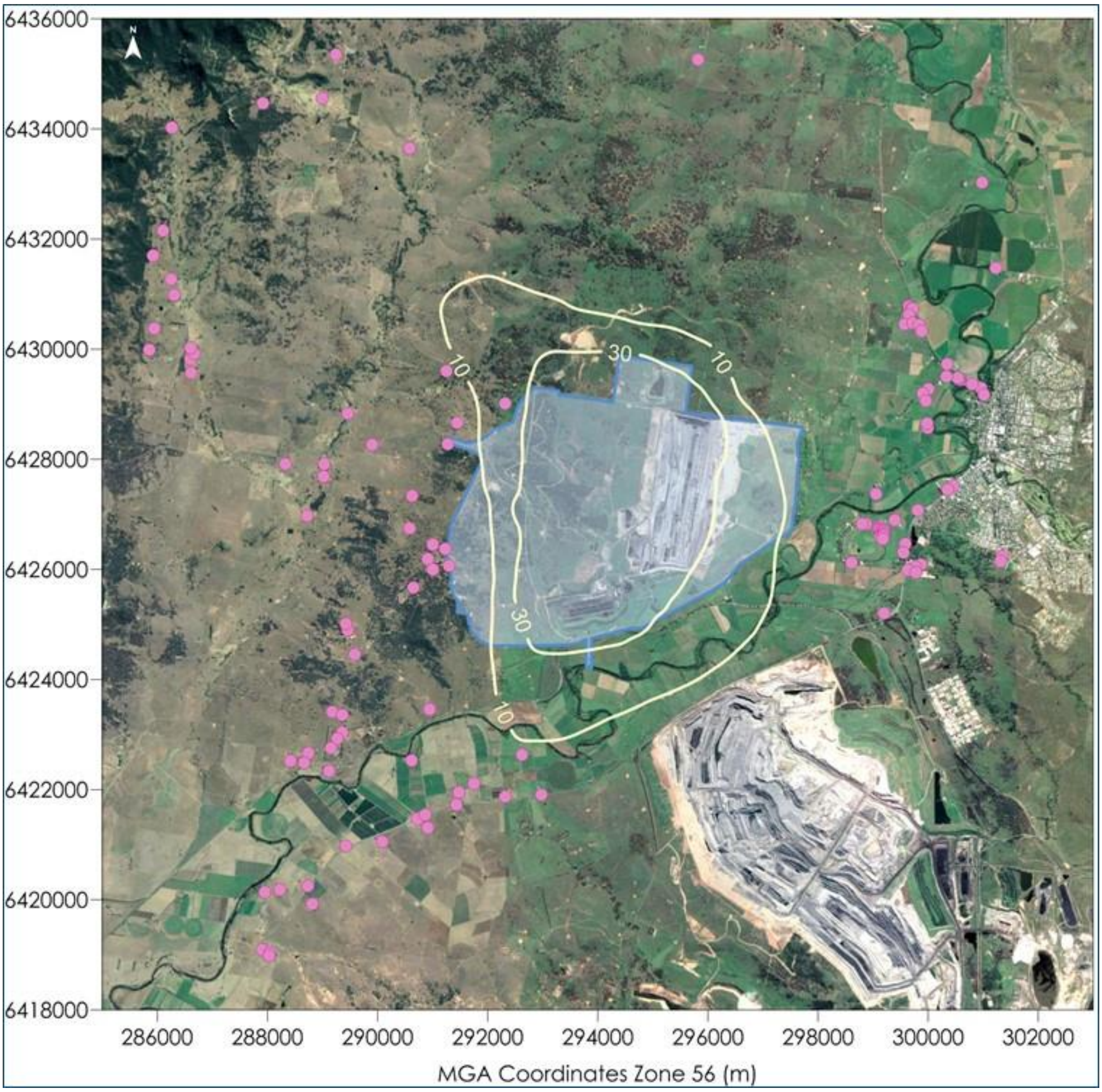

Figure C-25: Predicted annual average PM_{10} concentrations due to emissions from Bengalla in Year 15 (µg/m³)

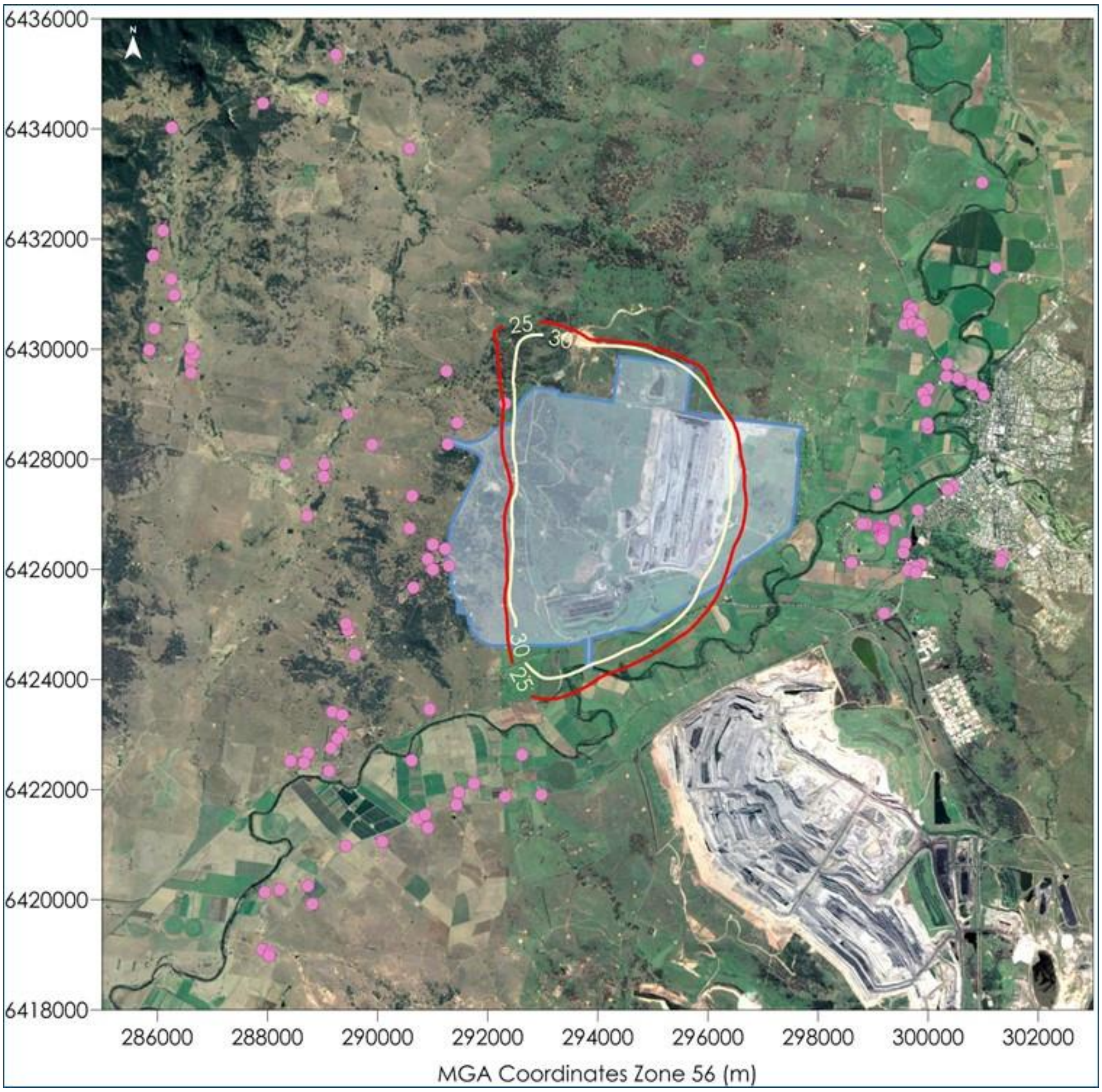

Figure C-26: Predicted annual average PM_{10} concentrations due to emissions from Bengalla and other sources in Year 15 (µg/m³)

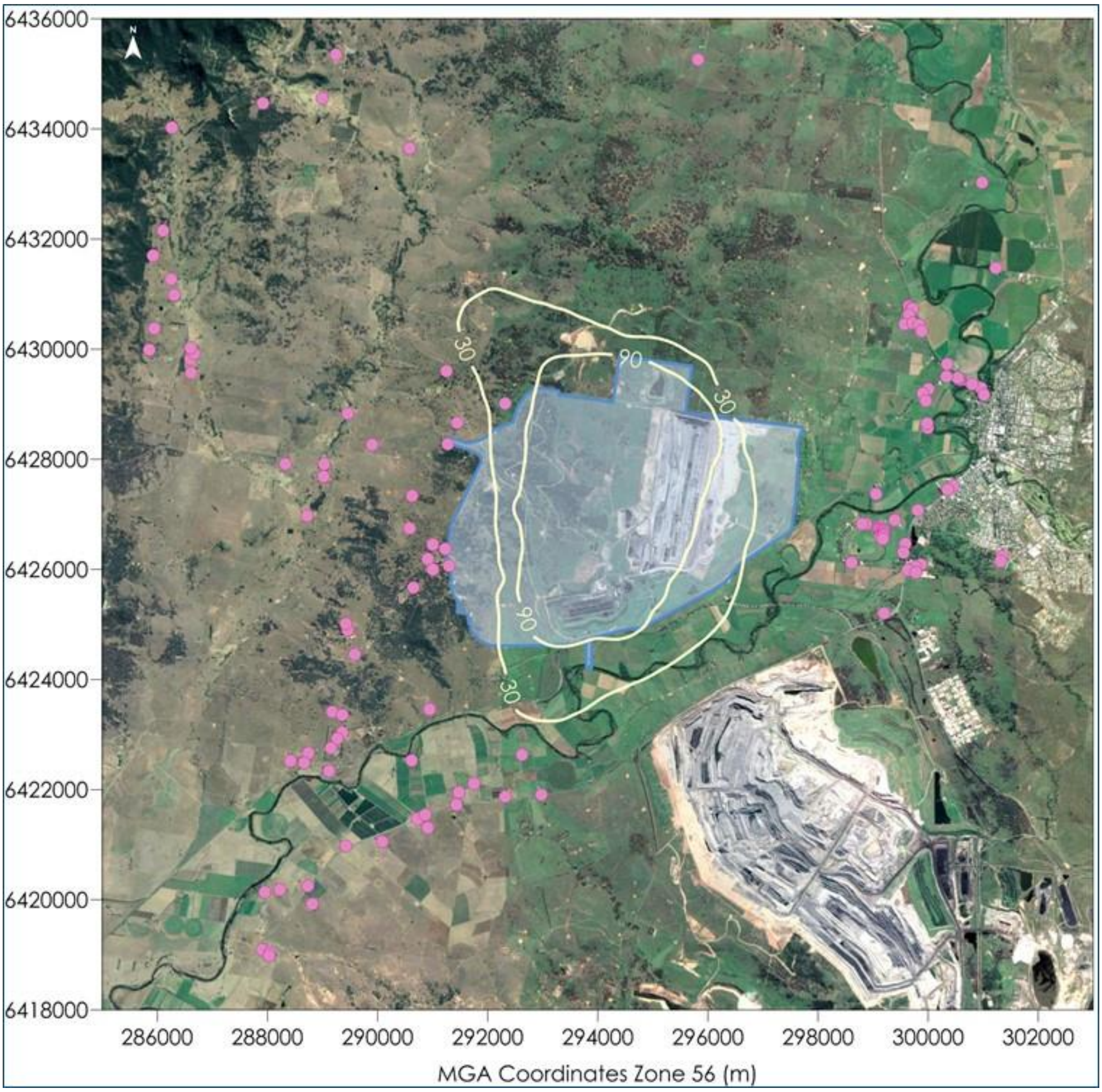

Figure C-27: Predicted annual average TSP concentrations due to emissions from Bengalla in Year 15 (µg/m³)

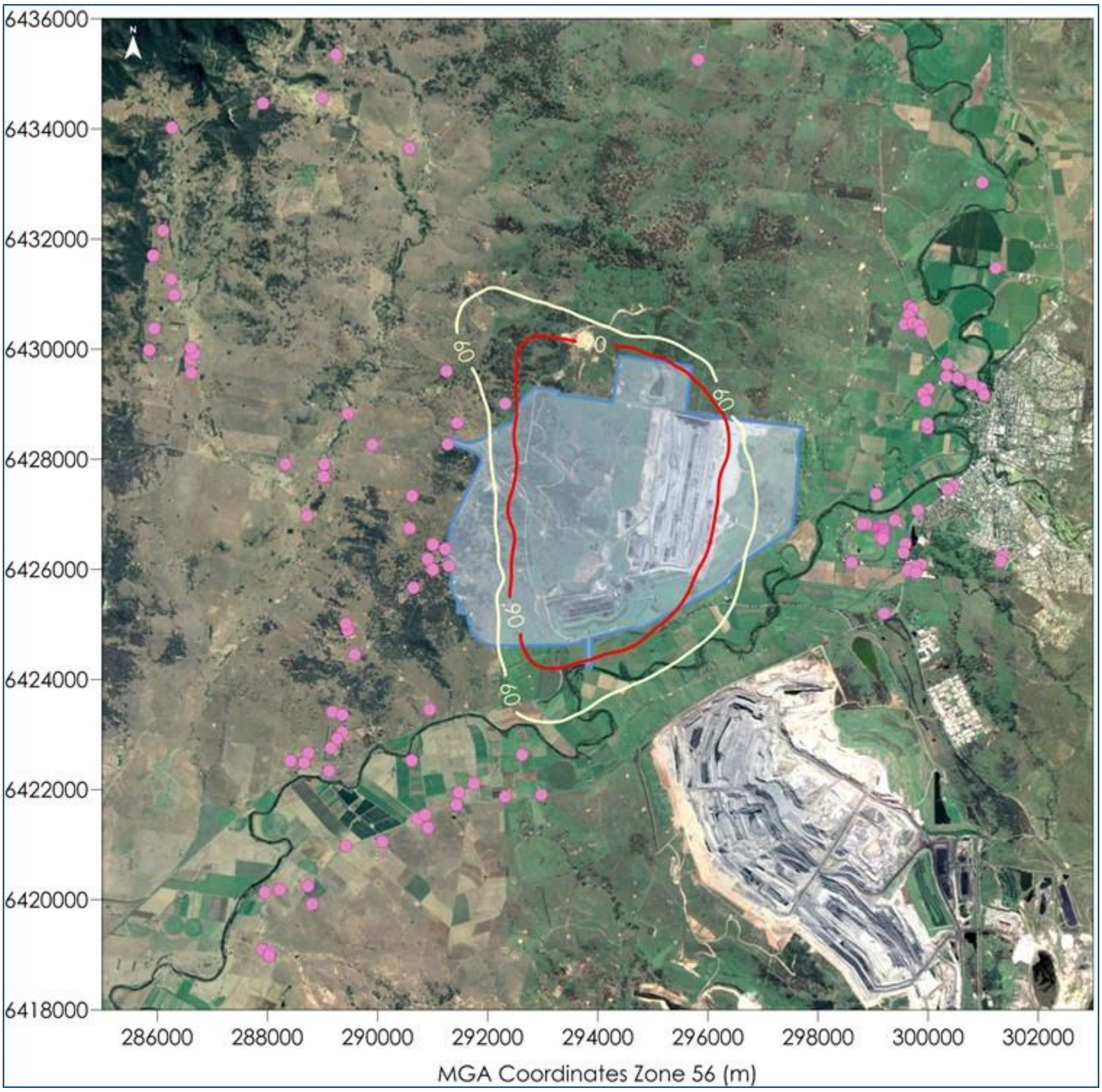

Figure C-28: Predicted annual average TSP concentrations due to emissions from Bengalla and other sources in Year 15 (µg/m³)

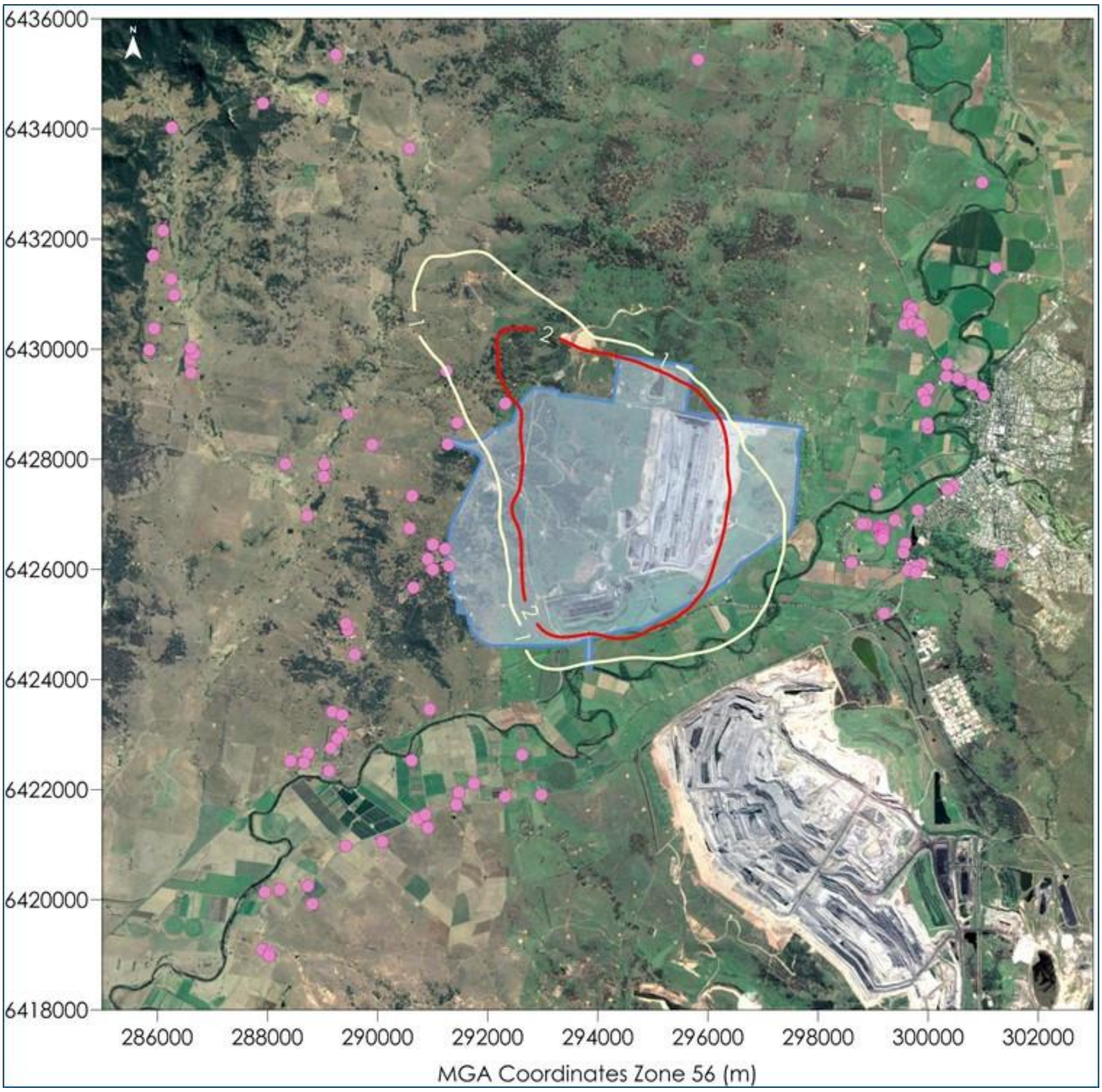

Figure C-29: Predicted annual average dust deposition levels due to emissions from Bengalla in Year 15 (g/m²/month)

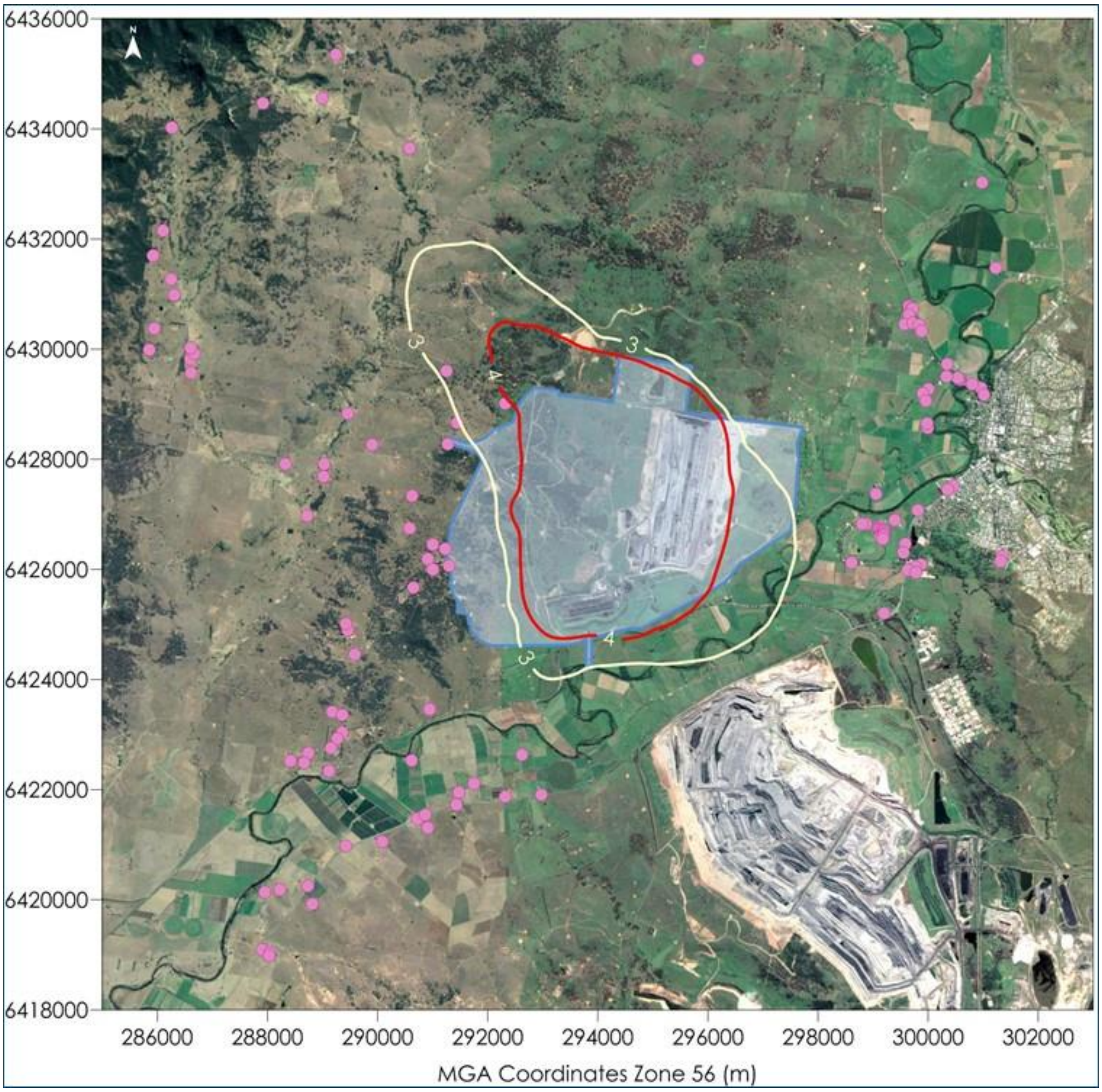

Figure C-30: Predicted annual average dust deposition levels due to emissions from Bengalla and other sources in Year 15 (g/m²/month)

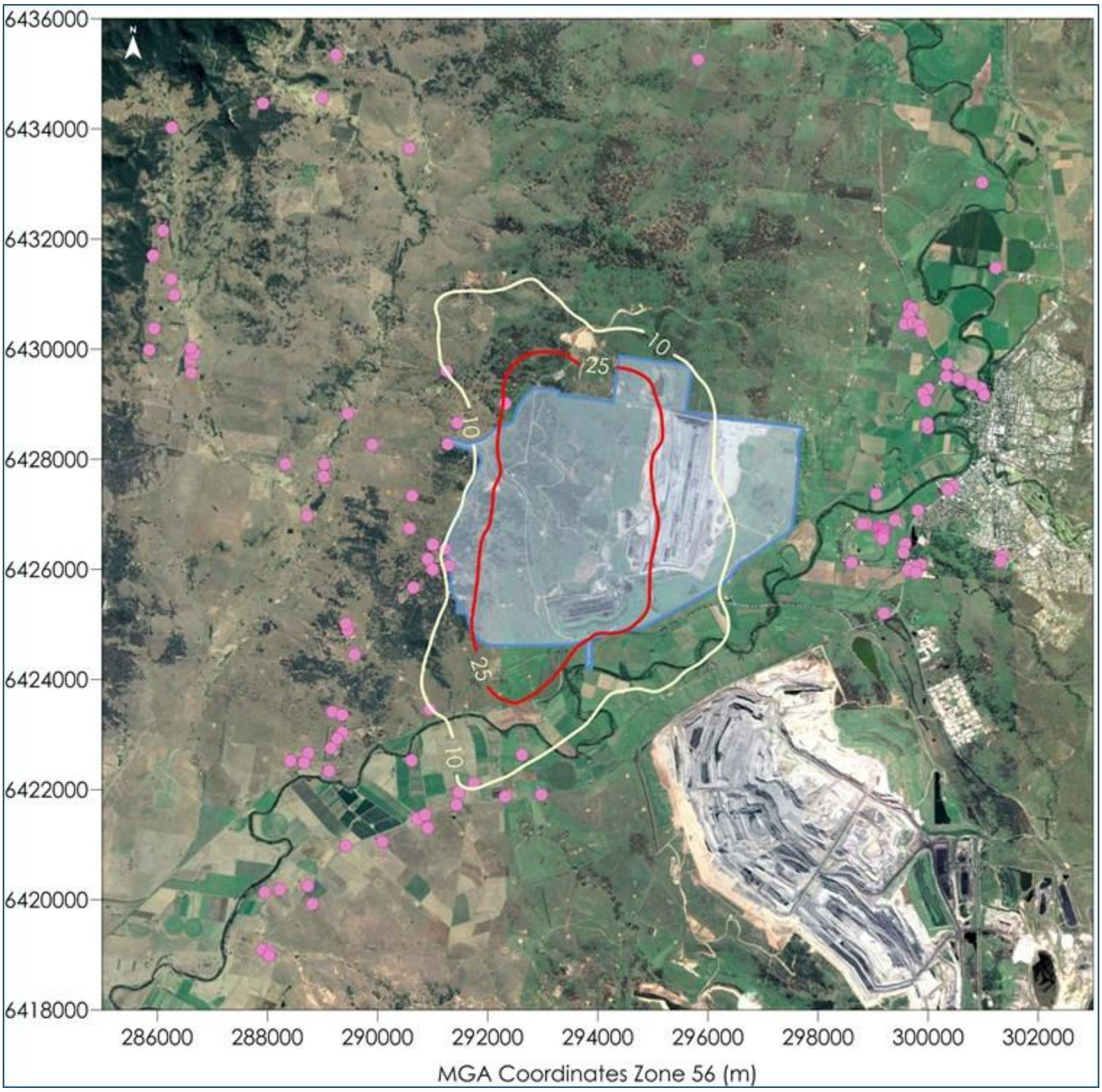

Figure C-31: Predicted maximum 24-hour average $PM_{2.5}$ concentrations due to emissions from Bengalla in Year 24 (µg/m³)

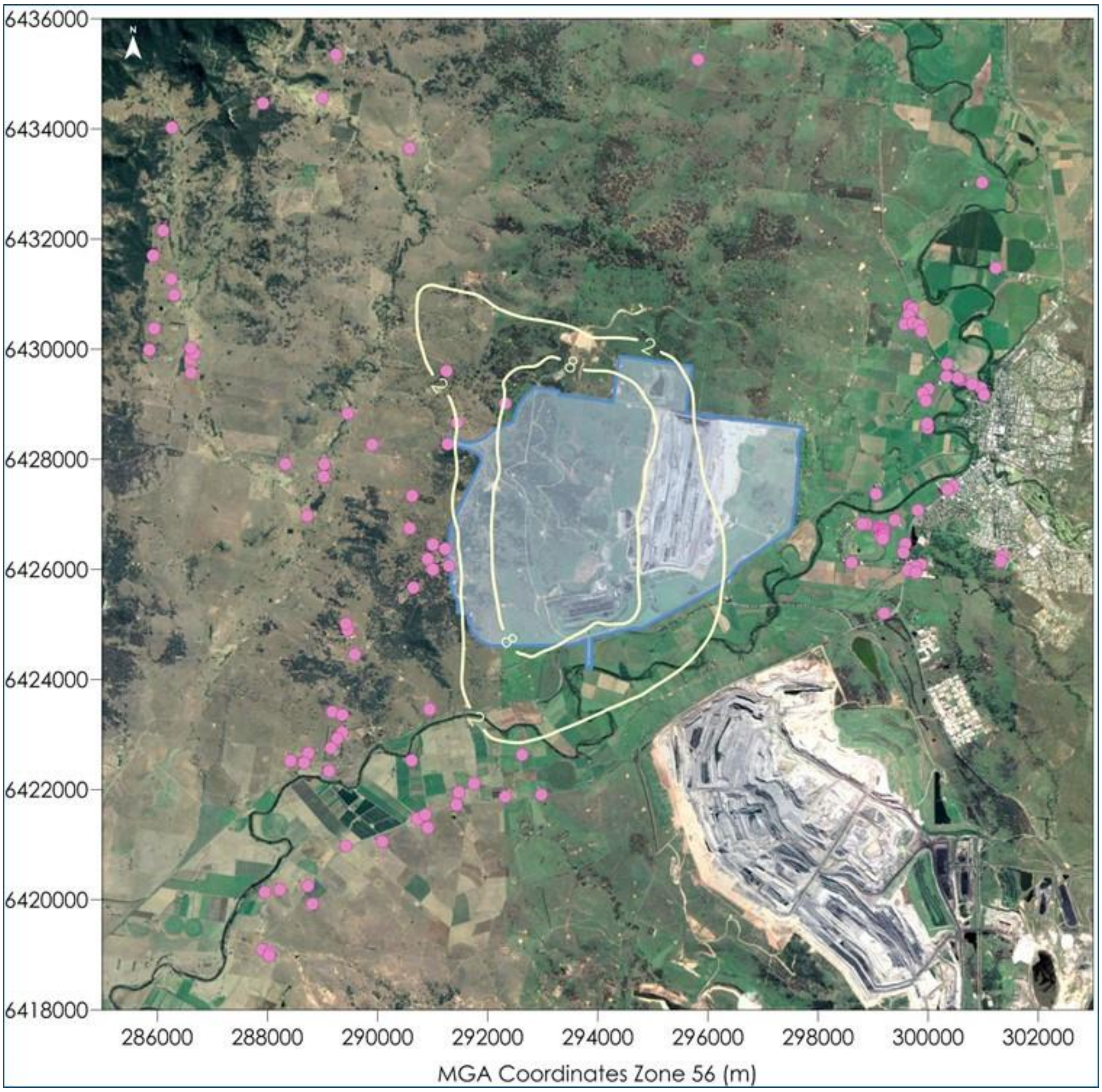

Figure C-32: Predicted annual average $PM_{2.5}$ concentrations due to emissions from Bengalla in Year 24 (µg/m³)

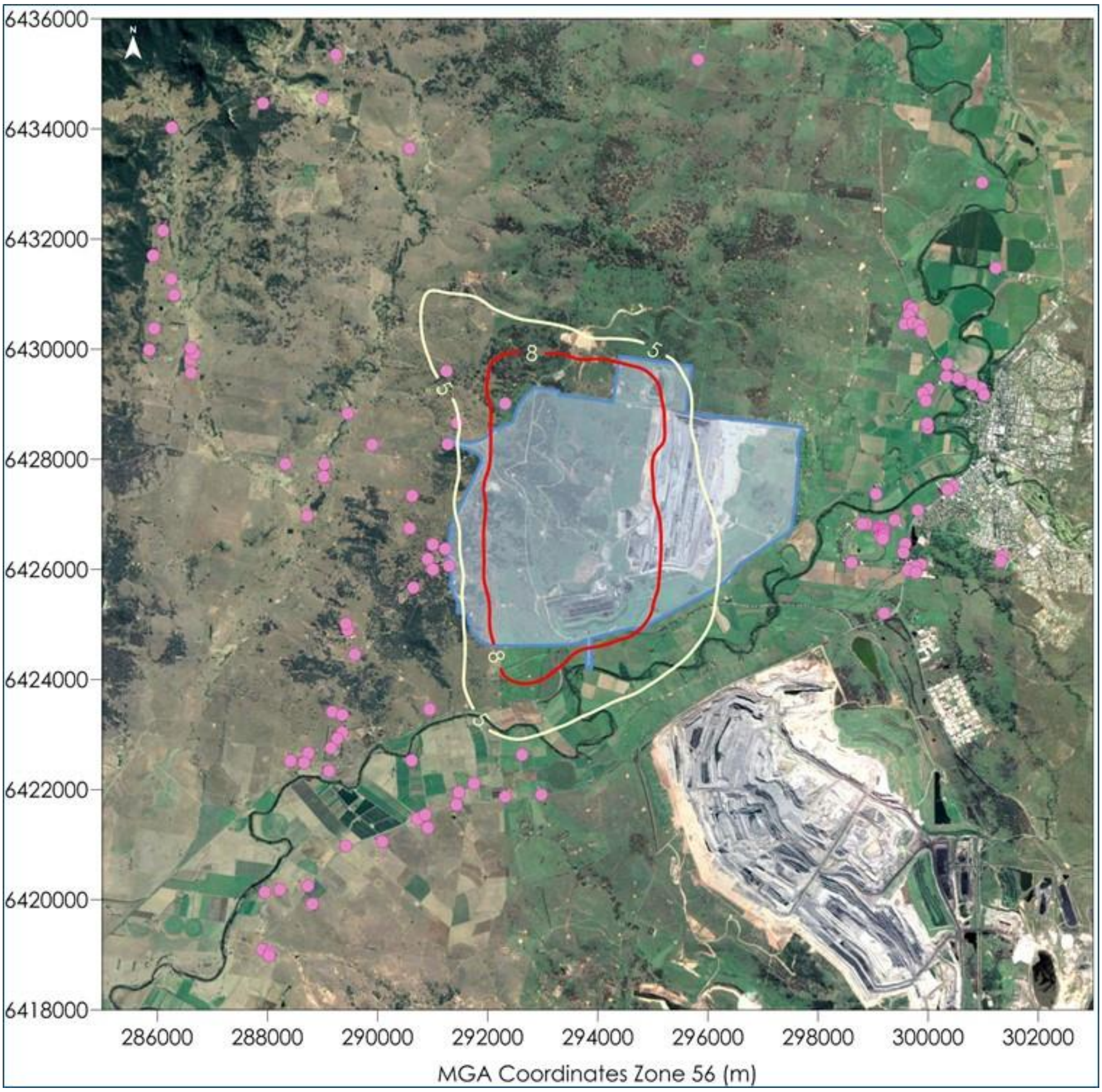

Figure C-33: Predicted annual average $PM_{2.5}$ concentrations due to emissions from Bengalla and other sources in Year 24 (µg/m³)

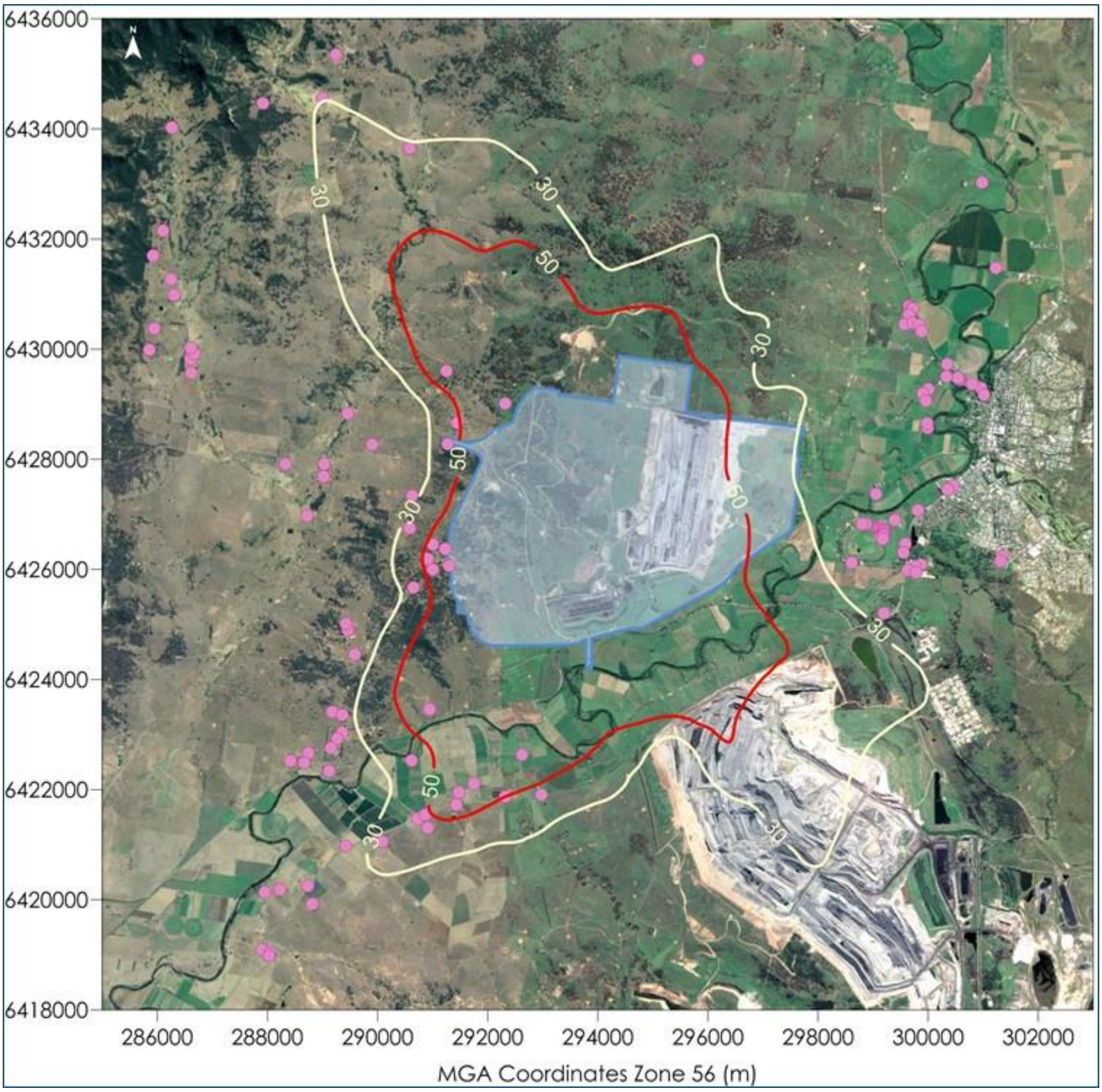

Figure C-34: Predicted maximum 24-hour average PM_{10} concentrations due to emissions from Bengalla in Year 24 (µg/m³)

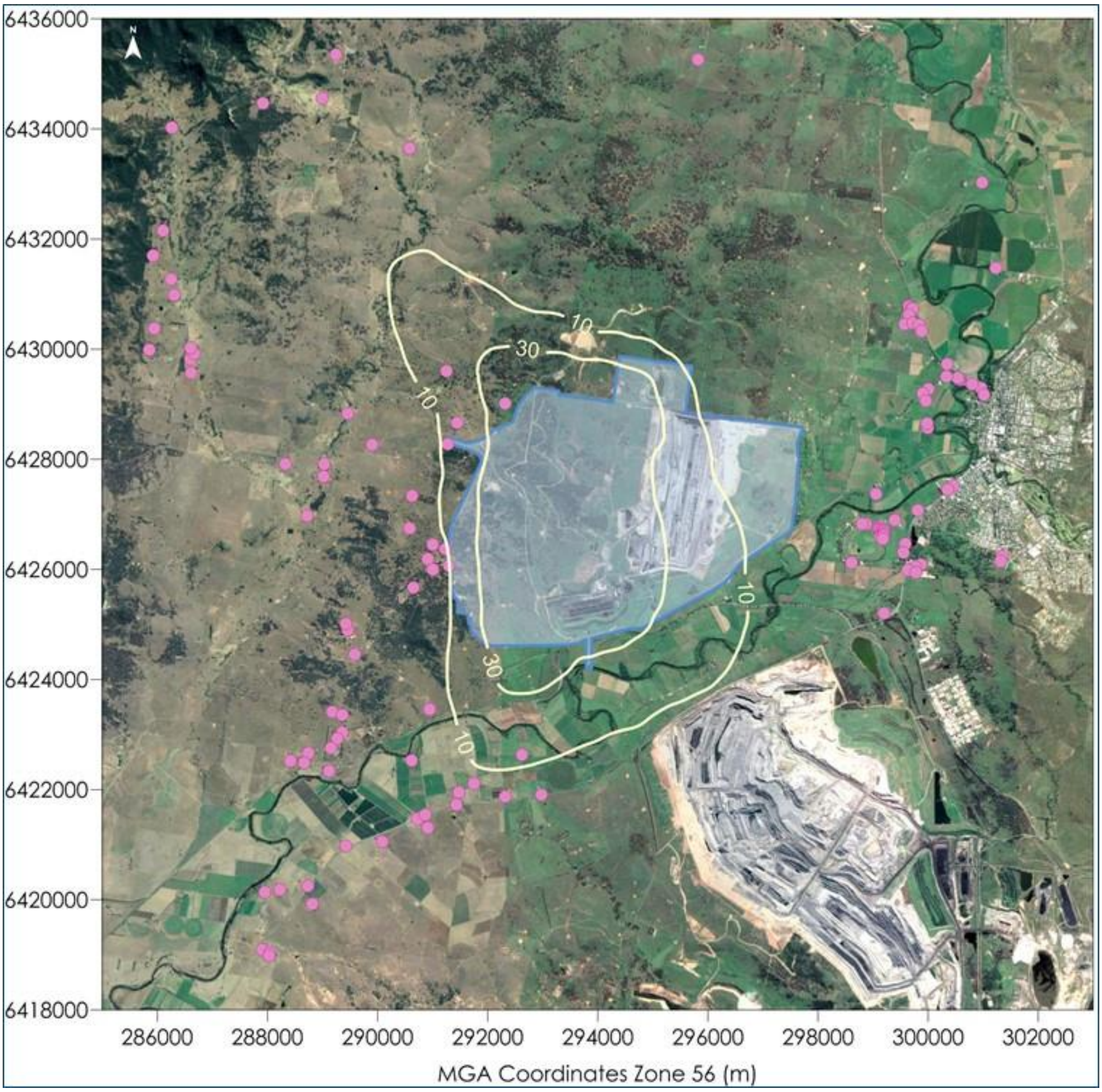

Figure C-35: Predicted annual average PM_{10} concentrations due to emissions from Bengalla in Year 24 (µg/m³)

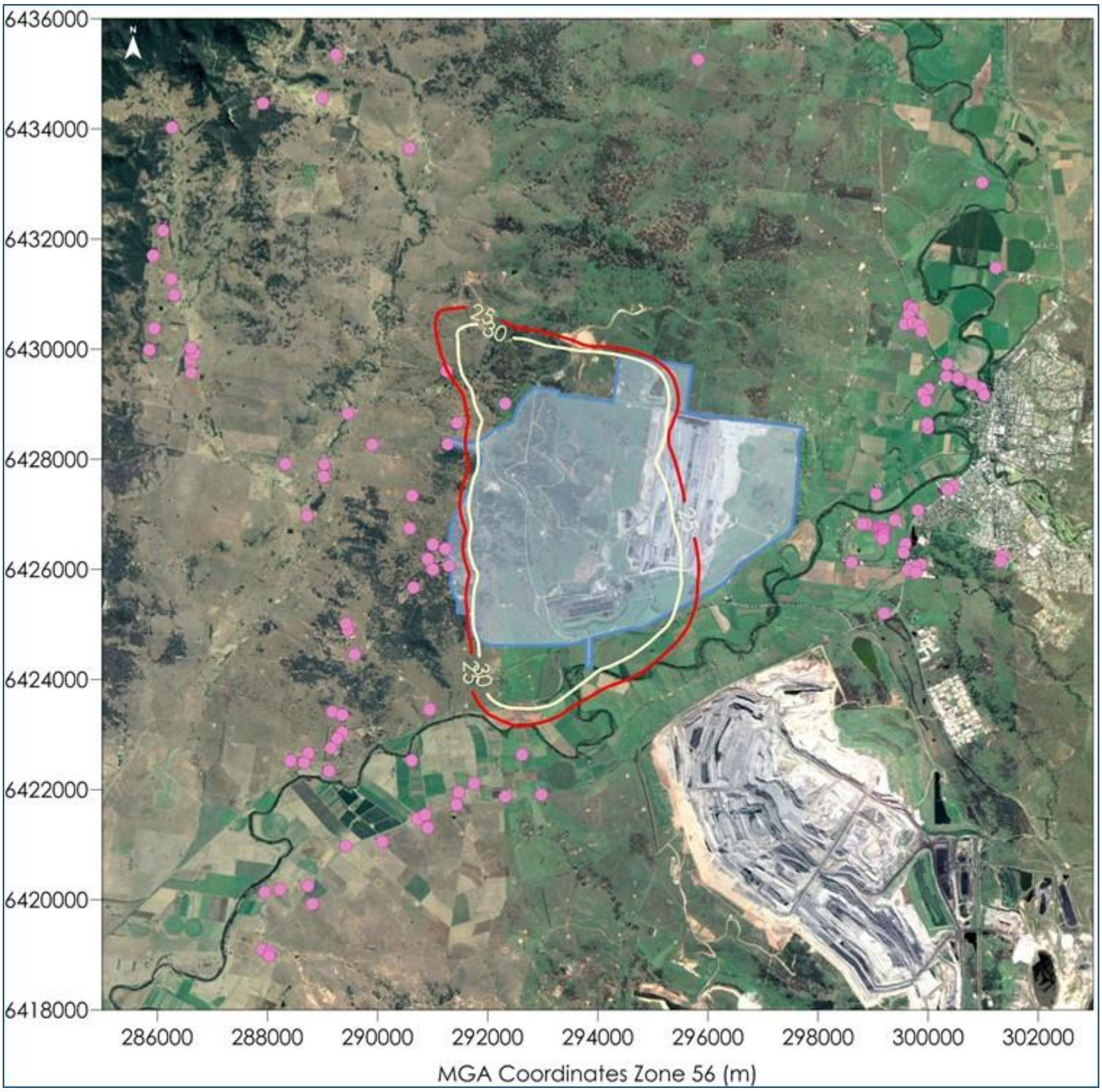

Figure C-36: Predicted annual average PM_{10} concentrations due to emissions from Bengalla and other sources in Year 24 (µg/m³)

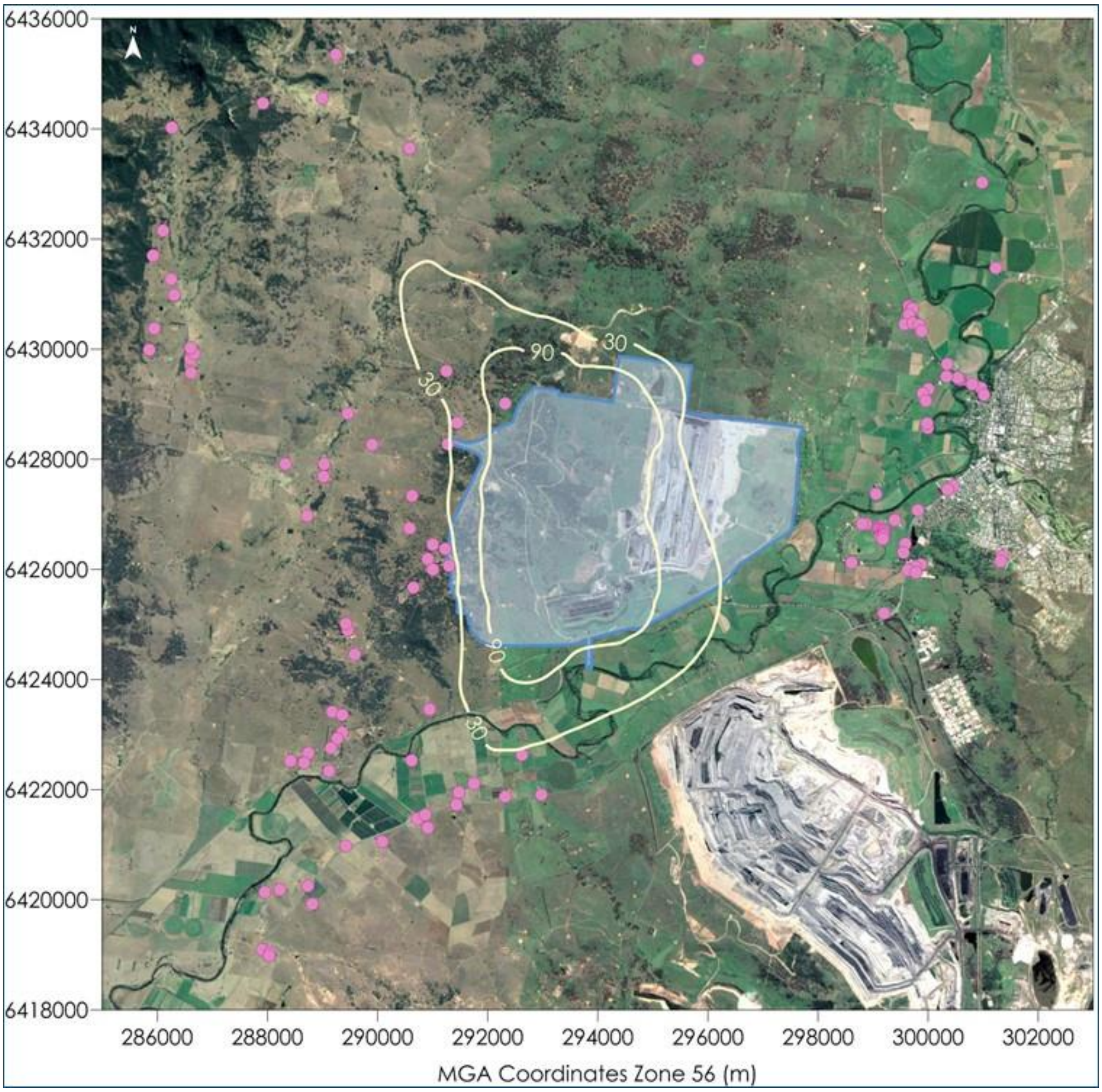

Figure C-37: Predicted annual average TSP concentrations due to emissions from Bengalla in Year 24 (µg/m³)

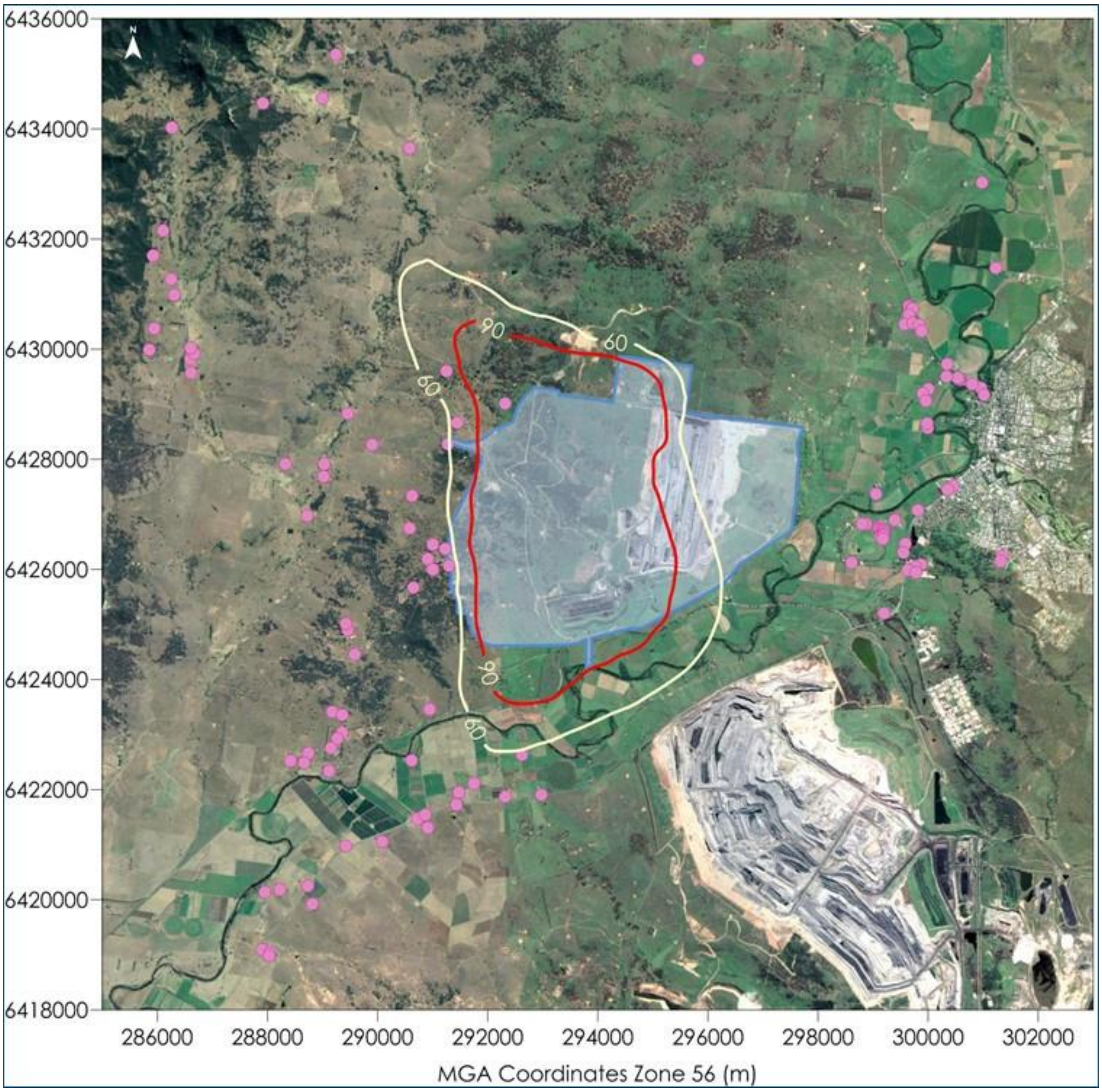

Figure C-38: Predicted annual average TSP concentrations due to emissions from Bengalla and other sources in Year 24 (µg/m³)

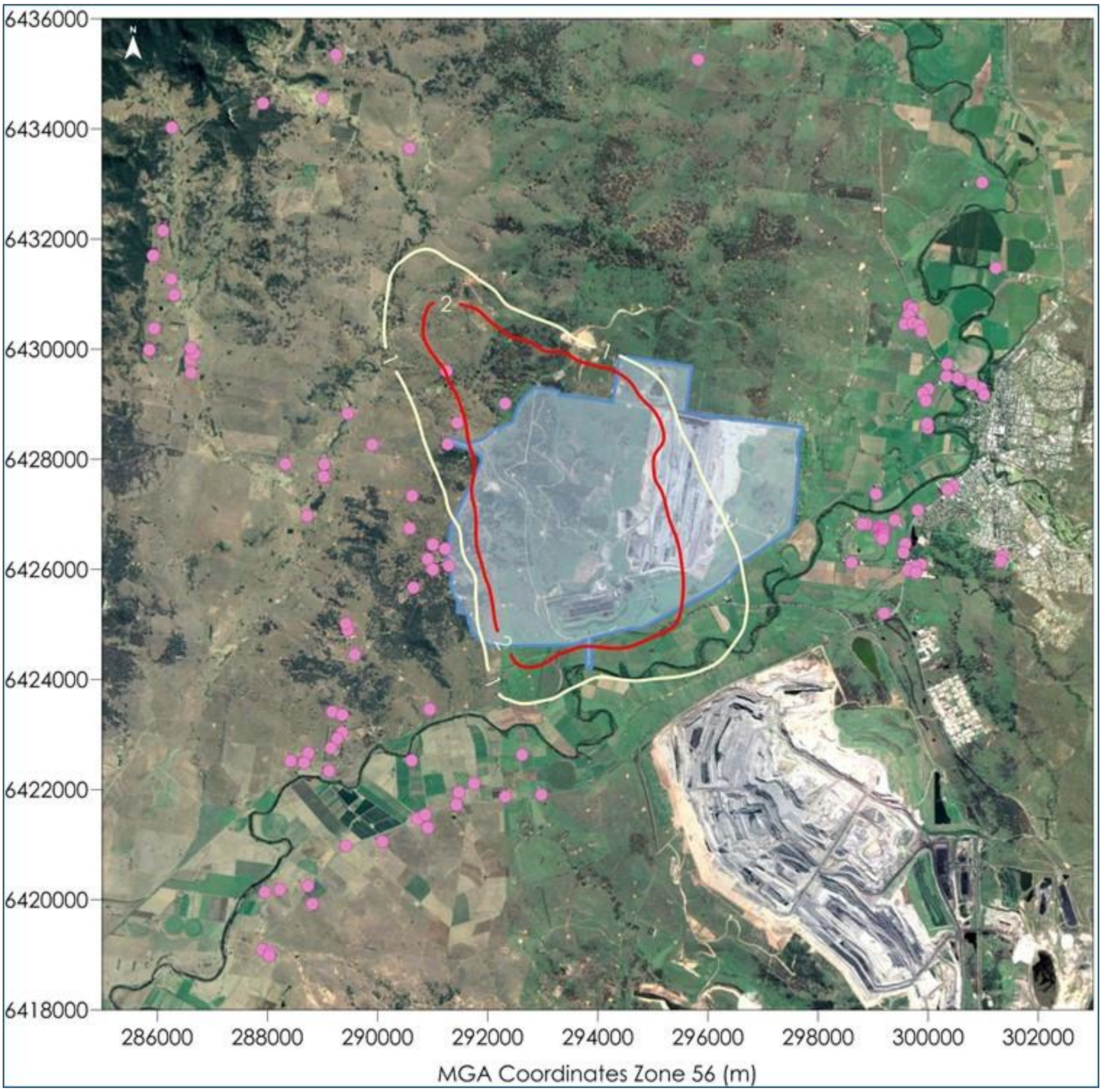

Figure C-39: Predicted annual average dust deposition levels due to emissions from Bengalla in Year 24 (g/m²/month)

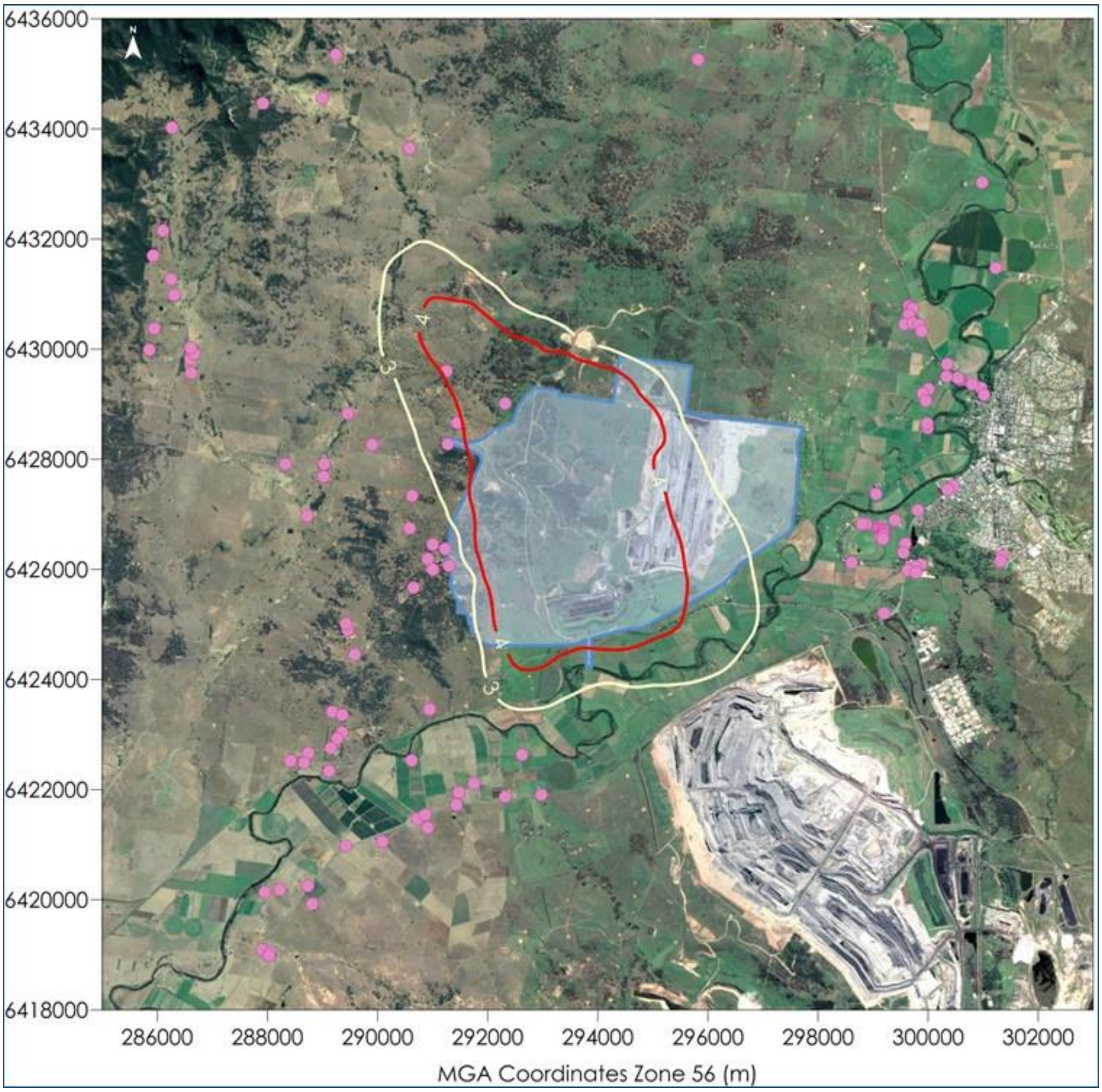

Figure C-40: Predicted annual average dust deposition levels due to emissions from Bengalla and other sources in Year 24 (g/m²/month)

Appendix D
Modelling predictions – distribution of impacts

Table D-1: Distribution of annual average $PM_{2.5}$ impacts – Year 4

Receptor ID	Predicted impact			Total Impact (criterion 8µg/m³)	Percent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
3	0.3	0.7	0.1	4.0	7%	17%	3%
7	0.2	0.5	0.1	3.8	6%	12%	3%
8	0.2	0.5	0.1	3.8	6%	12%	3%
11	0.3	0.6	0.1	3.9	7%	15%	3%
12	0.2	0.5	0.1	3.8	6%	13%	3%
13	0.3	0.6	0.1	3.9	7%	15%	3%
14	0.3	0.6	0.1	3.9	7%	15%	3%
17	0.3	0.7	0.1	4.1	7%	17%	3%
22	0.4	0.8	0.1	4.3	8%	19%	3%
24	0.4	0.9	0.1	4.3	9%	20%	3%
25	0.4	0.8	0.1	4.3	9%	19%	3%
27a	0.4	0.7	0.2	4.2	10%	17%	4%
27b	0.4	0.7	0.2	4.2	10%	17%	4%
29	0.9	0.6	0.3	4.7	19%	14%	6%
30	0.4	0.5	0.2	4.0	11%	11%	5%
31	0.5	0.5	0.2	4.1	11%	11%	5%
39	0.6	0.5	0.3	4.3	15%	11%	6%
40	0.8	0.5	0.3	4.5	18%	11%	7%
42	0.9	0.5	0.3	4.6	20%	11%	7%
43	1.0	0.5	0.3	4.8	22%	11%	7%
44	1.1	0.5	0.4	4.8	22%	11%	7%
46	1.2	0.4	0.5	5.0	24%	8%	10%
47	0.9	0.5	0.3	4.6	20%	10%	7%
48	0.9	0.5	0.3	4.6	20%	10%	7%
49	0.9	0.5	0.3	4.6	20%	10%	7%
50	0.9	0.5	0.3	4.6	20%	10%	7%
51	0.9	0.5	0.4	4.6	20%	10%	8%
52	0.9	0.5	0.4	4.6	20%	10%	8%
53	0.9	0.5	0.4	4.6	20%	10%	8%
54	0.9	0.5	0.3	4.6	19%	10%	7%
55	0.9	0.5	0.3	4.6	19%	10%	7%
56	0.9	0.5	0.3	4.6	19%	10%	8%
57	0.9	0.5	0.3	4.6	19%	10%	8%
58	0.9	0.4	0.4	4.6	20%	10%	8%
59	0.9	0.4	0.4	4.6	20%	10%	8%
61	0.8	0.4	0.3	4.4	17%	9%	8%
62	0.8	0.4	0.4	4.4	17%	9%	8%
66	0.9	0.3	0.7	4.7	20%	6%	14%
76	0.4	0.3	0.2	3.8	11%	7%	6%
81	0.7	0.3	0.4	4.3	16%	8%	8%
83	0.7	0.3	0.4	4.3	17%	8%	9%
84	0.8	0.3	0.4	4.4	17%	8%	9%
85	0.7	0.3	0.4	4.3	17%	8%	9%
88a	0.1	0.0	0.1	3.4	3%	1%	4%
88b	0.1	0.0	0.1	3.4	3%	1%	4%
88c	0.1	0.0	0.1	3.4	3%	1%	4%
90	0.1	0.0	0.2	3.5	3%	1%	4%
92	0.2	0.0	0.2	3.6	5%	1%	5%
93	0.1	0.0	0.2	3.6	3%	1%	5%
98	0.2	0.0	0.2	3.6	4%	1%	5%
102	0.2	0.0	0.2	3.6	5%	1%	6%
105	0.3	0.1	0.3	3.7	7%	2%	8%
106	0.4	0.1	0.4	3.9	10%	2%	10%
108	0.3	0.1	0.4	3.8	9%	2%	10%
109	0.4	0.1	0.4	3.9	9%	2%	10%

Receptor ID	Predicted impact			Total Impact (criterion 8µg/m³)	Percent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
110	0.3	0.1	0.5	3.9	7%	2%	14%
112	0.5	0.1	0.5	4.1	12%	2%	12%
113	0.5	0.1	0.6	4.1	12%	2%	14%
114	0.6	0.1	0.7	4.3	13%	2%	16%
117	0.8	0.1	0.8	4.6	16%	3%	17%
118	1.0	0.1	1.3	5.2	19%	3%	25%
119	0.9	0.1	1.1	5.0	18%	3%	22%
120	0.3	0.1	0.9	4.2	8%	2%	22%
126a	0.2	0.0	0.5	3.7	4%	1%	12%
126b	0.2	0.0	0.4	3.7	4%	1%	12%
126c	0.1	0.0	0.4	3.7	4%	1%	11%
130	0.1	0.0	0.3	3.7	4%	1%	9%
133a	0.1	0.0	0.3	3.6	4%	1%	9%
133b	0.1	0.0	0.3	3.6	3%	1%	8%
133c	0.1	0.0	0.3	3.6	3%	1%	9%
145	0.2	0.0	0.5	3.7	4%	1%	13%
146	0.2	0.0	0.5	3.7	4%	1%	14%
149a	0.2	0.1	0.8	3.9	4%	1%	21%
149b	0.2	0.1	0.9	3.9	4%	1%	23%
149c	0.2	0.1	0.9	4.0	4%	1%	23%
152	0.3	0.1	1.6	4.7	7%	2%	35%
153	0.3	0.1	1.5	4.6	6%	2%	33%
154	0.3	0.1	1.6	4.7	7%	2%	35%
155	0.4	0.1	1.8	4.9	8%	3%	36%
156a	0.4	0.1	1.7	4.8	8%	2%	35%
156b	0.3	0.1	1.6	4.7	7%	2%	35%
156c	0.3	0.1	1.5	4.5	6%	2%	33%
161	0.3	0.1	1.3	4.3	6%	2%	30%
166	0.4	0.1	1.0	4.2	10%	2%	23%
168	1.3	0.2	0.8	5.1	26%	4%	15%
169	0.5	0.1	0.9	4.3	12%	3%	20%
171	0.7	0.1	0.7	4.2	16%	2%	16%
180	0.2	0.0	0.8	3.8	4%	1%	22%
184	0.2	0.0	1.0	4.0	4%	1%	25%
186a	0.1	0.0	1.0	3.9	3%	1%	25%
186b	0.1	0.0	1.0	3.9	3%	1%	25%
189	0.1	0.0	0.9	3.8	3%	1%	23%
192	0.1	0.0	0.9	3.9	3%	1%	24%
198	0.1	0.0	0.6	3.5	2%	1%	17%
199	0.1	0.0	0.6	3.5	2%	1%	17%
200	0.1	0.0	0.5	3.5	2%	0%	16%
201	0.1	0.0	0.5	3.4	2%	0%	15%
202	0.1	0.0	0.6	3.5	2%	1%	16%
203	0.1	0.0	0.6	3.5	2%	1%	16%
209a	0.1	0.0	0.5	3.4	3%	0%	14%
209b	0.1	0.0	0.5	3.4	3%	0%	13%
209c	0.1	0.0	0.4	3.4	3%	0%	13%
209d	0.1	0.0	0.4	3.4	4%	0%	12%
230	0.5	0.1	0.2	3.6	13%	3%	6%
252	0.2	0.4	0.1	3.6	6%	11%	2%
286	0.3	0.1	0.2	3.4	9%	2%	5%
288	0.3	0.1	0.2	3.5	10%	2%	6%
307	0.1	0.2	0.1	3.6	3%	6%	2%
308	0.3	0.0	0.2	3.4	8%	1%	7%
309	0.2	0.0	0.3	3.4	5%	1%	9%
313	0.1	0.3	0.1	3.5	4%	8%	2%

Receptor ID	Predicted impact			Total Impact (criterion 8µg/m³)	Percent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
315	0.3	1.2	0.1	4.6	7%	26%	2%
316a	0.3	1.2	0.1	4.5	7%	26%	2%
316b	0.3	1.1	0.1	4.5	7%	25%	2%
317	0.3	1.2	0.1	4.6	7%	27%	2%
319	0.3	1.3	0.1	4.7	7%	28%	2%
321	0.3	1.1	0.1	4.5	7%	25%	2%
323	0.3	1.0	0.1	4.4	7%	23%	2%
326	0.3	1.0	0.1	4.4	7%	23%	2%
330	0.4	0.3	0.3	3.9	11%	7%	7%

Table D-2: Distribution of annual average $PM_{2.5}$ impacts – Year 8

Receptor ID	Predicted impact			Total Impact (criterion 8µg/m³)	Percent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
3	0.2	0.8	0.1	4.0	6%	19%	3%
7	0.2	0.5	0.1	3.7	6%	14%	3%
8	0.2	0.5	0.1	3.7	6%	13%	3%
11	0.2	0.6	0.1	3.9	6%	16%	3%
12	0.2	0.6	0.1	3.8	6%	15%	3%
13	0.2	0.6	0.1	3.9	6%	17%	3%
14	0.2	0.7	0.1	3.9	6%	17%	3%
17	0.3	0.7	0.1	4.0	6%	18%	3%
22	0.3	0.9	0.1	4.2	7%	21%	3%
24	0.3	0.9	0.1	4.3	7%	22%	3%
25	0.3	0.9	0.1	4.3	8%	21%	3%
27a	0.4	0.8	0.1	4.2	8%	19%	3%
27b	0.3	0.8	0.1	4.2	8%	19%	3%
29	0.7	0.8	0.2	4.7	16%	17%	5%
30	0.4	0.5	0.2	4.0	10%	13%	4%
31	0.4	0.5	0.2	4.0	10%	13%	4%
39	0.6	0.6	0.2	4.3	13%	14%	5%
40	0.7	0.6	0.3	4.4	16%	13%	6%
42	0.8	0.6	0.3	4.6	18%	13%	6%
43	0.9	0.6	0.3	4.7	19%	14%	6%
44	0.9	0.7	0.3	4.8	20%	14%	6%
46	1.1	0.5	0.4	4.9	22%	11%	8%
47	0.8	0.6	0.3	4.6	18%	13%	6%
48	0.8	0.6	0.3	4.6	18%	13%	6%
49	0.8	0.6	0.3	4.6	18%	13%	6%
50	0.8	0.6	0.3	4.6	18%	13%	6%
51	0.8	0.6	0.3	4.6	18%	12%	7%
52	0.8	0.6	0.3	4.6	18%	12%	7%
53	0.8	0.6	0.3	4.6	18%	12%	7%
54	0.8	0.6	0.3	4.5	17%	13%	6%
55	0.8	0.6	0.3	4.5	17%	13%	6%
56	0.8	0.6	0.3	4.5	18%	12%	7%
57	0.8	0.6	0.3	4.5	18%	12%	7%
58	0.8	0.5	0.3	4.5	18%	12%	7%
59	0.8	0.5	0.3	4.5	18%	12%	7%

Receptor ID	Predicted impact			Total Impact (criterion 8µg/m³)	Percent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
61	0.7	0.5	0.3	4.3	16%	11%	7%
62	0.7	0.5	0.3	4.3	16%	11%	7%
66	0.9	0.4	0.5	4.6	19%	8%	11%
76	0.4	0.3	0.2	3.8	10%	8%	6%
81	0.6	0.4	0.3	4.2	15%	10%	7%
83	0.7	0.4	0.3	4.3	16%	10%	7%
84	0.7	0.4	0.3	4.3	16%	10%	8%
85	0.7	0.4	0.3	4.3	16%	9%	8%
88a	0.1	0.0	0.2	3.4	3%	1%	5%
88b	0.1	0.0	0.2	3.4	4%	1%	5%
88c	0.1	0.0	0.2	3.4	4%	1%	5%
90	0.1	0.0	0.2	3.6	3%	1%	6%
92	0.2	0.0	0.2	3.6	5%	1%	7%
93	0.1	0.0	0.2	3.6	4%	1%	6%
98	0.2	0.0	0.3	3.7	5%	1%	7%
102	0.2	0.1	0.4	3.8	5%	2%	10%
105	0.3	0.1	0.4	3.9	7%	2%	11%
106	0.4	0.1	0.6	4.1	10%	2%	15%
108	0.4	0.1	0.6	4.1	9%	2%	15%
109	0.4	0.1	0.6	4.1	10%	2%	15%
110	0.3	0.1	0.8	4.1	7%	2%	20%
112	0.5	0.1	0.8	4.4	12%	3%	18%
113	0.5	0.1	0.9	4.5	12%	3%	20%
114	0.6	0.1	1.0	4.7	14%	3%	22%
117	0.8	0.2	1.2	5.0	16%	3%	23%
118	1.1	0.2	2.0	5.9	19%	3%	33%
119	0.9	0.2	1.6	5.4	16%	3%	30%
120	0.3	0.1	1.5	4.6	7%	2%	31%
126a	0.2	0.1	0.7	3.9	4%	2%	19%
126b	0.2	0.1	0.7	3.9	4%	2%	18%
126c	0.1	0.1	0.6	3.9	4%	1%	16%
130	0.1	0.1	0.5	3.8	4%	1%	14%
133a	0.1	0.0	0.5	3.8	3%	1%	14%
133b	0.1	0.0	0.5	3.8	3%	1%	13%
133c	0.1	0.0	0.5	3.8	3%	1%	13%
145	0.2	0.1	0.8	4.0	4%	2%	20%
146	0.2	0.1	0.8	4.0	4%	2%	21%
149a	0.2	0.1	1.3	4.3	4%	2%	30%
149b	0.2	0.1	1.4	4.3	4%	2%	31%
149c	0.2	0.1	1.4	4.3	4%	2%	32%
152	0.3	0.1	1.9	4.9	6%	3%	39%
153	0.3	0.1	2.0	4.9	5%	2%	40%
154	0.3	0.1	2.0	5.0	6%	3%	40%
155	0.4	0.2	2.1	5.2	7%	3%	40%
156a	0.4	0.2	1.9	5.0	7%	3%	38%
156b	0.3	0.1	1.8	4.9	6%	3%	38%
156c	0.2	0.1	1.7	4.7	5%	2%	36%
161	0.2	0.1	1.4	4.4	6%	2%	32%
166	0.4	0.1	0.9	4.2	11%	3%	21%

Receptor ID	Predicted impact			Total Impact (criterion 8µg/m³)	Percent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
168	1.7	0.3	0.6	5.4	32%	5%	11%
169	0.6	0.1	0.7	4.2	13%	3%	18%
171	0.8	0.1	0.5	4.3	19%	3%	13%
180	0.2	0.1	0.9	3.9	4%	1%	23%
184	0.2	0.1	1.1	4.0	5%	2%	26%
186a	0.1	0.0	1.1	4.0	3%	1%	28%
186b	0.1	0.0	1.2	4.0	3%	1%	29%
189	0.1	0.0	1.0	3.9	3%	1%	26%
192	0.1	0.0	1.2	4.1	3%	1%	30%
198	0.1	0.0	0.7	3.6	2%	1%	19%
199	0.1	0.0	0.7	3.6	2%	1%	18%
200	0.1	0.0	0.6	3.5	2%	1%	18%
201	0.1	0.0	0.6	3.5	2%	1%	17%
202	0.1	0.0	0.6	3.6	2%	1%	18%
203	0.1	0.0	0.6	3.6	2%	1%	18%
209a	0.1	0.0	0.5	3.5	3%	1%	15%
209b	0.1	0.0	0.5	3.5	3%	1%	14%
209c	0.1	0.0	0.5	3.4	4%	1%	13%
209d	0.2	0.0	0.4	3.4	5%	1%	12%
230	0.6	0.1	0.2	3.8	16%	3%	5%
252	0.2	0.5	0.1	3.7	4%	15%	2%
286	0.4	0.1	0.1	3.5	12%	2%	4%
288	0.4	0.1	0.2	3.6	13%	2%	5%
307	0.1	0.3	0.1	3.5	3%	7%	2%
308	0.4	0.0	0.2	3.5	11%	1%	6%
309	0.2	0.0	0.3	3.4	7%	1%	8%
313	0.1	0.3	0.1	3.5	4%	9%	2%
315	0.3	1.4	0.1	4.7	6%	29%	2%
316a	0.3	1.3	0.1	4.6	6%	29%	2%
316b	0.3	1.3	0.1	4.6	6%	28%	2%
317	0.3	1.4	0.1	4.7	6%	30%	2%
319	0.3	1.5	0.1	4.9	6%	32%	2%
321	0.3	1.3	0.1	4.6	6%	28%	2%
323	0.3	1.2	0.1	4.5	6%	26%	2%
326	0.3	1.1	0.1	4.4	6%	25%	2%
330	0.4	0.3	0.2	3.8	10%	8%	6%

Table D-3: Distribution of annual average PM_{10} impacts – Year 4

Receptor ID	Predicted impact			Total Impact (criterion 25µg/m³)	Percent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
3	1.6	3.6	1.2	17.8	9%	20%	7%
7	1.3	2.4	1.2	16.8	8%	14%	7%
8	1.3	2.4	1.2	16.8	8%	14%	7%
11	1.5	3.0	1.2	17.4	9%	17%	7%
12	1.4	2.7	1.2	17.0	8%	16%	7%
13	1.5	3.1	1.2	17.5	9%	18%	7%
14	1.5	3.1	1.2	17.5	9%	18%	7%
17	1.6	3.5	1.3	17.9	9%	20%	7%
22	2.0	4.3	1.5	18.1	11%	24%	8%
24	2.1	4.5	1.5	18.2	12%	25%	8%
25	2.1	4.2	1.6	18.0	12%	23%	9%
27a	2.4	3.8	1.8	17.6	13%	21%	10%
27b	2.3	3.9	1.7	17.7	13%	22%	10%
29	5.2	3.3	3.1	15.4	34%	21%	20%
30	2.5	2.3	2.1	17.8	14%	13%	12%
31	2.7	2.4	2.2	17.5	15%	14%	13%
39	3.7	2.5	2.9	15.6	24%	16%	19%
40	4.7	2.5	3.4	14.3	33%	18%	24%
42	5.4	2.5	3.8	13.9	39%	18%	27%
43	6.2	2.7	4.0	14.3	43%	19%	28%
44	6.4	2.7	4.0	14.5	44%	18%	28%
46	7.1	2.1	5.6	15.3	47%	14%	37%
47	5.5	2.5	3.9	13.8	40%	18%	28%
48	5.4	2.4	3.9	13.7	39%	18%	28%
49	5.3	2.4	3.9	13.7	39%	18%	28%
50	5.4	2.4	3.9	13.6	39%	18%	29%
51	5.4	2.3	4.0	13.5	40%	17%	29%
52	5.4	2.3	4.0	13.5	40%	17%	30%
53	5.4	2.3	4.1	13.4	40%	17%	30%
54	5.2	2.4	3.8	13.7	38%	17%	28%
55	5.2	2.4	3.9	13.6	38%	17%	29%
56	5.3	2.3	3.9	13.5	39%	17%	29%
57	5.3	2.3	4.0	13.5	39%	17%	30%
58	5.3	2.3	4.1	13.3	40%	17%	30%
59	5.3	2.3	4.1	13.3	40%	17%	31%
61	4.4	2.1	3.8	14.1	31%	15%	27%
62	4.5	2.0	4.0	14.0	32%	14%	29%
66	5.6	1.5	7.6	16.3	34%	9%	47%
76	2.3	1.3	2.7	17.7	13%	7%	15%
81	4.0	1.7	4.0	14.7	27%	12%	27%
83	4.2	1.7	4.2	14.6	29%	12%	29%
84	4.5	1.8	4.5	14.4	31%	12%	31%
85	4.3	1.7	4.4	14.7	29%	11%	30%
88a	0.6	0.1	1.4	12.3	5%	1%	11%
88b	0.6	0.1	1.4	12.4	5%	1%	11%
88c	0.6	0.1	1.4	12.4	5%	1%	11%
90	0.6	0.1	1.7	12.6	5%	1%	13%
92	0.9	0.2	1.9	13.0	7%	1%	15%

Receptor ID	Predicted impact			Total Impact (criterion 25µg/m³)	Percent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
93	0.7	0.2	1.8	12.8	5%	1%	14%
98	0.9	0.2	2.0	12.9	7%	1%	15%
102	1.1	0.2	2.7	12.7	8%	2%	21%
105	1.5	0.3	3.2	12.9	11%	2%	25%
106	2.2	0.4	4.3	13.9	16%	3%	31%
108	1.9	0.4	4.2	13.5	14%	3%	31%
109	2.1	0.4	4.5	13.8	15%	3%	33%
110	1.5	0.3	5.9	13.8	11%	2%	43%
112	2.8	0.5	5.8	15.1	19%	3%	39%
113	2.8	0.5	6.4	15.4	19%	3%	42%
114	3.3	0.5	7.6	16.5	20%	3%	46%
117	4.6	0.6	8.8	18.4	25%	3%	48%
118	6.0	0.8	14.2	23.6	25%	3%	60%
119	5.7	0.7	12.7	22.0	26%	3%	58%
120	1.9	0.4	9.9	17.2	11%	2%	57%
126a	0.9	0.2	5.0	13.0	7%	2%	39%
126b	0.9	0.2	4.7	12.8	7%	2%	37%
126c	0.8	0.2	4.3	12.6	7%	2%	34%
130	0.8	0.2	3.6	12.3	6%	2%	29%
133a	0.7	0.2	3.7	12.3	6%	1%	30%
133b	0.6	0.2	3.3	12.2	5%	1%	27%
133c	0.7	0.2	3.4	12.3	6%	1%	28%
145	0.8	0.2	5.4	13.0	6%	2%	41%
146	0.9	0.2	5.6	13.2	7%	2%	42%
149a	1.0	0.3	8.6	15.3	6%	2%	56%
149b	0.9	0.3	9.3	15.5	6%	2%	60%
149c	0.9	0.3	9.5	15.6	6%	2%	61%
152	1.8	0.5	17.3	21.8	8%	2%	79%
153	1.6	0.4	15.9	21.0	8%	2%	76%
154	1.9	0.5	17.6	22.2	8%	2%	79%
155	2.3	0.6	18.9	23.5	10%	3%	81%
156a	2.2	0.6	18.3	22.7	10%	3%	81%
156b	1.9	0.5	17.4	21.7	9%	2%	80%
156c	1.4	0.4	15.5	19.7	7%	2%	79%
161	1.4	0.4	14.1	18.3	8%	2%	77%
166	2.5	0.5	10.9	16.4	15%	3%	66%
168	8.1	1.1	8.9	20.4	40%	5%	44%
169	3.1	0.6	9.8	16.1	19%	3%	61%
171	4.1	0.5	7.5	15.5	27%	3%	49%
180	0.9	0.2	8.9	13.7	7%	1%	65%
184	1.0	0.2	10.5	15.0	7%	2%	70%
186a	0.7	0.2	10.1	14.4	5%	1%	70%
186b	0.7	0.2	10.3	14.6	5%	1%	70%
189	0.6	0.1	8.9	13.3	4%	1%	67%
192	0.6	0.2	9.8	14.3	4%	1%	68%
198	0.4	0.1	6.0	11.1	4%	1%	54%
199	0.4	0.1	5.8	11.1	4%	1%	52%
200	0.4	0.1	5.4	10.7	3%	1%	50%
201	0.4	0.1	5.1	10.7	4%	1%	48%

Receptor ID	Predicted impact			Total Impact (criterion 25µg/m³)	Percent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
202	0.4	0.1	5.7	11.1	4%	1%	52%
203	0.4	0.1	5.6	11.0	4%	1%	51%
209a	0.5	0.1	4.8	10.9	5%	1%	44%
209b	0.6	0.1	4.6	10.9	5%	1%	42%
209c	0.6	0.1	4.3	11.0	6%	1%	39%
209d	0.7	0.1	4.1	11.2	7%	1%	36%
230	2.8	0.6	2.3	12.7	22%	4%	18%
252	1.1	2.1	0.9	13.2	8%	16%	7%
286	1.9	0.4	1.9	12.7	15%	3%	15%
288	2.0	0.3	2.4	12.6	16%	3%	19%
307	0.7	1.0	0.6	15.3	4%	6%	4%
308	1.7	0.2	2.7	12.5	14%	2%	22%
309	1.1	0.1	3.2	12.1	9%	1%	26%
313	0.8	1.5	0.8	15.5	5%	9%	5%
315	1.7	6.2	1.1	19.6	9%	31%	6%
316a	1.7	5.9	1.1	19.1	9%	31%	6%
316b	1.7	5.8	1.1	19.0	9%	31%	6%
317	1.8	6.2	1.1	19.7	9%	32%	6%
319	2.0	6.8	1.2	20.3	10%	33%	6%
321	1.8	5.9	1.1	19.1	9%	31%	6%
323	1.7	5.3	1.1	18.7	9%	28%	6%
326	1.7	5.1	1.2	18.6	9%	28%	6%
330	2.4	1.3	2.8	17.7	14%	7%	16%

Table D-4: Distribution of annual average PM_{10} impacts – Year 8

Receptor ID	Predicted impact			Total Impact (criterion 25µg/m³)	Precent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
3	1.4	4.1	1.1	17.6	8%	23%	6%
7	1.1	2.7	1.1	16.4	7%	17%	7%
8	1.2	2.6	1.1	16.4	7%	16%	7%
11	1.3	3.4	1.1	17.2	8%	20%	7%
12	1.2	3.0	1.1	16.7	7%	18%	7%
13	1.3	3.5	1.1	17.2	8%	20%	7%
14	1.3	3.5	1.1	17.3	8%	20%	7%
17	1.4	4.0	1.2	17.7	8%	23%	7%
22	1.7	4.9	1.3	18.0	9%	27%	7%
24	1.8	5.1	1.3	18.0	10%	28%	7%
25	1.8	4.8	1.4	17.8	10%	27%	8%
27a	2.0	4.3	1.6	17.3	12%	25%	9%
27b	2.0	4.4	1.5	17.4	11%	25%	9%
29	4.3	4.2	2.7	14.7	29%	29%	18%
30	2.2	2.7	1.9	17.2	13%	16%	11%
31	2.3	2.8	2.0	16.9	14%	17%	12%
39	3.2	3.1	2.5	15.0	21%	20%	17%
40	4.0	3.2	2.9	13.7	30%	23%	21%
42	4.7	3.2	3.2	13.1	36%	24%	25%

Receptor ID	Predicted impact			Total Impact (criterion 25µg/m³)	Precent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
43	5.3	3.4	3.3	13.5	39%	25%	25%
44	5.5	3.5	3.4	13.7	40%	25%	25%
46	6.5	2.7	4.6	14.2	46%	19%	32%
47	4.8	3.1	3.3	13.0	37%	24%	25%
48	4.7	3.1	3.3	13.0	36%	24%	25%
49	4.7	3.1	3.3	13.0	36%	24%	25%
50	4.7	3.1	3.3	12.9	37%	24%	26%
51	4.8	3.0	3.4	12.8	37%	23%	26%
52	4.8	3.0	3.4	12.7	38%	23%	26%
53	4.8	2.9	3.4	12.7	38%	23%	27%
54	4.6	3.0	3.2	13.0	35%	23%	25%
55	4.6	3.0	3.3	12.9	36%	23%	25%
56	4.7	3.0	3.3	12.8	36%	23%	26%
57	4.7	2.9	3.3	12.7	37%	23%	26%
58	4.7	2.9	3.4	12.6	37%	23%	27%
59	4.7	2.9	3.4	12.6	38%	23%	27%
61	4.0	2.6	3.2	13.4	30%	19%	24%
62	4.1	2.5	3.3	13.2	31%	19%	25%
66	5.2	1.8	5.9	14.7	35%	13%	40%
76	2.2	1.5	2.4	16.8	13%	9%	14%
81	3.7	2.1	3.3	14.0	27%	15%	24%
83	3.9	2.2	3.5	13.8	28%	16%	25%
84	4.2	2.2	3.7	13.6	31%	16%	27%
85	4.0	2.1	3.6	13.9	28%	15%	26%
88a	0.7	0.2	1.8	12.7	5%	1%	14%
88b	0.7	0.2	1.8	12.8	5%	1%	14%
88c	0.7	0.2	1.8	12.8	5%	1%	14%
90	0.7	0.2	2.3	13.1	5%	1%	18%
92	1.0	0.2	2.7	13.7	8%	2%	20%
93	0.8	0.2	2.5	13.4	6%	2%	19%
98	1.0	0.2	2.8	13.6	7%	2%	21%
102	1.2	0.3	4.0	13.8	9%	2%	29%
105	1.7	0.4	4.9	14.5	12%	3%	34%
106	2.6	0.5	6.7	16.2	16%	3%	42%
108	2.2	0.5	6.6	15.7	14%	3%	42%
109	2.4	0.5	7.1	16.1	15%	3%	44%
110	1.6	0.4	9.0	16.4	10%	3%	55%
112	3.3	0.6	8.9	18.1	18%	3%	49%
113	3.3	0.6	9.8	18.6	18%	3%	53%
114	3.9	0.7	11.4	20.3	19%	4%	56%
117	5.1	0.8	13.0	22.4	23%	4%	58%
118	6.9	1.0	21.3	**30.4**	23%	3%	70%
119	5.4	0.9	18.2	**26.3**	21%	4%	69%
120	1.9	0.6	15.2	21.7	9%	3%	70%
126a	0.9	0.3	7.8	15.2	6%	2%	51%
126b	0.9	0.3	7.3	14.9	6%	2%	49%
126c	0.8	0.3	6.7	14.5	6%	2%	46%
130	0.8	0.3	5.6	14.0	6%	2%	40%
133a	0.7	0.2	5.8	14.0	5%	2%	41%

Receptor ID	Predicted impact			Total Impact (criterion 25µg/m³)	Precent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
133b	0.7	0.2	5.1	13.6	5%	2%	37%
133c	0.7	0.2	5.3	13.8	5%	2%	39%
145	0.9	0.3	8.3	15.4	6%	2%	54%
146	0.9	0.3	8.6	15.7	6%	2%	55%
149a	1.0	0.3	13.1	19.0	5%	2%	69%
149b	0.9	0.3	13.8	19.2	5%	2%	72%
149c	0.9	0.3	14.0	19.2	5%	2%	73%
152	1.8	0.7	20.2	24.2	7%	3%	83%
153	1.5	0.6	20.4	24.7	6%	2%	83%
154	1.9	0.7	21.0	**25.1**	7%	3%	84%
155	2.3	0.9	21.7	**25.9**	9%	3%	84%
156a	2.1	0.8	20.3	24.4	9%	3%	83%
156b	1.8	0.7	19.5	23.5	8%	3%	83%
156c	1.4	0.5	17.5	21.4	7%	3%	82%
161	1.4	0.5	15.1	19.2	8%	3%	79%
166	2.8	0.7	9.6	15.8	17%	4%	61%
168	11.0	1.4	6.9	21.9	50%	6%	31%
169	3.5	0.7	8.2	15.4	23%	5%	53%
171	5.3	0.6	6.1	15.6	34%	4%	39%
180	1.0	0.3	9.4	14.2	7%	2%	66%
184	1.1	0.3	11.2	15.6	7%	2%	72%
186a	0.7	0.2	11.4	15.5	5%	1%	73%
186b	0.7	0.2	11.8	15.9	4%	1%	74%
189	0.6	0.2	10.4	14.6	4%	1%	71%
192	0.6	0.2	12.3	16.4	4%	1%	75%
198	0.5	0.1	6.8	11.8	4%	1%	58%
199	0.5	0.1	6.5	11.7	4%	1%	55%
200	0.4	0.1	6.1	11.3	4%	1%	54%
201	0.5	0.1	5.7	11.2	4%	1%	51%
202	0.5	0.1	6.4	11.6	4%	1%	55%
203	0.5	0.1	6.2	11.6	4%	1%	54%
209a	0.7	0.1	5.2	11.3	6%	1%	46%
209b	0.7	0.1	4.9	11.3	6%	1%	43%
209c	0.8	0.1	4.5	11.3	7%	1%	40%
209d	1.0	0.1	4.2	11.5	8%	1%	37%
230	3.9	0.7	1.9	13.6	28%	5%	14%
252	0.9	2.9	0.8	13.6	6%	22%	6%
286	2.5	0.5	1.5	13.1	19%	4%	12%
288	2.8	0.4	1.9	13.0	21%	3%	15%
307	0.6	1.3	0.6	14.8	4%	9%	4%
308	2.3	0.3	2.3	12.8	18%	2%	18%
309	1.5	0.1	3.0	12.3	12%	1%	24%
313	0.7	1.8	0.7	15.1	5%	12%	5%
315	1.4	7.6	1.0	20.3	7%	37%	5%
316a	1.4	7.2	1.0	19.7	7%	37%	5%
316b	1.4	7.0	1.0	19.6	7%	36%	5%
317	1.5	7.7	1.0	20.4	7%	38%	5%
319	1.6	8.4	1.1	21.1	8%	40%	5%
321	1.5	7.1	1.1	19.7	8%	36%	5%

Receptor ID	Predicted impact			Total Impact (criterion 25µg/m³)	Precent contribution		
	Bengalla	Mount Pleasant	Mt Arthur		Bengalla	Mount Pleasant	Mt Arthur
323	1.4	6.4	1.0	19.1	8%	33%	5%
326	1.4	6.1	1.1	18.9	8%	32%	6%
330	2.3	1.5	2.4	16.8	13%	9%	14%