Air Dispersion Modeling and Impacts Report
SML 173

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Glossary of Terms

AAQS	Ambient Air Quality Standards
AERMAP	AMS/EPA Regulatory Model (AERMOD) Terrain Preprocessor
AERMET	AMS/EPA Regulatory Model (AERMOD) Meteorological Preprocessor
AERMOD	AMS/EPA Regulatory Model
Background	Ambient pollutant concentrations due to natural sources, nearby sources other than the one(s) currently under consideration and unidentified sources.
BPIP-PRIME	Building Profile Input Program with PRIME Algorithm
CO	Carbon Monoxide
LULC	Land Use/Land Classification
Model	A quantitative or mathematical representation or simulation that attempts to describe the characteristics or relationships of physical events.
NEPA	National Environment and Planning Agency
NO_2	Nitrogen Dioxide
PM-10	Particulate Matter with and Aerodynamic Diameter <10 mm
Receptor	A location at which ambient air Quality is measured or estimated.
Significant Impact	The impacts of sources on ambient air quality are deemed significant when the increment in the predicted average concentration of SO_2, TSP, PM-10, or NO_2 is greater than an annual average of 20 mg/m^3 or a 24-hour average of 80 mg/m^3 and when such predictions are made using an approved air dispersion model.
SML	Special Mining Lease
SO_2	Sulphur Dioxide
TSP	Total Suspended Particulate
UTM	The Universal Transverse Mercator system is a widely used plane coordinate system for the earth.

1.0 INTRODUCTION

Noranda Jamaica Bauxite Partners II (Noranda) is proposing to expand its mining lease into an area identified as SML 173. Noranda is evaluating the impacts to the ambient air resulting from proposed mining operations in SML 173. Modeling was conducted per the procedures specified in the Natural Resources Conservation Authority Ambient Air Quality Guideline Document (National Environment and Planning Agency, November 2006).

2.0 COMPUTER MODEL

The most recent release of AERMOD (19191) was used to determine the maximum concentration of nitrogen dioxide (NO_2), carbon monoxide (CO), sulphur dioxide (SO_2), particular matter with an aerodynamic diameter of less than 10 microns (PM-10), and total suspended particulate (TSP) at each receptor location.

3.0 METEOROLOGICAL DATA

The AERMOD modeling used on-site surface meteorological data from a Noranda weather station located at Water Valley in conjunction with meteorological data consisting of surface observations from Montego Bay and upper air data from Kingston,

as recommended by the NEPA Modeling Guidelines. The modeling used meteorological data processed with AERMET using surface characteristics determined using a Land Use/Land Classification (LULC) analysis for the surrounding area for input to AERMET (19191). The LULC Analysis has been previously provided to NEPA in the modeling report submitted in 2013 and 2019. The temporal resolution of surface characteristic outputs were defined as annual. The modeling used meteorological data from Calendar Years 2011 and 2016 through 2019. Data from 2012 through 2015 contains significant gaps in the upper air data, and 2011 was the first year prior to 2016 with usable data.

4.0 CONTROL PARAMETERS

The AERMOD model was run using DEFAULT options. Analysis of the LULC indicated that use of the rural regime was appropriate.

5.0 EMISSION SOURCES

Emissions from various source types were modeled. The source types included controlled transfer loading operations, combustion sources, and fugitive emissions from storage piles and roads. Emissions from controlled transfer loading operations were typically modeled as point sources. Emissions from fugitive emissions were modeled as area sources. Pseudo point sources (e.g., sources with a horizontal discharge) were

modeled with a 0.001 meter/sec vertical velocity, and a diameter of one meter. The actual stack height was used for pseudo point sources.

The Noranda Discovery Bay bauxite drying facility is at its nearest approximately 7.6 kilometers to the north of SML 173. Given this distance and the results of ambient air modeling for the drying facility submitted with the facility's licence renewal application in 2019, emissions from the drying plant would not be expected to significantly impact ambient concentrations in SML 173. However, Noranda desires to provide as complete a characterization of its impacts in SML 173 and has elected to include all emissions associated with Noranda operations in the modeling to ensure as complete an evaluation as possible.

The mining locations in SML 173 are temporal. Therefore, three scenarios were modeled based on projected mining activities – 2020-2024, 2025-2029, and 2030-2033. The mining locations are shown in Figure 1 in the appendix, and locations modeled are shown on the figures for each period.

Complete source inventories, including physical characteristics, stack parameters and emission rates for all emission sources included in the modeling are provided as Tables 1-0, 2-0, and 3-0 at the beginning of each appendix.

6.0 EMISSIONS

Tables 1-0, 2-0, and 3-0 at the beginning of each appendix contain the emission rates for all sources at the facility. In practically all situations, in order to over predict rather than run the risk of under predicting actual emissions - worst case emissions were assumed. As all sources do not operate simultaneously in some cases (e.g., only one boiler is operated at a time), the worst case operating scenario was modeled. The annual emission rates in g/s were used for runs for the annual averaging period and for sources operating intermittently. Maximum hourly rates in g/s were used for averaging periods less than annual.

7.0 BUILDING DOWNWASH

Several structures have been identified at the facility as capable of causing downwash effects. These structures and the various source points were used in the most recent release of the Building Profile Input Program (BPIP), including the PRIME algorithm (04274), to calculate the building characteristics for the AERMOD model. There are no sources having stacks in excess of 65 meters in height. A plot plan of the facility showing the location of these structures was previously provided to NEPA in the modeling report submitted in 2013 and 2019. Details of building lengths, widths, and heights are contained in the BPIP-PRIME input and output files provided with that report.

It is assumed that, due to the remote nature of the ore body sites, no structures capable of causing downwash would affect any operations at any mining site.

8.0 TERRAIN

AERMAP (18081) was used to calculate the base elevation for all modeled sources, buildings and receptors.

9.0 RECEPTOR LOCATIONS

A receptor grid with a 100-meter spacing was used in the areas being evaluated.

10.0 MODELING RESULTS

The ambient air quality standards (AAQS) for Jamaica and default background concentrations for pollutants are specified in the Natural Resources Conservation Authority Ambient Air Quality Guideline Document (National Environment and Planning Agency, November 2006). The ambient air quality standards (AAQS) and default background concentrations are provided in Table 1 in the appendix.

10.1 2020-2024 Mining Locations

Tables 1-1 through 1-50 and Figures 1-1 through 1-50 in Appendix 1 show the locations of the 10 highest model concentrations for all pollutants. In general, modeled concentrations were largely influenced by operations at the Tobolski and Water Valley rail

operational sites, which are where most sources are located. No exceedances of the ambient air standards were modeled for any averaging period for NO_2, CO, or SO_2, with all concentrations of NO_2 and CO outside of ore body mining locations being less than 75% of the respective ambient air standards. Concentrations in excess of 75% of the ambient air standard for the 1-hour averaging period for SO_2 were modeled. Concentrations at these receptors are driven by existing operations at the Tobolski and Water Valley rail operations as demonstrated by the consistent concentrations found at the receptors during the three operational scenarios modeled. For example, at the receptor located at 2456000 mE and 2032000 mN, the concentration modeled in 2011 for the 2020-2025 operating scenario was 590.74 mg/m^3. For the 2025-2029 operating scenario, an identical modeled concentration of 590.74 mg/m^3 was modeled for the same receptor and same year. For the 2030-2033 operating scenario, a modeled concentration of 590.79 mg/m^3 was modeled for the same receptor and same year, representing less than a 0.01% difference. This indicates that the location of the mining sites does not significantly affect the concentrations at these receptors. The maximum concentration modeled at any receptor in the mining areas for the same year and operating scenarios was approximately 250 mg/m^3, with the maximum contribution from the mining operations being approximately 200 mg/m^3 in an ore body mining location itself, which is well below the ambient air standard of 700 mg/m^3.

When using default background concentrations, modeling for PM-10 and TSP produced a number of receptors with concentrations in excess of their respective ambient air standards (see Tables 1-31 through 1-50 and Figures 1-31 through 1-50). However, all of these receptors are located in ore body mining locations, areas which would not be considered ambient air. Analysis of the areas show that these concentrations are due primarily to the proximity of the emission sources at the site, and concentrations drop off well below the ambient air standards within less than 100 meters in any direction. The table below provides an example and shows that the impacts at the ore body mining locations are extremely localized, and impacts outside of these locations are well less than 10% of the concentration in the ore body mining site and well below the ambient air standard. Impacts elsewhere in SML 173 are well below the ambient air standards, and modeled concentrations are generally consistent with ambient air monitoring data collected by Noranda elsewhere in the existing operating site.

TSP and PM-10 Concentrations in Areas Surrounding Ore Body Mining Sites
2020-2024 Operating Scenario

Year	UTM		Pollutant	Averaging Period	Modeled Concentration mg/m^3	Maximum Concentration at 100 m Distance mg/m^3	% of AAQS
	mE	mN					
2011	242900	2028900	TSP	Annual	277.00	17.01	61.7
				24-hr	956.33	25.15	26.1
			PM-10	Annual	110.56	5.39	50.8
				24-hr	507.08	18.08	18.1
2016	242900	2028900	TSP	Annual	295.30	15.72	59.5
				24-hr	1238.41	33.6	31.8
			PM-10	Annual	118.33	5.15	50.3
				24-hr	655.03	20.67	19.8
2017	242900	2028900	TSP	Annual	298.81	17.49	62.5
				24-hr	1328.40	28.10	28.1
			PM-10	Annual	119.50	5.59	51.2
				24-hr	702.97	17.34	17.6
2018	242900	2028900	TSP	Annual	286.57	15.31	58.9
				24-hr	948.68	33.73	31.8
			PM-10	Annual	115.09	5.12	50.2
				24-hr	501.47	18.98	18.7
2019	242900	2028900	TSP	Annual	279.83	17.21	62.0
				24-hr	1649.20	47.21	40.8
			PM-10	Annual	112.26	5.73	51.5
				24-hr	872.59	28.77	25.2

10.2 2025-2029 Mining Locations

Tables 2-1 through 2-50 and Figures 2-1 through 2-50 in Appendix 2 show the locations of the 10 highest model concentrations for all pollutants. In general, modeled concentrations were largely influenced by operations at the Tobolski and Water Valley rail operational sites, which are where most sources are located. No exceedances of the

ambient air standards were modeled for any averaging period for CO or SO_2, with all concentrations of NO_2 and CO outside of ore body mining locations being less than 75% of the respective ambient air standards. Concentrations in excess of 75% of the ambient air standard for the 1-hour averaging period for SO_2 were modeled. As discussed in the 2020-2024 operating scenario section, these concentrations are driven by existing operations, and proposed operations in SML 173 do not have a significant impact on these concentrations.

Modeling for NO_2 in 2018 and 2019 produced a single receptor with a concentration in excess of the ambient air standard. (Tables 2-4 through 2-5 and Figures 2-4 through 2-5). However, this receptor is located in an ore body mining location, an area which would not be considered ambient air. Analysis of the area shows that these concentrations are due primarily to the proximity of the emission sources at the site, and concentrations drop off well below the ambient air standards within less than 100 meters in any direction. The table below provides an example and shows that the impacts at the ore body mining locations are extremely localized, and impacts outside of these locations are well less than 30% of the concentration in the ore body mining site and well below the ambient air standard. Impacts elsewhere in SML 173 outside of other ore body mining locations are well below the ambient air standards. Any impacts would be small and generally short-lived due to the temporal nature of the mining operations.

NO_2 Concentrations in Areas Surrounding Ore Body Mining Sites
2025-2029 Operating Scenario

Year	UTM		Pollutant	Averaging Period	Modeled Concentration mg/m^3	Maximum Concentration at 100 m Distance mg/m^3	% of AAQS
	mE	mN					
2018	242500	2031900	NO_2	Annual	102.84	31.70	31.70
2019	242500	2031900	NO_2	Annual	124.05	33.77	33.77

When using default background concentrations, modeling for PM-10 and TSP produced a number of receptors with concentrations in excess of their respective ambient air standards (see Tables 2-31 through 2-50 and Figures 2-31 through 1-50). However, all of these receptors are located in ore body mining locations, areas which would not be considered ambient air. Analysis of the areas show that these concentrations are due solely to the proximity of the emission sources at the site, and concentrations drop off well below the ambient air standards within less than 100 meters in any direction. Impacts elsewhere in SML 173 are well below the ambient air standards, and modeled concentrations are generally consistent with ambient air monitoring data collected by Noranda elsewhere in the existing operating site. The table below provides an example and shows that the impacts at the ore body mining locations are extremely localized, and impacts outside of these locations are typically less than 10% of the concentration in the ore body mining site and well below the ambient air standard. Impacts elsewhere in SML 173 are well below the ambient air standards, and modeled concentrations are generally

consistent with ambient air monitoring data collected by Noranda elsewhere in the existing operating site.

TSP and PM-10 Concentrations in Areas Surrounding Ore Body Mining Sites
2025-2029 Operating Scenario

Year	UTM		Pollutant	Averaging Period	Modeled Concentration mg/m ^{3}	Maximum Concentration at 100 m Distance mg/m ^{3}	% of AAQS
	mE	mN					
2011	243300	2024000	TSP	Annual	278.45	14.44	57.4
				24-hr	905.13	31.60	30.4
			PM-10	Annual	112.1	4.14	48.3
				24-hr	477.99	31.20	26.8
2016	243300	2024000	TSP	Annual	229.41	16.27	60.5
				24-hr	803.05	45.31	39.5
			PM-10	Annual	92.02	4.63	49.3
				24-hr	424.30	45.00	36.0
2017	243300	2024000	TSP	Annual	243.59	16.84	61.4
				24-hr	1058.15	45.03	39.4
			PM-10	Annual	97.75	4.74	49.5
				24-hr	558.45	44.65	35.8
2018	243300	2024000	TSP	Annual	215.82	16.72	61.2
				24-hr	675.88	59.08	48.7
			PM-10	Annual	86.81	4.70	49.4
				24-hr	357.08	58.91	45.3
2019	243300	2024000	TSP	Annual	224.88	14.94	58.2
				24-hr	1125.57	53.39	44.9
			PM-10	Annual	90.59	4.36	28.7
				24-hr	594.19	53.19	41.5

10.3 2030-2033 Mining Locations

Tables 3-1 through 3-50 and Figures 3-1 through 3-50 in Appendix 3 show the locations of the 10 highest model concentrations for all pollutants. In general, modeled

concentrations were largely influenced by operations at the Tobolski and Water Valley rail operational sites, which are where most sources are located. No exceedances of the ambient air standards were modeled for any averaging period for NO_2, CO, or SO_2, with all concentrations of NO_2 and CO outside of ore body mining locations being less than 75% of the respective ambient air standards. Concentrations in excess of 75% of the ambient air standard for the 1-hour averaging period for SO_2 were modeled. As discussed in the 2020-2024 operating scenario section, these concentrations are driven by existing operations, and proposed operations in SML 173 do not have a significant impact on these concentrations.

When using default background concentrations, modeling for PM-10 in 2016, 2017, and 2019 for the 24-hour averaging period produced a single receptor with a concentration in excess of the ambient air standard. (Tables 3-37 through 2-38 and 2-40 and Figures 3-37 through 3-38 and 2-40). However, this receptor is located in an ore body mining location, an area which would not be considered ambient air. Analysis of the area shows that these concentrations are due primarily to the proximity of the emission sources at the site, and concentrations drop off well below the ambient air standards within less than 100 meters in any direction. The table below provides an example and shows that the impacts at the ore body mining locations are extremely localized, and impacts outside of these locations are less than 15% of the concentration in the ore body mining site and well below the ambient air standard. Impacts elsewhere in SML 173

outside of other ore body mining locations are well below the ambient air standards. Any impacts would be small and generally short-lived due to the temporal nature of the mining operations. There are fewer receptors at mining sites showed potential exceedances during this time period, which is expected due to the greater distance between the mining sites and rail operations and lower influence of the rail operations on the modeled concentration at the mine sites.

PM-10 Concentrations in Areas Surrounding Ore Body Mining Sites
2030-2033 Operating Scenario

Year	UTM		Pollutant	Averaging Period	Modeled Concentration mg/m^3	Maximum Concentration at 100 m Distance mg/m^3	% of AAQS
	mE	mN					
2016	235600	2030300	PM-10	24-hr	160.84	18.04	18.0
2017	235600	2030300	PM-10	24-hr	149.18	13.68	15.1
2019	235600	2030300	PM-10	24-hr	190.43	25.99	23.3

When using default background concentrations, modeling for TSP produced a number of receptors with concentrations in excess of their respective ambient air standards (see Tables 3-41 through 3-50 and Figures 3-41 through 3-50). However, all of these receptors are located in ore body mining locations, areas which would not be considered ambient air. Analysis of the areas show that these concentrations are due primarily to the proximity of the emission sources at the site, and concentrations drop off well below the ambient air standards within less than 100 meters in any direction. The table below provides an example and shows that the impacts at the ore body mining

locations are extremely localized, and impacts outside of these locations are well less than 10% of the concentration in the ore body mining site and well below the ambient air standard. Impacts elsewhere in SML 173 are well below the ambient air standards, and modeled concentrations are generally consistent with ambient air monitoring data collected by Noranda elsewhere in the existing operating site.

TSP Concentrations in Areas Surround Ore Body Mining Sites
2030-2033 Operating Scenario

Year	UTM		Pollutant	Averaging Period	Modeled Concentration mg/m^3	Maximum Concentration at 100 m Distance mg/m^3	% of AAQS
	mE	mN					
2011	235600	2030300	TSP	Annual	58.65	8.37	47.3
				24-hr	216.56	24.31	32.2
2016	235600	2030300	TSP	Annual	62.94	10.20	50.3
				24-hr	304.35	32.05	30.7
2017	235600	2030300	TSP	Annual	63.98	10.62	51.0
				24-hr	282.15	24.15	25.4
2018	235600	2030300	TSP	Annual	61.06	10.69	51.2
				24-hr	226.68	35.52	33.0
2019	239900	2028900	TSP	Annual	62.56	12.80	54.7
	235600	2030300		24-hr	360.66	46.98	40.7

11.00 SUMMARY

No receptors in ambient air showed concentrations in excess of the Jamaican Ambient Air Quality Standards (AAQS) for NO_2, CO, SO_2, PM-10, and TSP in the proposed mining area identified as SML 173. As demonstrated for SO_2, impacts in the area for NO_2,

CO, and SO_2 are primarily influenced by existing operations at the Water Valley and Tobolski rail operations, and with the exception of areas in the ore body mining sites, concentrations would generally change less than 1% from those currently existing. While concentrations of TSP and PM-10 are influenced by the existing operations at the Water Valley and Tobolski rail operations, concentrations at the ore body mining sites produce localized high concentrations that decline by at least 80% within 100 meters, and the additional activities in SML 173 would result in ambient concentrations at a maximum of 50-60% of the ambient air standards, including background concentrations, at locations outside of the ore body mining sites.

Appendix

TABLE 1

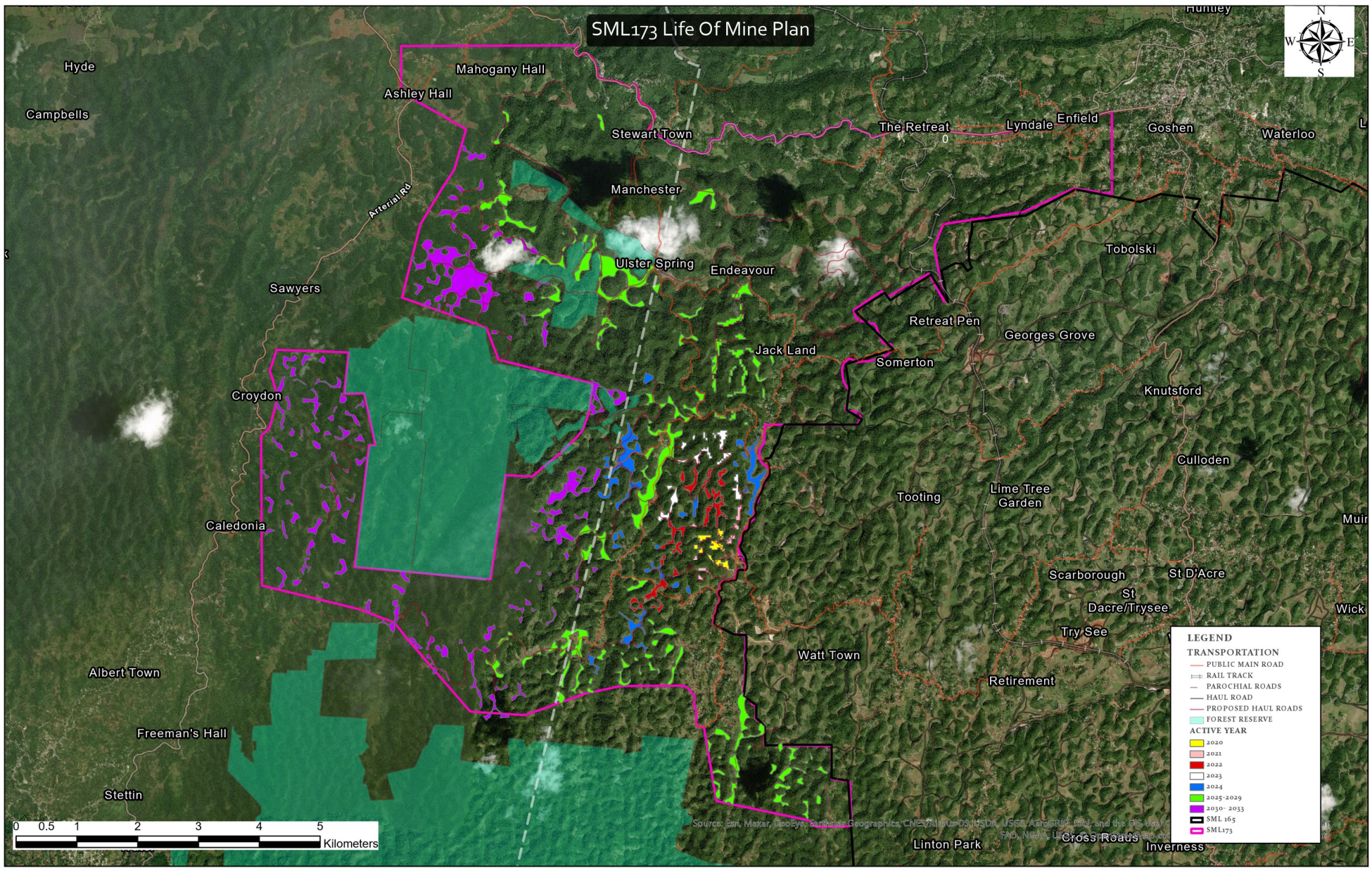
JAMAICA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Standard (Maximum Concentration) mg/m^3	Default Background Concentration mg/m^3
Total Suspended Particulate Matter (TSP)	Annual 24-hr	60 150	20 14
PM-10	Annual 24-hr	50 150	20 9
Sulphur Dioxide (SO_2)	Annual 24-hr 1-hr	80 365 700	0 0 0
Carbon Monoxide (CO)	8-hr 1-hr	10,000 40,000	0 0
Nitrogen Dioxide (NO_2)	Annual	100	0

TABLE 2

SIGNIFICANT AIR QUALITY IMPACT LEVELS

Pollutant	Averaging Time	Significant Impact Level mg/m^3
Nitrogen Dioxide (NO_2)	Annual	20
PM-10	Annual 24-hr	20 80
Sulphur Dioxide (SO_2)	Annual 24-hr	20 80


SML173 Life Of Mine Plan
Hyde
Campbells
Mahogany Hall
Ashley Hall
Stewart Town
Manchester
Arterial Rd
Sawyers
Ulster Spring
Endeavour
Jack Land
Croydon
Caledonia
Albert Town
Freeman's Hall
Stettin
The Retreat
Lyndale
Enfield
Goshen
Waterloo
Tobolski
Retreat Pen
Georges Grove
Somerton
Knutsford
Culloden
Tooting
Lime Tree Garden
Scarborough
St D'Acre
St Dacre/Trysee
Try See
Watt Town
Retirement
Linton Park
Cross Roads
Inverness
Wick
0 0.5 1 2 3 4 5
Kilometers
LEGEND
TRANSPORTATION
PUBLIC MAIN ROAD
RAIL TRACK
PAROCHIAL ROADS
HAUL ROAD
PROPOSED HAUL ROADS
FOREST RESERVE
ACTIVE YEAR
2020
2021
2022
2023
2024
2025-2029
2030- 2033
SML 165
SML173

Appendix 1
2020-2024 Mining Locations

Table 1-0
2020-2024 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Drying Plant Point Sources											
DE-01	Diesel Generator #641	244444.9	2042691.5		5.1816		0.305		23.010	449	722
DE-03	Diesel Generator #643	244434.8	2042695.6		5.1816		0.305		23.010	449	722
DE-06	Diesel Generator #6	244457.2	2042711		7.9248		0.305		70.570	343	616
DE-07	Diesel Generator #7	244452.5	2042699.4		7.9248		0.305		70.570	343	616
DE-08	Emergency Diesel Generator	244430.2	2042722.1		7.6200		0.152		25.060	399	672
DE-10	Tunnel 1 Bulldozer	243927.6	2042930.5		18.2880		0.203		12.981	474	747
DE-11	Tunnel 2 Bulldozer	243982.3	2042927.6		18.2880		0.203		12.981	474	747
DE-12	Diesel Generator #8	244462.2	2042710	27	8.2296	3	0.914	25.73	7.841	343	616
DE-13	Diesel Generator #9	244461.5	2042697.4	27	8.2296	3	0.914	25.73	7.841	343	616
D-01a	5010 Dryer	243962.3	2043068.3	73.63	22.4409	9.03	2.751	16.65	5.073	149	422
D-01b	5020 Dryer	243977.7	2043062.4	73.88	22.5171	9.03	2.751	31.89	9.719	149	422
D-01c	5030 Dryer	243994.5	2043056	75.83	23.1140	6.77	2.064	29.59	9.020	149	422
D-01d	5040 Dryer	244096.1	2043014.7	72.63	22.1361	12.77	3.891	16.65	5.073	149	422
C-12	Dryer #1/2/3 Belt to Dryer Belt Transfer	243957.3	2043031.8		6.0960	1.31644	0.401	146.94	44.787	60	333
C-13	Dryer #4 Belt to Dryer Belt Transfer	244059.2	2043001.3		5.4864	1	0.305	254.65	77.617	60	333
C-14a	Dryer Belt to Dome Storage Dust Collector	245134.6	2042600.6		1.0000	1.50451	0.459	234.38	71.438	60	333
C-14b	Dryer Belt to Dome Storage Dust Collector	245146.2	2042678		1.0000	1.50451	0.459	281.25	85.725	60	333
C-14c	Dryer Belt to Dome Storage Dust Collector	245028.2	2042677.7	36	10.9728	1.50451	0.459	337.50	102.870	60	333
C-15	Dome Dust Collecter	245124	2042735.5	8	2.4384	1.50451	0.459	178.13	54.293	60	333
C-17	Dedust Addition Dust Collector	245120.2	2042787.6		6.4008	1.12838	0.344	166.67	50.800	38	311
C-16	Dock Belt Dust Collector	245101.8	2042772.8		4.8768		0.688		24.130	38	311
C-18	Gantry Dust Collector	245370.7	2042929.9		18.2880		0.457		54.620	38	311
C-28A	Excavator Engine No. 1	243969.9	2043093.9	10	3.0480		0.203		12.981	474	747
C-28C	Screener Engine No. 1	243969.9	2043093.9	8	2.4384	0.58	0.178	153.50	46.787	500	773
C-28F	Excavator Engine No. 2	243969.9	2043093.9	10	3.0480		0.203		12.981	474	747
C-28H	Screener Engine No. 1	243969.9	2043093.9	8	2.4384	0.58	0.178	153.50	46.787	500	773
C-29A	Crusher System Excavator Engine	244343	2043026	10	3.0480	0.67	0.203		12.981		747
C-29C	Crusher System Generator	244239	2043030	10	3.0480	0.67	0.203		12.981		747

Table 1-0
2020-2024 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s (-m^2)	PM g/s	PM g/s (-m^2)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s (-m^2)	PM-10 g/s	PM-10 g/s (-m^2)
Drying Plant Po													
DE-01						5.475	0.17313546	0.17313546	-	5.475	0.17313546	0.17313546	-
DE-03						5.475	0.17313546	0.17313546	-	5.475	0.17313546	0.17313546	-
DE-06						7.112	0.22490852	0.22490852	-	7.112	0.22490852	0.22490852	-
DE-07						7.112	0.22490852	0.22490852	-	7.112	0.22490852	0.22490852	-
DE-08						0.200	0.00631143	0.11087927	-	0.200	0.00631143	0.11087927	-
DE-10						1.844	0.05829982	0.05829982	-	1.844	0.05829982	0.05829982	-
DE-11						1.844	0.05829982	0.05829982	-	1.844	0.05829982	0.05829982	-
DE-12						10.041	0.31751792	0.31751792	-	10.041	0.31751792	0.31751792	-
DE-13						8.925	0.28223815	0.28223815	-	8.925	0.28223815	0.28223815	-
D-01a						73.762	2.33257232	3.77001080	-	44.512	1.40759509	2.27501080	-
D-01b						73.762	2.33257232	7.53998395	-	44.512	1.40759509	4.54998395	-
D-01c						73.762	2.33257232	3.77001080	-	44.512	1.40759509	2.27510870	-
D-01d						73.762	2.33257232	6.22868894	-	44.512	1.40759509	3.75868894	-
C-12						1.023	0.03235409	0.05824104	-	0.171	0.00541459	0.00974688	-
C-13						2.031	0.06423080	0.07952142	-	0.171	0.00541459	0.01330824	-
C-14a						0.336	0.01062557	0.02426710	-	0.056	0.00177823	0.00406120	-
C-14b						0.336	0.01062557	0.02426710	-	0.056	0.00177823	0.00406120	-
C-14c						0.336	0.01062557	0.02426710	-	0.056	0.00177823	0.00406120	-
C-15						1.008	0.03187671	0.07280130	-	0.169	0.00533470	0.01218360	-
C-17						2.508	0.07929730	0.18110235	-	0.310	0.00979594	0.02237235	-
C-16						1.008	0.03187671	0.07280130	-	0.169	0.00533470	0.01218360	-
C-18						2.508	0.07929730	0.18110235	-	0.310	0.00979594	0.02237235	-
C-28A						0.830	0.02625557	0.02625557	-	0.830	0.02625557	0.02625557	-
C-28C						0.135	0.00426653	0.00426653	-	0.135	0.00426653	0.00426653	-
C-28F						0.830	0.02625557	0.02625557	-	0.830	0.02625557	0.02625557	-
C-28H						0.135	0.00426653	0.00426653	-	0.135	0.00426653	0.00426653	-
C-29A						1.403	0.04435171	0.04435171	-	1.403	0.04435171	0.04435171	-
C-29C						0.050	0.00159393	0.00159393	-	0.050	0.00159393	0.00159393	-

Table 1-0
2020-2024 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Po												
DE-01	31.637	1.00047565	1.00047565	-	140.785	4.45205479		-	43.018	1.36035008	1.36035008	-
DE-03	31.637	1.00047565	1.00047565	-	140.785	4.45205479		-	43.018	1.36035008	1.36035008	-
DE-06	41.098	1.29964997	1.29964997	-	182.884	5.78336206		-	55.881	1.76713841	1.76713841	-
DE-07	41.098	1.29964997	1.29964997	-	182.884	5.78336206		-	55.881	1.76713841	1.76713841	-
DE-08	0.186	0.00588111	0.10331932	-	2.109	0.06670038		-	0.617	0.01950807	0.34271775	-
DE-10	10.653	0.33688966	0.33688966	-	47.406	1.49913817		-	14.485	0.45807000	0.45807000	-
DE-11	10.653	0.33688966	0.33688966	-	47.406	1.49913817		-	14.485	0.45807000	0.45807000	-
DE-12	58.021	1.83479996	1.83479996	-	258.189	8.16474644		-	78.891	2.49478363	2.49478363	-
DE-13	51.574	1.63093330	1.63093330	-	229.501	7.25755239		-	70.125	2.21758545	2.21758545	-
D-01a	37.975	1.20089740	1.94095760	-	66.534	2.10400707		-	8.075	0.25537102	0.41249633	-
D-01b	37.975	1.20089740	3.88191514	-	66.534	2.10400707		-	8.075	0.25537102	0.82458922	-
D-01c	37.975	1.20089740	1.94095774	-	66.534	2.10400707		-	8.075	0.25537102	0.41354524	-
D-01d	37.975	1.20089740	3.20679947	-	66.534	2.10400707		-	8.075	0.25537102	0.68125256	-
C-12												
C-13												
C-14a												
C-14b												
C-14c												
C-15												
C-17												
C-16												
C-18												
C-28A	0.774	0.02446541	0.08265546	-	8.774	0.27747359		-	2.521	0.07972144	0.26933583	-
C-28C	0.126	0.00397563	0.01343151	-	1.426	0.04508946		-	0.410	0.01295473	0.04376707	-
C-28F	0.774	0.02446541	0.08265546	-	8.774	0.27747359		-	2.521	0.07972144	0.26933583	-
C-28H	0.126	0.00397563	0.01343151	-	1.426	0.04508946		-	0.410	0.01295473	0.04376707	-
C-29A	1.307	0.04132773	0.08265546	-	14.822	0.46871693		-	4.259	0.13466792	0.26933583	-
C-29C	2.095	0.06625352	0.13250703	-	0.844	0.02669838		-	5.880	0.18595889	0.37191778	-

Table 1-0
2020-2024 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Mine Point Sources											
DE-01	Emergency Diesel Generator 6411	248142.5	2026050		3.6576		0.102		12.530	474	747
DE-02	Emergency Diesel Generator 6412	248142.4	2026048.9		3.6576		0.102		12.530	474	747
DE-03	Emergency Diesel Generator 6414	247292.3	2025523.2		3.6576		0.102		12.530	474	747
DE-04	Water Valley Dozer/Loader Engines	248177.8	2026073.4	8	2.4384		0.203		12.981	474	747
DE-05	Tobolskil Dozer/Loader Engines	246824	2030833	8	2.4384		0.203		12.981	474	747
DE-06a	Excavator Engines A	240780.4	2029336.4	8	2.4384		0.203		12.981	474	747
DE-06b	Excavator Engines B	241718.1	2029507.1	8	2.4384		0.203		12.981	474	747
DE-06c	Excavator Engines C	242358.7	2029653.5	8	2.4384		0.203		12.981	474	747
DE-06d	Excavator Engines D	242912	2028905.5	8	2.4384		0.203		12.981	474	747
DE-06e	Excavator Engines E	242110.7	2028656.2	8	2.4384		0.203		12.981	474	747
DE-06f	Excavator Engines F	241560	2028610.3	8	2.4384		0.203		12.981	474	747
DE-06g	Excavator Engines G	242602.8	2028344.5	8	2.4384		0.203		12.981	474	747
DE-06h	Excavator Engines H	241590.6	2027815.5	8	2.4384		0.203		12.981	474	747
DE-06i	Excavator Engines I	240565.8	2027841	8	2.4384		0.203		12.981	474	747
DE-06j	Excavator Engines J	242626.2	2027490.8	8	2.4384		0.203		12.981	474	747
DE-06k	Excavator Engines K	241182.3	2027017.1	8	2.4384		0.203		12.981	474	747
DE-07	Rejects Excavator/Loader Engine	247682.2	2025991.1	8	2.4384		0.203		12.981	474	747
DE-08	Rejects Dozer Engine	247682.2	2025991.1	8	2.4384		0.203		12.981	474	747

Table 1-0
2020-2024 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s (-m^2)	PM g/s	PM g/s (-m^2)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s (-m^2)	PM-10 g/s	PM-10 g/s (-m^2)
Mine Point Sou													
DE-01						0.095	0.00301228	0.05291965	-	0.095	0.00301228	0.05291965	-
DE-02						0.095	0.00301228	0.05291965	-	0.095	0.00301228	0.05291965	-
DE-03						0.095	0.00301228	0.05291965	-	0.095	0.00301228	0.05291965	-
DE-04						27.654	0.87449726	0.87449726	-	27.654	0.87449726	0.87449726	-
DE-05						27.654	0.87449726	0.87449726	-	27.654	0.87449726	0.87449726	-
DE-06a						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06b						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06c						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06d						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06e						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06f						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06g						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06h						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06i						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06j						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06k						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-07						0.560	0.01772251	0.01772251	-	0.560	0.01772251	0.01772251	-
DE-08						0.623	0.01969167	0.01969167	-	0.623	0.01969167	0.01969167	-

Table 1-0
2020-2024 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Mine Point Sou												
DE-01	0.550	0.01740665	0.30579999	-	2.449	0.07745851		-	0.748	0.02366788	0.41579727	-
DE-02	0.550	0.01740665	0.30579999	-	2.449	0.07745851		-	0.748	0.02366788	0.41579727	-
DE-03	0.550	0.01740665	0.30579999	-	2.449	0.07745851		-	0.748	0.02366788	0.41579727	-
DE-04	159.799	5.05334490	5.05334490	-	711.095	22.48707248		-	217.279	6.87104993	6.87104993	-
DE-05	159.799	5.05334490	5.05334490	-	711.095	22.48707248		-	217.279	6.87104993	6.87104993	-
DE-06a	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	-
DE-06b	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06c	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06d	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06e	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06f	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06g	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06h	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06i	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06j	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06k	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-07	0.522	0.01651415	0.01651415	-	5.923	0.18729467		-	1.702	0.05381197	0.05381197	-
DE-08	0.580	0.01834906	0.01834906	-	6.581	0.20810519		-	1.891	0.05979108	0.05979108	-

Table 1-0
2020-2024 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Drying Plant Pseudo-point Sources											
DE-09	Diesel Starter Engine	244421.5	2042704.4		0.7620		1.000		0.001	177	450
B-01	Boiler No. 1	244108.3	2043000.6		10.3632		1.000		0.001	170	443
B-02	Boiler No. 2	244110.3	2043005.4		10.3632		1.000		0.001	170	443
C-04	Stockpile Feeder Belt Transfer	243896.6	2042880.4		13.7160		1.000		0.001	25	298
C-05	Stockpile Spreading Belt Transfer	243910.8	2042924.9		24.3840		1.000		0.001	25	298
C-06	Stockpile Transfer (Tunnel 1 Belts)	243932.7	2042957.9		3.0480		1.000		0.001	25	298
C-07	Stockpile Transfer (Tunnel 2 Belts)	243999.3	2042915.5		2.1336		1.000		0.001	25	298
C-08	Dryer #1 Feeder Belt Transfer	243939.8	2043013.2		9.4488		1.000		0.001	25	298
C-09	Dryer #2 Feeder Belt Transfer	243955.2	2043002.5		10.0584		1.000		0.001	25	298
C-10	Dryer #3 Feeder Belt Transfer	243974.7	2042999.8		8.2296		1.000		0.001	25	298
C-11	Dryer #4 Feeder Belt Transfer	244078.2	2042968		6.0960		1.000		0.001	25	298
C-14F	Dryer Belt to Dome Storage Fugitives	245062	2042609.4		2.1336		1.000		0.001	60	333
C-21	Bauxite Recovery - Dry Products Building Rejects Transfer	243856.7	2043084.1		3.0480		1.000		0.001	60	333
C-23	Bauxite Recovery - Dryer #4 Rejects and Stockpile	244107.9	2043032.5		9.1440		1.000		0.001	60	333
C-27	Bauxite Recovery - Transfer from Dome to Main Stockpile	244087.6	2042942.3		1.0000		1.000		0.001	25	298
C-28B	Raw Material Stockpile Transfer Fugitives-Screener 1	243969.9	2043093.9	10	3.0480		1.000		0.001	25	298
C-28D	Screener No. 1 Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-28E	Product Conveyor No. 1 Transfer Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-28G	Raw Material Stockpile Transfer Fugitives-Screener 2	243969.9	2043093.9	10	3.0480		1.000		0.001	25	298
C-28I	Screener No. 2 Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-28J	Product Conveyor No. 2 Transfer Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-29B	Raw Material Stockpile Transfer Fugitives	244317	2042997	10	3.0480		1.000		0.001	25	298
C-29D	Primary Crusher Fugitives	244303	2043003	5	1.5240		1.000		0.001	25	298
C-29E	Crusher Conveyor Tranfer Fugitives	244291	2043007	7.5	2.2860		1.000		0.001	25	298
C-29F	Screening Fugitives	244282	2043009	10	3.0480		1.000		0.001	25	269
C-29G	Screener Conveyor Transfer Fugitives	244273	2043011	5	1.5240		1.000		0.001	25	298
C-29H	Product Conveyor Transfer Fugitives	244260	2043019	20	6.0960		1.000		0.001	25	298
C-29J	Product Truck Loading	244223	2043046	10	3.0480		1.000		0.001	25	298
C-29K	Dock Fugitive Emissions	245324	2042871	10	3.0480		1.000		0.001	25	298

Table 1-0
2020-2024 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM				Emission Rate PM-10			
						Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Ps													
DE-09						0.002	0.00006706	0.00117809	-	0.002	0.00006706	0.00117809	-
B-01						1.098	0.03471907	0.03471907	-	1.098	0.03471907	0.03471907	-
B-02						1.098	0.03471907	0.03471907	-	1.098	0.03471907	0.03471907	-
C-04						1.142	0.03611475	0.10182000	-	0.191	0.00604395	0.01704000	-
C-05						1.142	0.03611475	0.10182000	-	0.191	0.00604395	0.01704000	-
C-06						4.568	0.14445901	0.23348274	-	0.764	0.02417582	0.03907431	-
C-07						2.287	0.07232889	0.07232889	-	0.383	0.01210454	0.01210454	-
C-08						0.461	0.01459267	0.01459267	-	0.077	0.00244214	0.00244214	-
C-09						0.923	0.02918534	0.02918534	-	0.154	0.00488429	0.00488429	-
C-10						0.461	0.01459267	0.01459267	-	0.077	0.00244214	0.00244214	-
C-11						0.762	0.02410963	0.02410963	-	0.128	0.00403485	0.00403485	-
C-14F						1.018	0.03219869	0.07353667	-	0.170	0.00538859	0.01230667	-
C-21						1.525	0.04822077	0.04822077	-	0.255	0.00806995	0.00806995	-
C-23						1.525	0.04822077	0.04822077	-	0.255	0.00806995	0.00806995	-
C-27						0.076	0.00241104	0.01697000	-	0.013	0.00040350	0.00284000	-
C-28B						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28D						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28E						1.360	0.04302037	0.10253188	-	0.232	0.00733979	0.01749317	-
C-28G						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28I						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28J						1.360	0.04302037	0.10253188	-	0.232	0.00733979	0.01749317	-
C-29B						0.032	0.00101194	0.00133333	-	0.032	0.00101194	0.00133333	-
C-29D						1.200	0.03794778	0.05000000	-	0.540	0.01707650	0.02250000	-
C-29E						0.140	0.00442724	0.00583333	-	0.046	0.00145467	0.00191667	-
C-29F						2.200	0.06957094	0.09166667	-	0.740	0.02340113	0.03083333	-
C-29G						0.140	0.00442724	0.00583333	-	0.046	0.00145467	0.00191667	-
C-29H						0.140	0.00442724	0.00583333	-	0.046	0.00145467	0.00191667	-
C-29J						0.100	0.00316232	0.00416667	-	0.100	0.00316232	0.00416667	-
C-29K						0.560	0.01770897	0.02333333	-	0.184	0.00581866	0.00766667	-

Table 1-0
2020-2024 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Ps												
DE-09	0.002	0.00006249	0.00109777	-	0.022	0.00070869		-	0.007	0.00020727	0.00364138	-
B-01	23.621	0.74698610	0.74698610	-	4.990	0.15781396		-	1.663	0.05260465	0.05260465	-
B-02	23.621	0.74698610	0.74698610	-	4.990	0.15781396		-	1.663	0.05260465	0.05260465	-
C-04												
C-05												
C-06												
C-07												
C-08												
C-09												
C-10												
C-11												
C-14F												
C-21												
C-23												
C-27												
C-28B												
C-28D												
C-28E												
C-28G												
C-28I												
C-28J												
C-29B												
C-29D												
C-29E												
C-29F												
C-29G												
C-29H												
C-29J												
C-29K												

Table 1-0
2020-2024 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Mine Pseudo-point Sources											
C-01a	Mine Clearing A	240780.4	2029336.4		1.0000		1.000		0.001	25	298
C-01b	Mine Clearing B	241718.1	2029507.1		1.0000		1.000		0.001	25	298
C-01c	Mine Clearing C	242358.7	2029653.5		1.0000		1.000		0.001	25	298
C-01d	Mine Clearing D	242912	2028905.5		1.0000		1.000		0.001	25	298
C-01e	Mine Clearing E	242110.7	2028656.2		1.0000		1.000		0.001	25	298
C-01f	Mine Clearing F	241560	2028610.3		1.0000		1.000		0.001	25	298
C-01g	Mine Clearing G	242602.8	2028344.5		1.0000		1.000		0.001	25	298
C-01h	Mine Clearing H	241590.6	2027815.5		1.0000		1.000		0.001	25	298
C-01i	Mine Clearing I	240565.8	2027841		1.0000		1.000		0.001	25	298
C-01j	Mine Clearing J	242626.2	2027490.8		1.0000		1.000		0.001	25	298
C-01k	Mine Clearing K	241182.3	2027017.1		1.0000		1.000		0.001	25	298
C-02a	Truck Loading A	240780.4	2029336.4	8	2.4384		1.000		0.001	25	298
C-02b	Truck Loading B	241718.1	2029507.1	8	2.4384		1.000		0.001	25	298
C-02c	Truck Loading C	242358.7	2029653.5	8	2.4384		1.000		0.001	25	298
C-02d	Truck Loading D	242912	2028905.5	8	2.4384		1.000		0.001	25	298
C-02e	Truck Loading E	242110.7	2028656.2	8	2.4384		1.000		0.001	25	298
C-02f	Truck Loading F	241560	2028610.3	8	2.4384		1.000		0.001	25	298
C-02g	Truck Loading G	242602.8	2028344.5	8	2.4384		1.000		0.001	25	298
C-02h	Truck Loading H	241590.6	2027815.5	8	2.4384		1.000		0.001	25	298
C-02i	Truck Loading I	240565.8	2027841	8	2.4384		1.000		0.001	25	298
C-02j	Truck Loading J	242626.2	2027490.8	8	2.4384		1.000		0.001	25	298
C-02k	Truck Loading K	241182.3	2027017.1	8	2.4384		1.000		0.001	25	298
C-03	Truck Unloading (Tobolski)	246828	2030857	4	1.2192		1.000		0.001	25	298
C-04	Truck Unloading (Water Valley)	248255.9	2026056.4	4	1.2192		1.000		0.001	25	298
C-07	Railcar Loading (Tobolski)	246700	2030833	12	3.6576		1.000		0.001	25	298
C-08	Railcar Loading (Water Valley)	248179.3	2026035.2	12	3.6576		1.000		0.001	25	298
C-09	Rejects Screening (Water Valley)	247682.2	2025991.1	8	2.4384		1.000		0.001	25	298
C-10	Recovered Bauxite Truck Loading (Water Valley)	247682.2	2025991.1	8	2.4384		1.000		0.001	25	298
C-11	Reject Rock Truck Loading (Water Valley)	247682.2	2025991.1	4	1.2192		1.000		0.001	25	298
C-12	Reject Rock Truck Unloading (Water Valley)	247688.6	2025728.6	4	1.2192		1.000		0.001	25	298
HR-1	Haul Road Fugitives	248257.3	2026108.3		1.0000		1.000		0.001	25	298
HR-2	Rejects Screening Haul Road Fugitives	248257.3	2026108.3		1.0000		1.000		0.001	25	298
Drying Plant Area Sources											
C-01	Railcar Unloading	244054.1	2042803.3		1.0000		0.000		0.000	25	298
C-02	Railcar Unloading Pan Feeder Transfer	244055.2	2042816.3		2.4384		0.000		0.000	25	298
C-03	Railcar Unloading Belt Ttansfer	244008.1	2042834.4		3.9624		0.000		0.000	25	298
C-12F	Dryer #1/2/3 Belt to Dryer Belt Fugitives	243943.7	2043042.3		1.8288		0.000		0.000	60	333
C-13F	Dryer #4 Belt to Dryer Belt Fugtives	244084.2	2042994		1.8288		0.000		0.000	60	333
C-19	Ship Loading	245335.4	2042922.3		7.9248		0.000		0.000	38	311
M-1	Steel Cutting	244187.8	2042792.5		1.0000		0.000		0.000	25	298
M-2	Welding Emissions	244187.8	2042792.5		1.0000		0.000		0.000	25	298
M-3	Fugitive Emissions from Painting Operations	244187.8	2042792.5		1.0000		0.000		0.000	25	298
M-4	Outdoor Blasting Emissions	244187.8	2042792.5		1.0000		0.000		0.000	25	298

Table 1-0
2020-2024 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s (-m^2)	PM g/s	PM g/s (-m^2)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s (-m^2)	PM-10 g/s	PM-10 g/s (-m^2)
Mine Pseudo-p													
C-01a						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01b						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01c						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01d						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01e						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01f						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01g						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01h						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01i						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01j						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01k						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-02a						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02b						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02c						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02d						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02e						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02f						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02g						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02h						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02i						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02j						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02k						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-03						1.142	0.03611475	0.05829982	-	0.191	0.00604395	0.05829982	-
C-04						1.142	0.03611475	0.36114752	-	0.191	0.00604395	0.06043954	-
C-07						1.142	0.03611475	0.36114752	-	0.191	0.00604395	0.06043954	-
C-08						1.142	0.03611475	0.36114752	-	0.191	0.00604395	0.06043954	-
C-09						0.053	0.00167433	0.00167433	-	0.009	0.00028021	0.00028021	-
C-10						0.032	0.00100460	0.00100460	-	0.005	0.00016812	0.00016812	-
C-11						0.021	0.00066973	0.00066973	-	0.004	0.00011208	0.00011208	-
C-12						0.021	0.00066973	0.00066973	-	0.004	0.00011208	0.00011208	-
HR-1						1041.639	32.93990316	32.93990316	-	205.021	6.48342062	6.48342062	-
HR-2						3.809	0.12046335	0.12046335	-	1.534	0.04849488	0.04849488	-
Drying Plant Ar													
C-01	13.41	10.97			21.04	1.142	0.00024550	0.102	0.00069215	0.191	0.00004109	0.017	0.00011583
C-02	2.06	1.37			21.04	1.142	0.01279667	0.102	0.03607824	0.191	0.00214158	0.017	0.00603784
C-03	3.53	1.68			21.04	1.142	0.00608977	0.102	0.01716916	0.191	0.00101915	0.017	0.00287333
C-12F	51.1	10.9			21.04	1.033	0.00005867	0.059	0.00010562	0.173	0.00000982	0.010	0.00001768
C-13F	20.58	12.61			20.58	1.018	0.00012408	0.080	0.00030952	0.170	0.00002076	0.013	0.00005180
C-19	99.42	17.41			-29.44	12.665	0.00023138	0.400	0.00023138	1.565	0.00002858	0.049	0.00002858
M-1	64.08	43.85			21.04	0.067	0.00000075	0.004	0.00000075	0.067	0.00000075	0.004	0.00000075
M-2	64.08	43.85			21.04	0.741	0.00000834	0.047	0.00000834	0.741	0.00000834	0.047	0.00000834
M-3	64.08	43.85			21.04	5.010	0.00005638	0.317	0.00005638	5.010	0.00005638	0.317	0.00005638
M-4	64.08	43.85			21.04	9.979	0.00011231	0.631	0.00011231	2.359	0.00002655	0.149	0.00002655

Table 1-0
2020-2024 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Mine Pseudo-p												
C-01a												-
C-01b												-
C-01c												-
C-01d												-
C-01e												-
C-01f												-
C-01g												-
C-01h												-
C-01i												-
C-01j												-
C-01k												-
C-02a												-
C-02b												
C-02c												
C-02d												
C-02e												
C-02f												
C-02g												
C-02h												
C-02i												
C-02j												
C-02k												
C-03												-
C-04												-
C-07												-
C-08												-
C-09												-
C-10												-
C-11												-
C-12												-
HR-1												-
HR-2												-
Drying Plant Ar												
C-01												
C-02												
C-03												
C-12F												
C-13F												
C-19												
M-1	0.0002	0.0000000025	0.00001	0.0000000049	0.026	0.00000029		0.00000000	0.015	0.00000016	0.001	0.00000033
M-2												
M-3												
M-4												

Table 1-0
2020-2024 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Mine Area Sources											
C-05	Stockpile Emissions (Water Valley)	248219.8	2026031.7		6.0960				0.000	25	298
C-06	Stockpile Emissions (Tobolski)	246830	2030803		6.0960				0.000	25	298
M-1	Steel Cutting	247346.1	2025567.9		1.0000				0.000	25	298
M-2	Welding Emissions	247346.1	2025567.9		1.0000				0.000	25	298
M-3	Fugitive Emissions from Painting Operations	247346.1	2025567.9		1.0000				0.000	25	298
M-4	Outdoor Abrasive Blasting Emissions	247346.1	2025567.9		1.0000				0.000	25	298

Point Source ID	Description	UTMX	UTMY	Release Height		Diameter of Stack		Avg Discharge Velocity		Max Discharge Velocity	
				ft	m	ft	m	ft/s	m/s	ft/s	m/s
Drying Plant Volume Sources											
C-05F	Stockpile Fugitives	243928	2042948		4.5720						
C-15F	Dome Fugitives	245090.2	2042745.6		1.3716						
C-16F	Dock Belt Fugitives	245101.9	2042768.7		1.8288						
C-17F	Dedust Addition Fugitives	245116.3	2042781.9		1.2192						
C-18F	Gantry Fugitives	245275.3	2042926.4		15.2400						
C-22	Bauxite Recovery - Dry Products Building Reject Pile Fugitives	243835.6	2043074.7		4.5720						
C-24	Bauxite Recovery - Dryer #4 Reject Pile Fugitives	244086.8	2043023.1		4.5720						
C-25	Bauxite Recovery - Dome to Dome Stockpile Transfer	245030.5	2042590		1.0000						
C-26	Dome Stockpile Fugitives	245030.5	2042590		6.0960						
C-28K	Product Storage Pile 1 Fugitives	243978.9	2043087.7	12.5	3.8100						
C-28L	Product Storage Pile 2 Fugitives	243978.9	2043087.7	12.5	3.8100						
C-29I	Product Storage Pile Fugitives	244242	2043000	12.5	3.8100						
C-29L	Product Storage Pile Fugitives (Dock)	245322	2042848	12.5	3.8100						

Table 1-0
2020-2024 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s (-m^2)	PM g/s	PM g/s (-m^2)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s (-m^2)	PM-10 g/s	PM-10 g/s (-m^2)
Mine Area Sour													
C-05	65.05	63.71			9.7	0.170	0.00000130	0.271	0.00006547	0.085	0.00000065	0.136	0.00003274
C-06	85.2	84.83			16.98	0.167	0.00000073	0.318	0.00004394	0.084	0.00000037	0.159	0.00002197
M-1	48.61	15.65			26.2	0.003	0.00000012	0.000	0.00000024	0.003	0.00000012	0.0002	0.00000024
M-2	48.61	15.65			26.2	0.177	0.00000737	0.011	0.00001474	0.177	0.00000737	0.011	0.00001474
M-3	48.61	15.65			26.2	0.188	0.00000781	0.012	0.00001562	0.188	0.00000781	0.012	0.00001562
M-4	48.61	15.65			26.2	2.495	0.00010370	0.158	0.00020741	0.590	0.00002451	0.037	0.00004902

2.200

Point Source ID	Discharge Temperature F	K	Syo m	Szo m		Emission Rate PM Permitted mtpy	PM g/s (-m^2)	PM g/s	PM g/s (-m^2)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s (-m^2)	PM-10 g/s	PM-10 g/s (-m^2)
Drying Plant Vo													
C-05F			72.75	4.25		1.684	0.05326273	1.04018271		0.842	0.02663137	0.52009135	
C-15F			1.87	0.64		1.018	0.03219869	0.07353667		0.170	0.00538859	0.01230667	
C-16F			2.54	0.85		1.018	0.03219869	0.07353667		0.170	0.00538859	0.01230667	
C-17F			1.50	0.57		2.533	0.08009828	0.18293167		0.313	0.00989488	0.02259833	
C-18F			1.17	7.09		2.533	0.08009828	0.18293167		0.313	0.00989488	0.02259833	
C-22			7.61	2.13		0.046	0.00145159	0.02967396		0.023	0.00072580	0.01483698	
C-24			7.61	2.13		0.051	0.00161199	0.03273328		0.025	0.00080600	0.01636664	
C-25			14.18	0.47		0.015	0.00048221	0.00678800		0.003	0.00008070	0.00113600	
C-26			14.18	2.84		0.089	0.00279944	0.05467106		0.044	0.00139972	0.02733553	
C-28K			5.15	1.77		0.147	0.00465365	0.01942323		0.074	0.00232682	0.00971162	
C-28L			5.15	1.77		0.147	0.00465365	0.01942323		0.074	0.00232682	0.00971162	
C-29I			5.15	1.77		0.294	0.00930730	0.06562065		0.147	0.00465365	0.03281033	
C-29L			5.15	1.77		0.147	0.00465365	0.03281033		0.074	0.00232682	0.01640516	

Table 1-0
2020-2024 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Mine Area Sour												
C-05												
C-06												
M-1	0.00001	0.0000000004	0.0000006	0.0000000008	0.001	0.00000006		0.00000000	0.001	0.00000003	0.00004	0.00000005
M-2												
M-3												
M-4												

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Vo												
C-05F												
C-15F												
C-16F												
C-17F												
C-18F												
C-22												
C-24												
C-25												
C-26												
C-28K												
C-28L												
C-29I												
C-29L												

Table 1-1
2020-2024 NO2 Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2011	244800	2031700	-	56.00	0.00	56.00	No	No		11no2ann.inp
			244700	2031600	-	55.41		55.41	No	No		
			244600	2031700	-	54.27		54.27	No	No		
			244700	2031800	-	52.24		52.24	No	No		
			244700	2031700	-	52.11		52.11	No	No		
			244600	2031600	-	51.28		51.28	No	No		
			244600	2031500	-	51.11		51.11	No	No		
			245600	2032000	-	50.26		50.26	No	No		
			244500	2031800	-	49.40		49.40	No	No		
			244800	2031800	-	48.82		48.82	No	No		

Figure 1-1
NO_2
Annual Averaging Period
2011
2020-2024 Mining Sites

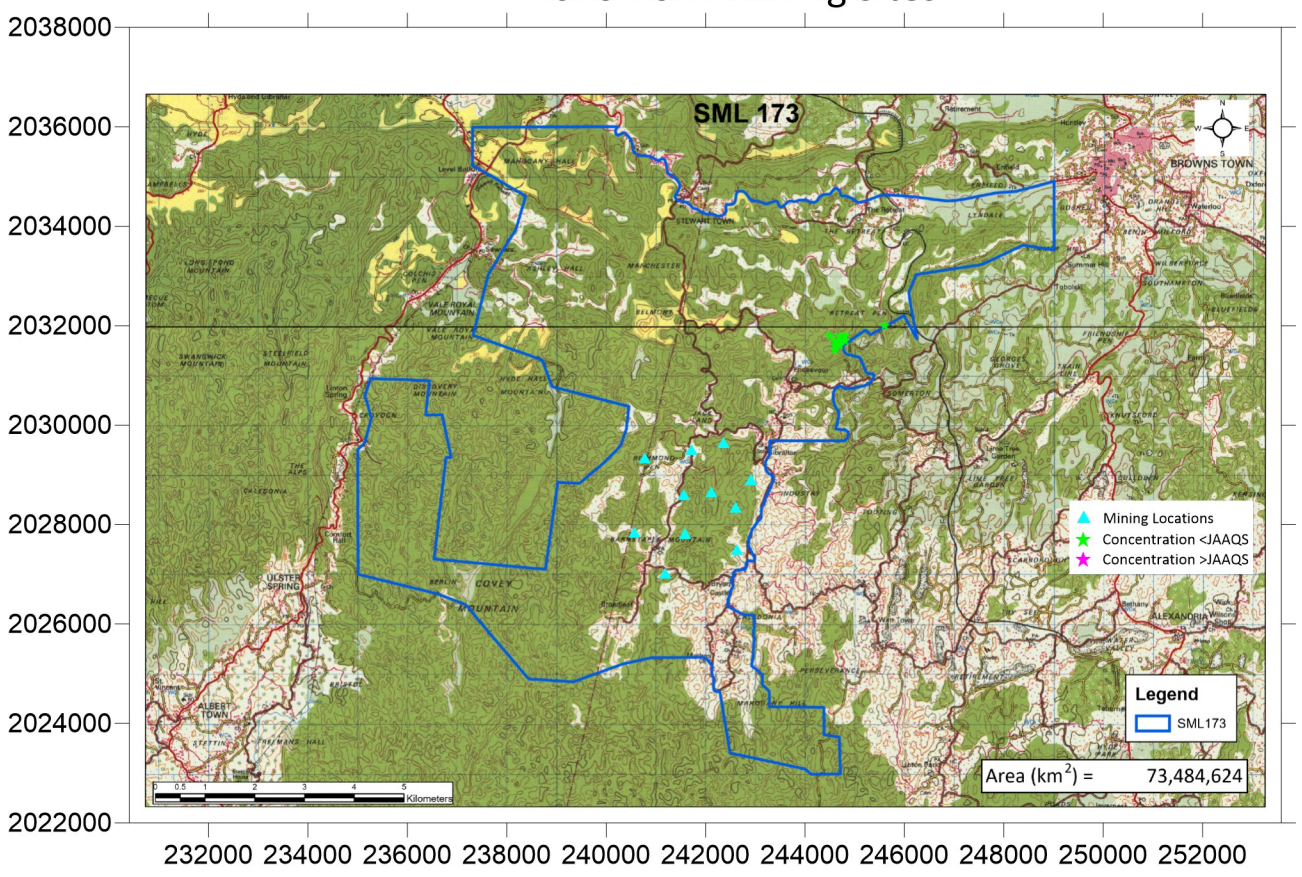


Table 1-2
2020-2024 NO2 Annual Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.								
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2016	245400	2031900	-	55.53	0.00	55.53	No	No		16no2ann.inp
			244700	2031600	-	54.21		54.21	No	No		
			245600	2032000	-	53.48		53.48	No	No		
			244900	2032100	-	52.67		52.67	No	No		
			244800	2032100	-	52.63		52.63	No	No		
			244500	2031800	-	52.42		52.42	No	No		
			245500	2032000	-	49.57		49.57	No	No		
			244500	2032100	-	49.00		49.00	No	No		
			244600	2031500	-	49.83		49.83	No	No		
			244400	2032000	-	48.73		48.73	No	No		

Figure 1-2
NO_2
Annual Concentrations
2016
2020-2024 Mining Sites

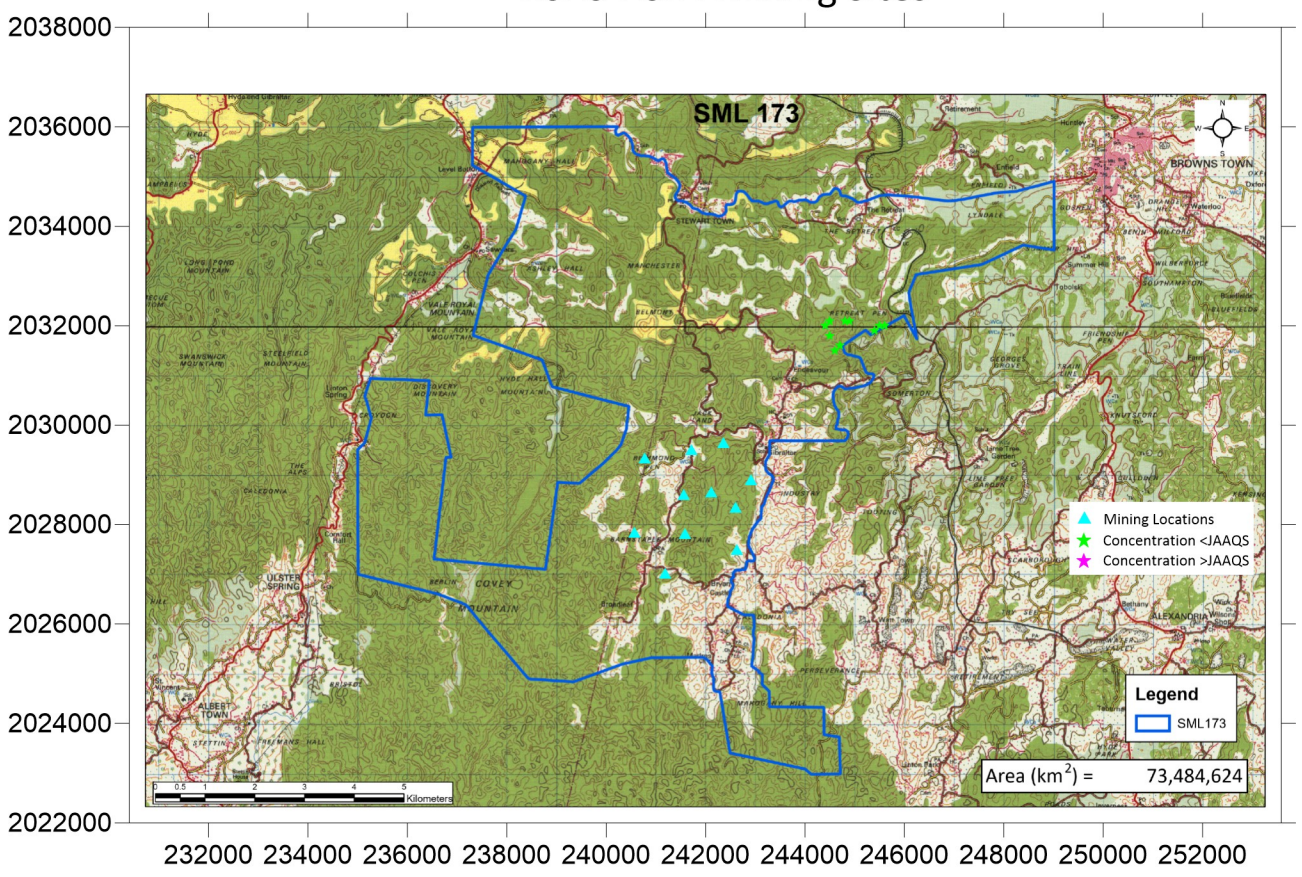


Table 1-3
2020-2024 NO2 Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.								
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2017	244700	2031600	-	55.93	0.000	55.93	No	No		17no2ann.inp
			245400	2031900	-	54.17		54.17	No	No		
			244500	2031800	-	54.13		54.13	No	No		
			244800	2031700	-	52.87		52.87	No	No		
			244800	2032100	-	52.16		52.16	No	No		
			245600	2032000	-	51.95		51.95	No	No		
			244900	2032100	-	51.88		51.88	No	No		
			244600	2031500	-	51.74		51.74	No	No		
			244700	2031800	-	51.11		51.11	No	No		
			244800	2031900	-	50.91		50.91	No	No		

Figure 1-3
NO_2
Annual Concentrations
2017
2020-2024 Mining Sites

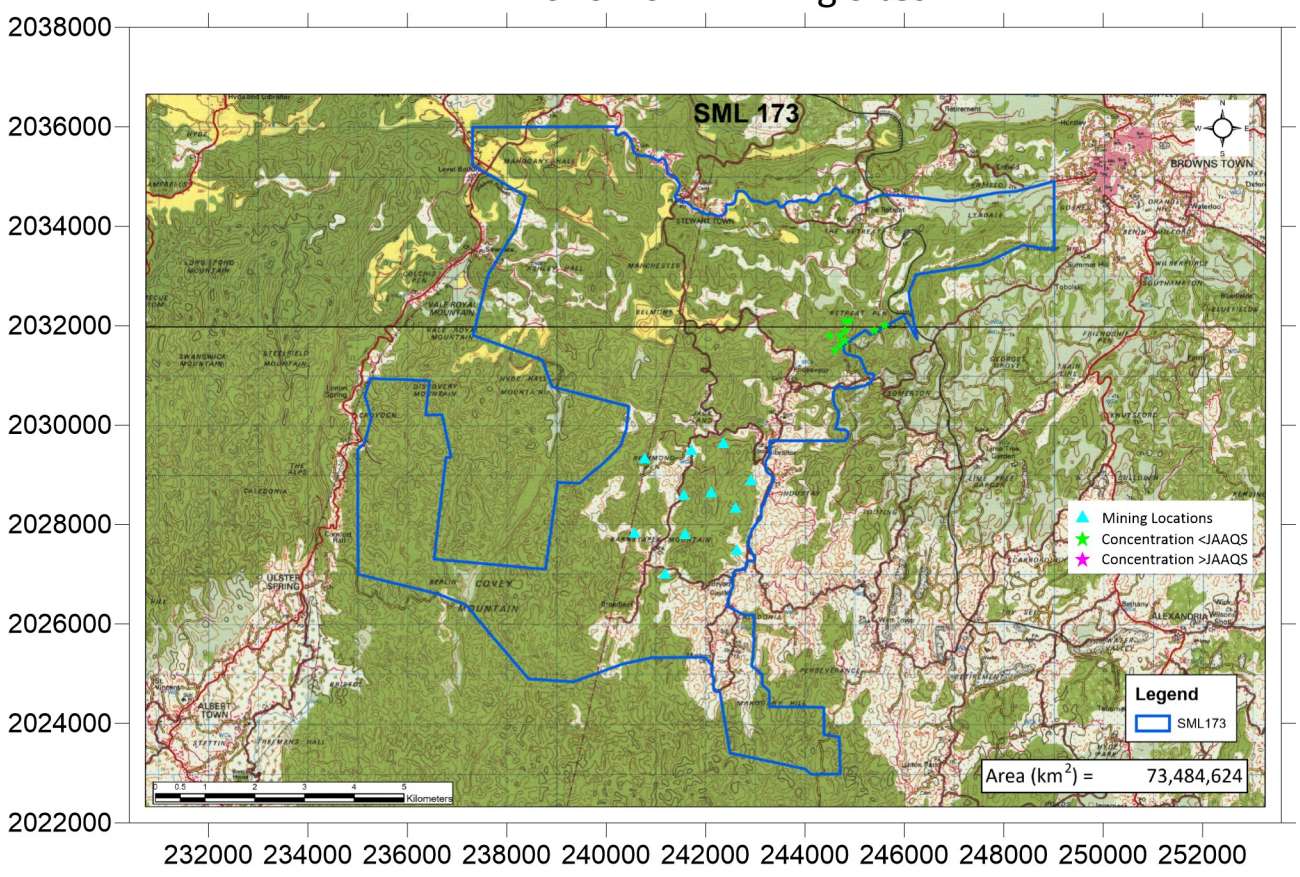


Table 1-4
2020-2024 NO2 Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2018	245600	2032000	-	59.61	0.00	59.61	No	No		18no2ann.inp
			245400	2031900	-	59.57		59.57	No	No		
			244800	2032100	-	59.00		59.00	No	No		
			244900	2032100	-	58.63		58.63	No	No		
			244700	2031600	-	57.47		57.47	No	No		
			244500	2031800	-	56.32		56.32	No	No		
			244700	2032100	-	54.62		54.62	No	No		
			244500	2032100	-	54.49		54.49	No	No		
			245500	2032000	-	53.70		53.70	No	No		
			244600	2031500	-	53.41		53.41	No	No		

Figure 1-4
NO_2
Annual Concentrations
2018
2020-2024 Mining Sites

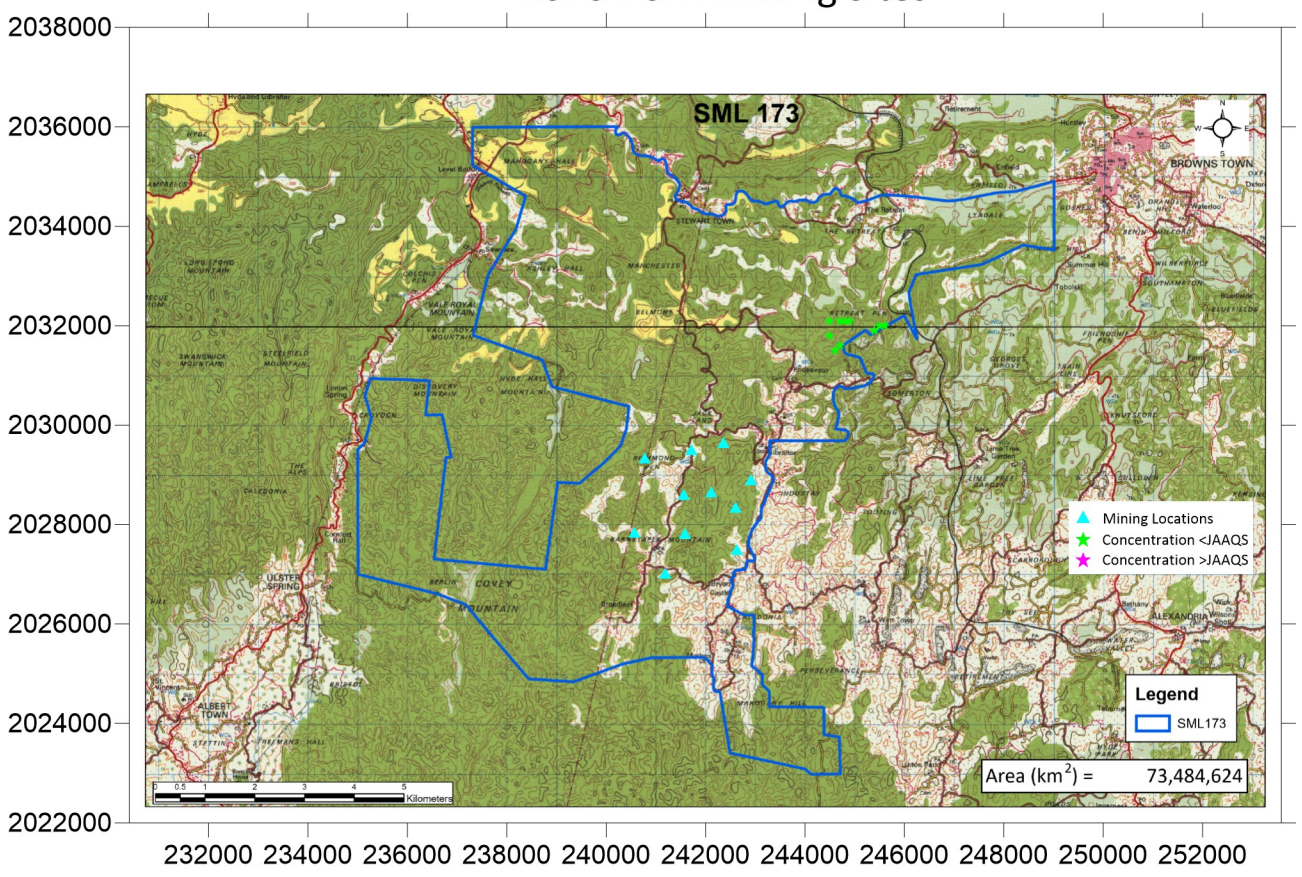


Table 1-5
2020-2024 NO2 Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.								
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2019	245600	2032000	-	75.67	0.00	75.67	No	Yes		19no2ann.inp
			245400	2031900	-	72.49		72.49	No	No		
			244700	2031600	-	71.02		71.02	No	No		
			244800	2032100	-	70.70		70.70	No	No		
			244500	2031800	-	70.38		70.38	No	No		
			244900	2032100	-	69.97		69.97	No	No		
			245500	2032000	-	68.44		68.44	No	No		
			244500	2032100	-	66.13		66.13	No	No		
			244400	2032000	-	65.92		65.92	No	No		
			244700	2032100	-	65.80		65.80	No	No		

Figure 1-5
NO_2
Annual Concentrations
2019
2020-2024 Mining Sites

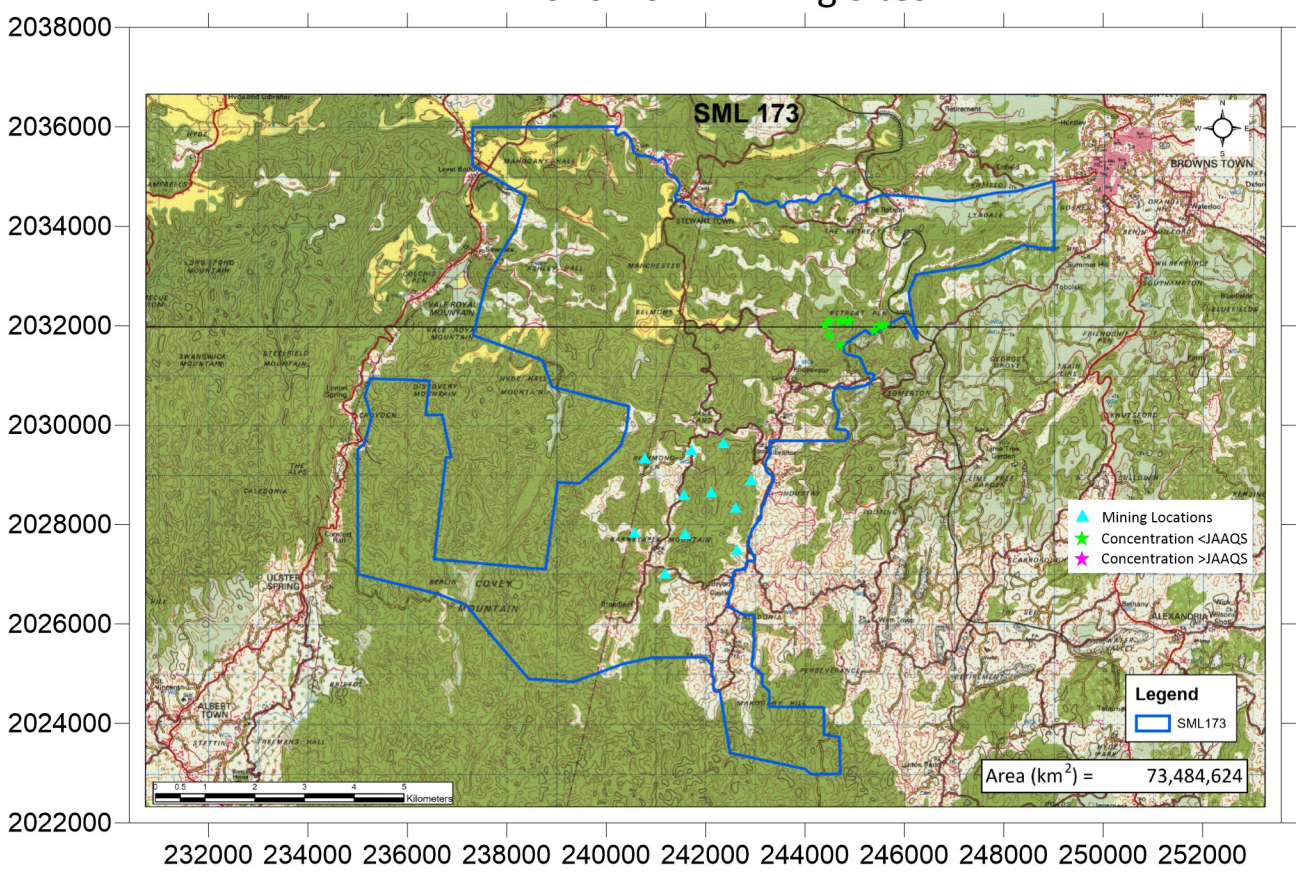


Table 1-6
2020-2024 CO 1-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
CO	40,000.00 (1-hr)	2011	245600	2032000	11031103	803.24	0.00	803.24	No	No		11co1hr.inp
			245100	2032300	11031024	789.17		789.17	No	No		
			244800	2032100	11042022	723.04		723.04	No	No		
			246100	2033300	11020906	721.70		721.70	No	No		
			244500	2031500	11030123	717.44		717.44	No	No		
			246200	2033400	11051301	715.00		715.00	No	No		
			244400	2031500	11042004	686.46		686.46	No	No		
			246000	2033300	11110222	678.76		678.76	No	No		
			246000	2032300	11110823	678.10		678.10	No	No		
			246400	2033500	11021307	675.96		675.96	No	No		

Figure 1-6
CO
1-hr Averaging Period
2011
2020-2024 Mining Sites

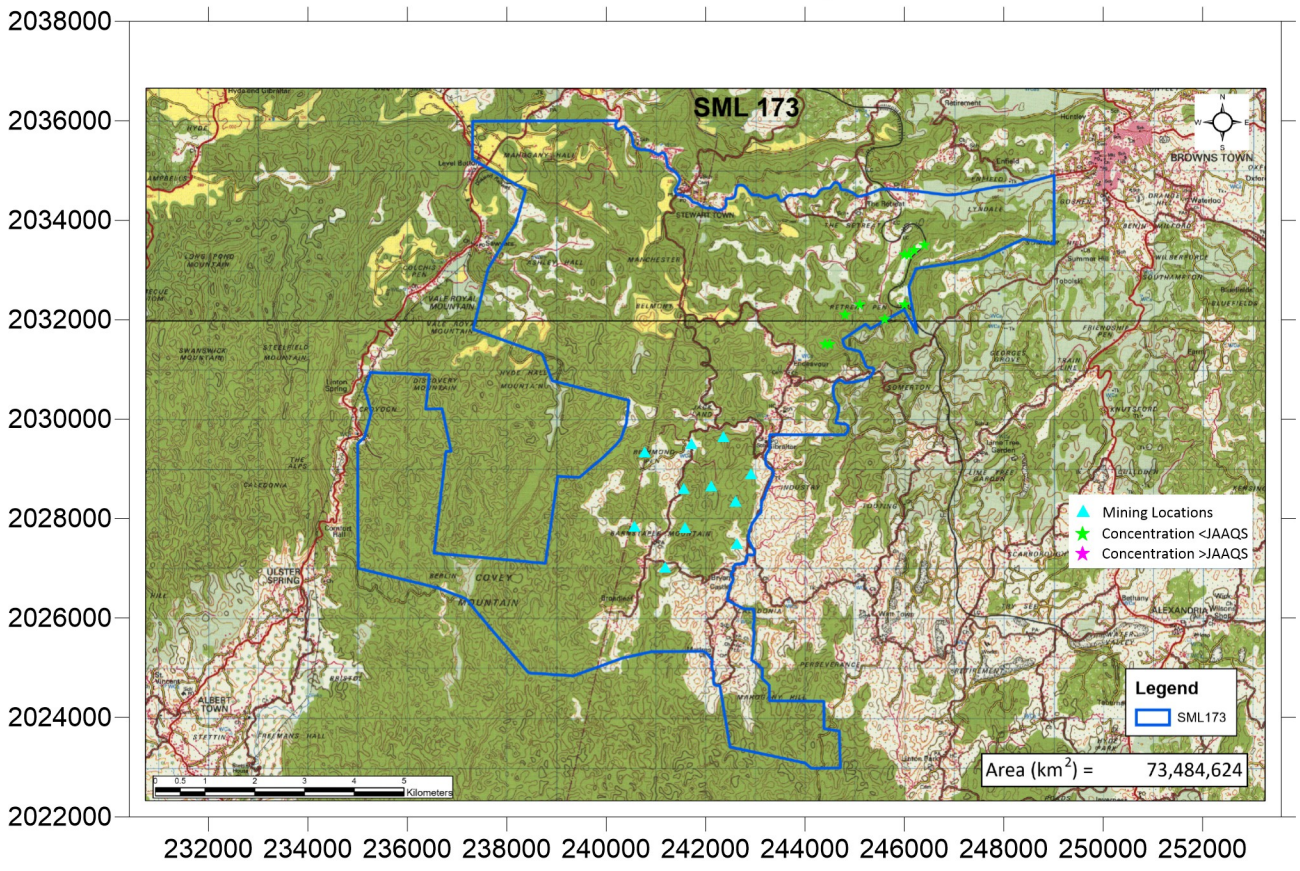


Table 1-7
2020-2024 CO 1-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	40,000.00 (1-hr)	2016	245600	2032000	16061523	838.50	0.00	838.50	No	No		16co1hr.inp
			246000	2032300	16111601	777.66		777.66	No	No		
			245100	2032300	16011206	765.46		765.46	No	No		
			244800	2032100	16101802	729.63		729.63	No	No		
			244500	2031500	16041324	726.54		726.54	No	No		
			246100	2033300	16090323	722.03		722.03	No	No		
			246000	2032400	16102104	721.83		721.83	No	No		
			244500	2031800	16041704	713.71		713.71	No	No		
			247100	2033400	16011320	708.46		708.46	No	No		
			246700	2033400	16011321	700.55		700.55	No	No		

Figure 1-7
CO
1-hr Averaging Period
2016
2020-2024 Mining Sites

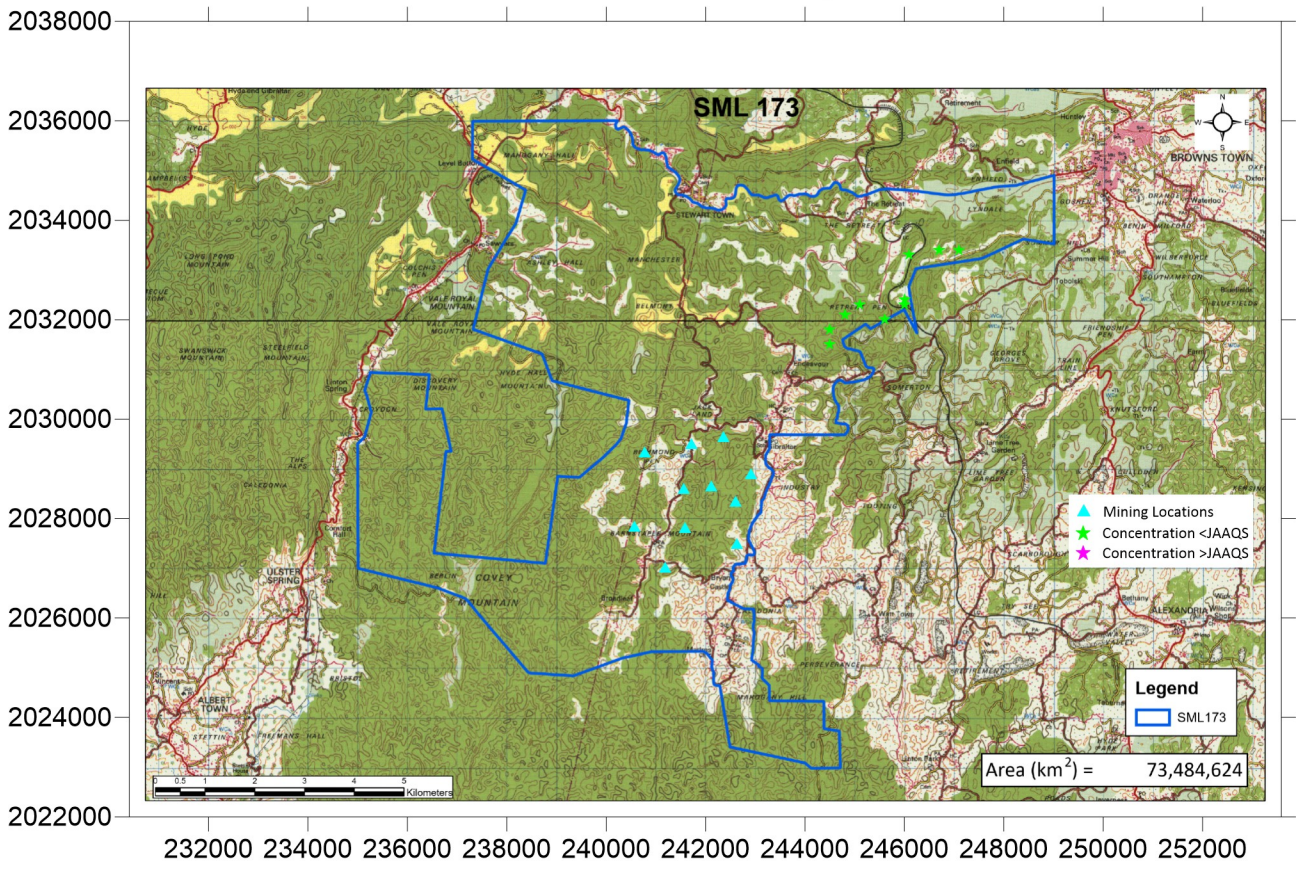


Table 1-8
2020-2024 CO 1-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
CO	40,000.00 (1-hr)	2017	245600	2032000	17122804	840.20	0.00	840.20	No	No		17co1hr.inp
			246000	2032300	17031222	824.63		824.63	No	No		
			245100	2032300	17090603	775.35		775.35	No	No		
			246000	2032200	17031222	754.48		754.48	No	No		
			244800	2032100	17020421	728.62		728.62	No	No		
			246200	2033400	17101406	714.89		714.89	No	No		
			244500	2031500	17021803	713.82		713.82	No	No		
			244500	2031800	17123101	710.82		710.82	No	No		
			246000	2032400	17031222	708.13		708.13	No	No		
			246000	2033300	17041324	706.37		706.37	No	No		

Figure 1-8
CO
1-hr Averaging Period
2017
2020-2024 Mining Sites

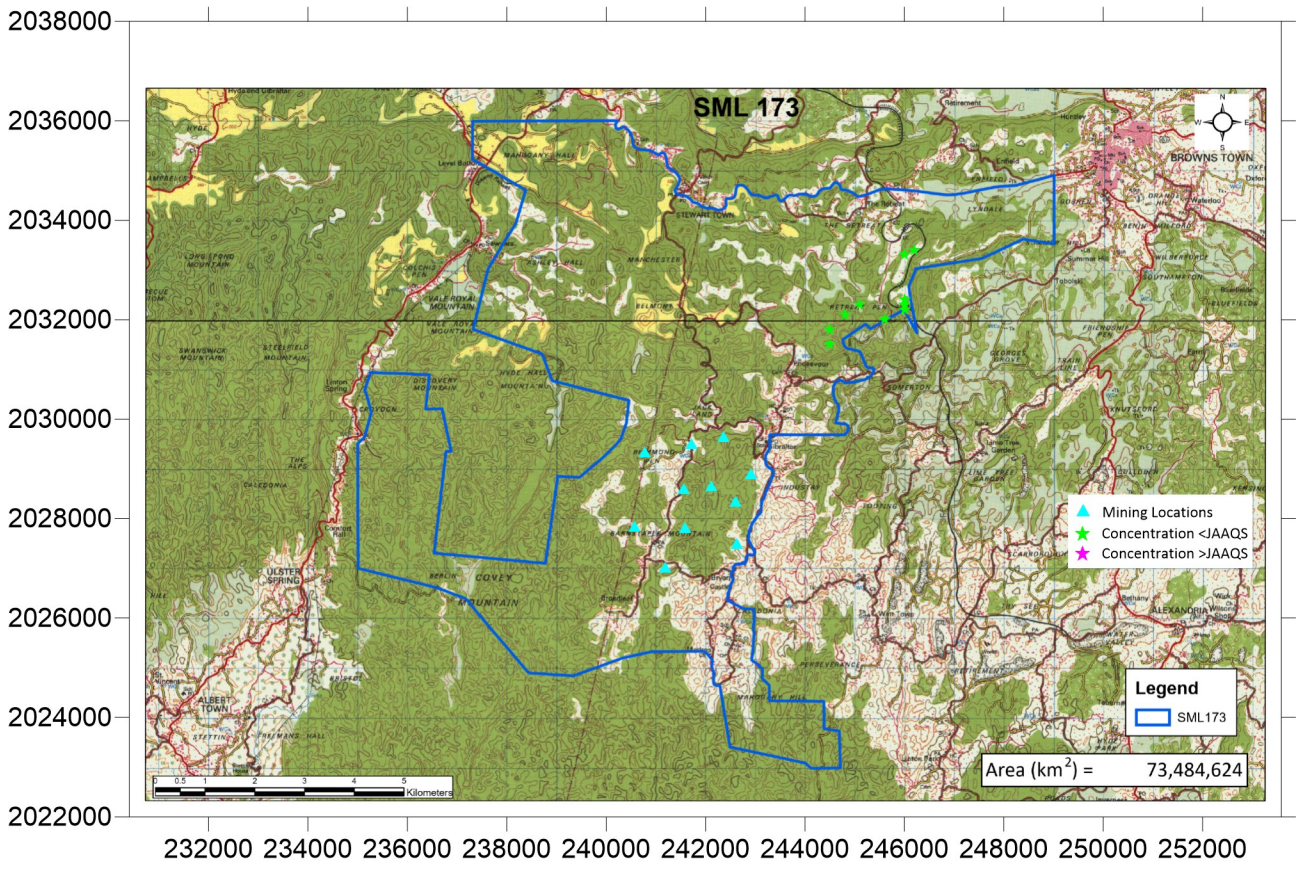


Table 1-9
2020-2024 CO 1-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	40,000.00 (1-hr)	2018	245600	2032000	18041022	872.80	0.00	872.80	No	No		18co1hr.inp
			245100	2032300	18061023	789.32		789.32	No	No		
			246000	2032300	18061324	766.01		766.01	No	No		
			244800	2032100	18051105	728.76		728.76	No	No		
			244500	2031500	18112504	727.45		727.45	No	No		
			246200	2033400	18120123	717.09		717.09	No	No		
			244700	2032100	18060204	706.61		706.61	No	No		
			244400	2031500	18120624	706.18		706.18	No	No		
			246100	2033300	18033023	701.98		701.98	No	No		
			244500	2031800	18110106	700.89		700.89	No	No		

Figure 1-9
CO
1-hr Averaging Period
2018
2020-2024 Mining Sites

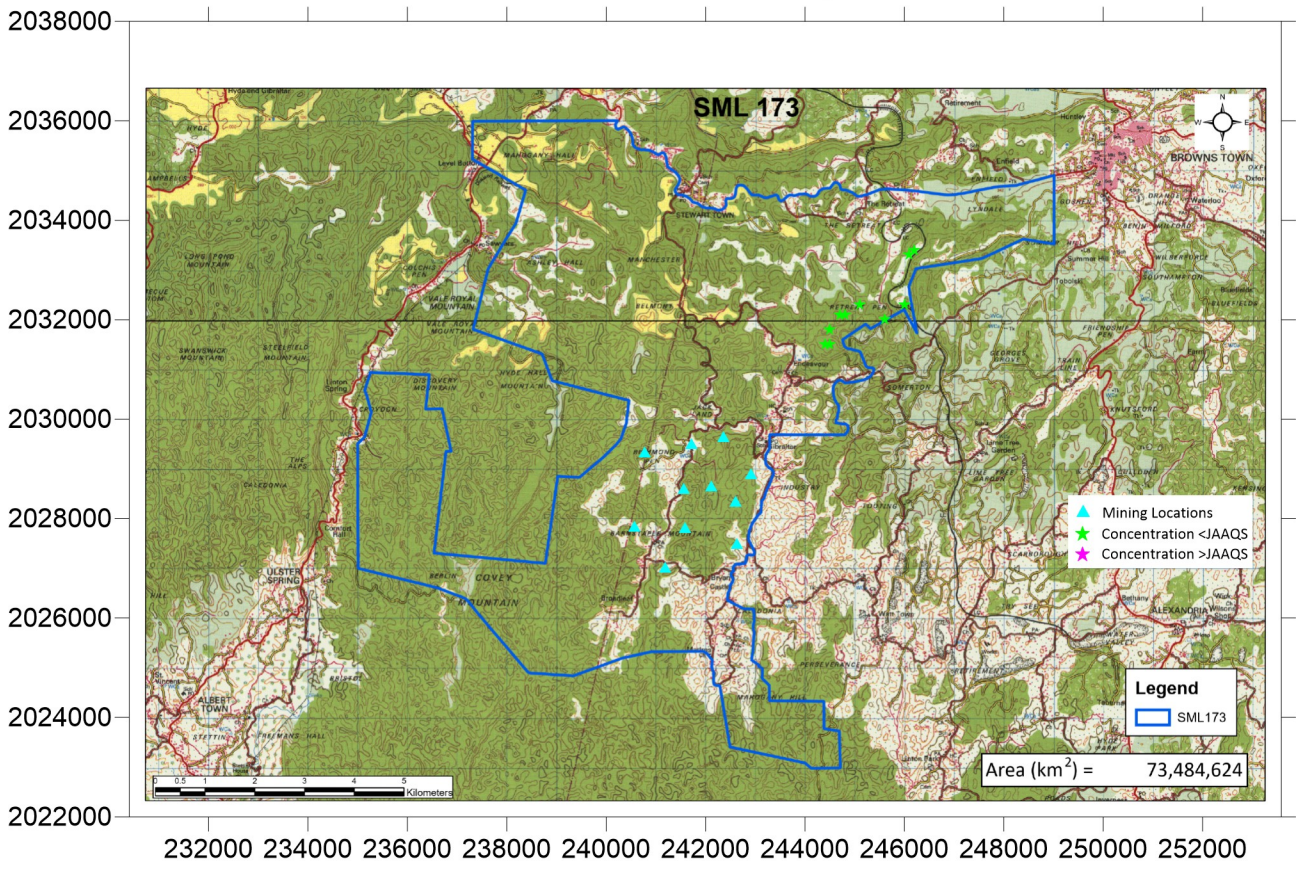


Table 1-10
2020-2024 CO 1-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
CO	40,000.00 (1-hr)	2019	245600	2032000	19050123	847.87	0.00	847.87	No	No		19co1hr.inp
			246000	2032300	19120502	775.66		775.66	No	No		
			245100	2032300	19110922	773.31		773.31	No	No		
			246000	2032400	19120502	752.15		752.15	No	No		
			244500	2031500	19122720	732.87		732.87	No	No		
			244800	2032100	19111502	732.65		732.65	No	No		
			246100	2033300	19011520	721.91		721.91	No	No		
			244700	2032100	19111502	701.94		701.94	No	No		
			244900	2032100	19092224	699.57		699.57	No	No		
			244500	2031800	19071002	693.79		693.79	No	No		

Figure 1-10
CO
1-hr Averaging Period
2019
2020-2024 Mining Sites

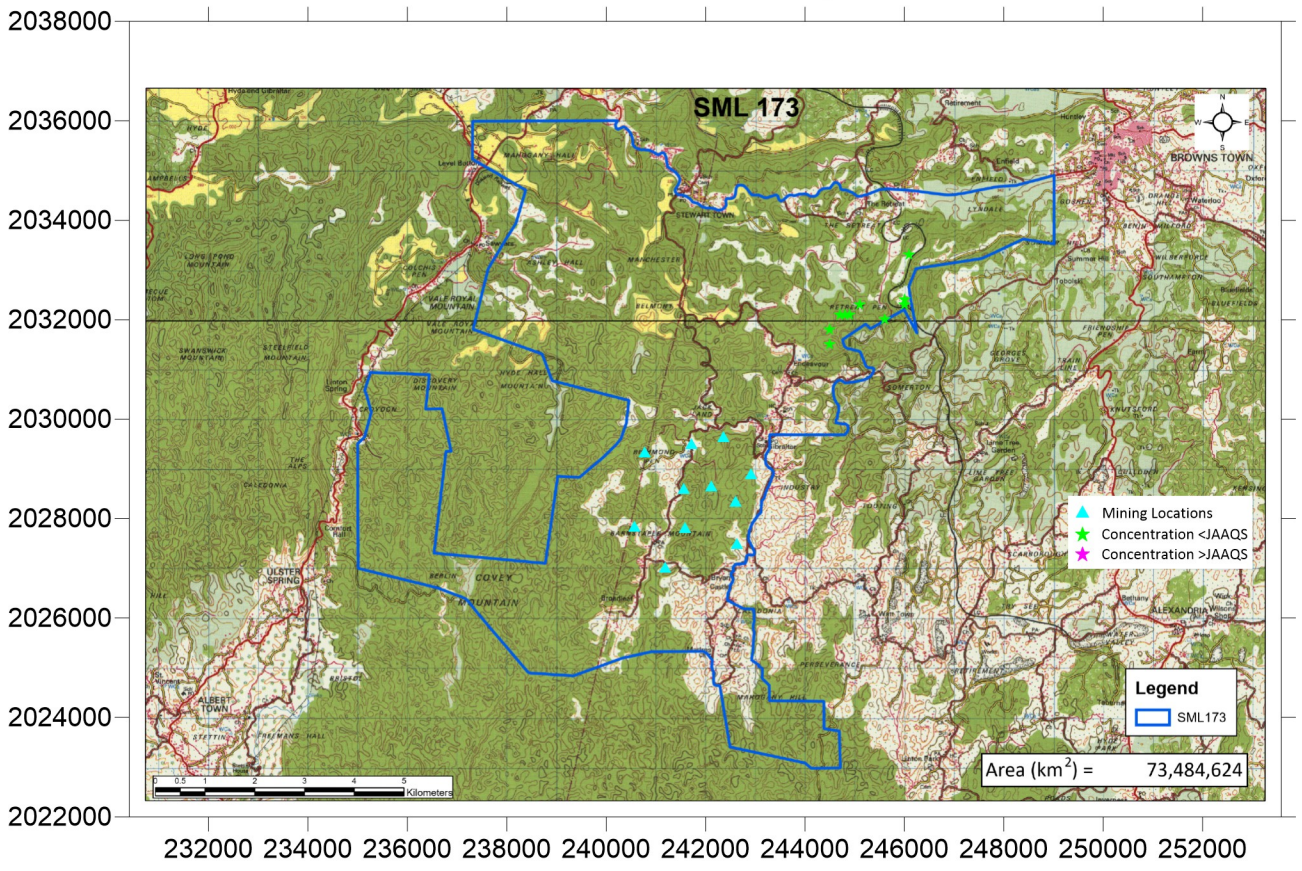


Table 1-11
2020-2024 CO 8-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2011	245100	2032300	11031024	277.03	0.00	277.03	No	No		11co8hr.inp
			245600	2032000	11111008	253.04		253.04	No	No		
			244800	2032100	11030608	196.94		196.94	No	No		
			244900	2032100	11030608	189.15		189.15	No	No		
			246000	2033100	11051024	187.80		187.80	No	No		
			245500	2032000	11111008	182.27		182.27	No	No		
			244500	2031500	11042008	182.25		182.25	No	No		
			246000	2033000	11051024	180.42		180.42	No	No		
			244400	2031500	11042008	178.74		178.74	No	No		
			244700	2032100	11030608	177.39		177.39	No	No		

Figure 1-11
CO
8-hr Averaging Period
2011
2020-2024 Mining Sites

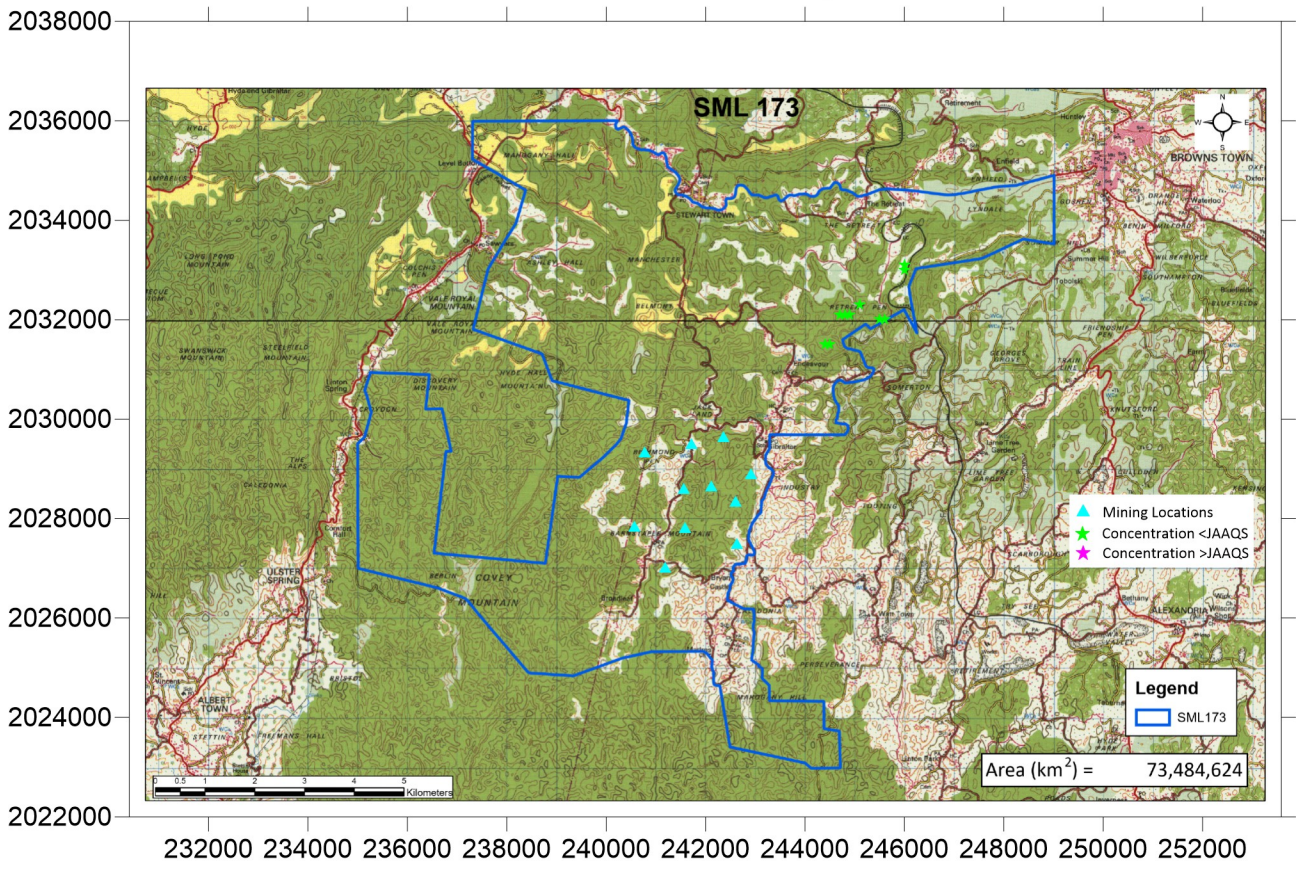


Table 1-12
2020-2024 CO 8-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2016	244900	2032100	16011208	292.94	0.00	292.94	No	No		17co8hr.inp
			244500	2031500	16111608	271.66		271.66	No	No		
			245100	2032300	16011208	271.46		271.46	No	No		
			244000	2031800	16111608	262.33		262.33	No	No		
			244700	2031600	16111608	257.89		257.89	No	No		
			244800	2032100	16011208	257.38		257.38	No	No		
			244600	2031500	16111608	252.65		252.65	No	No		
			244400	2031500	16111608	242.00		242.00	No	No		
			243700	2031800	16111608	233.15		233.15	No	No		
			244500	2031800	16111608	225.93		225.93	No	No		

Figure 1-12
CO
8-hr Averaging Period
2016
2020-2024 Mining Sites

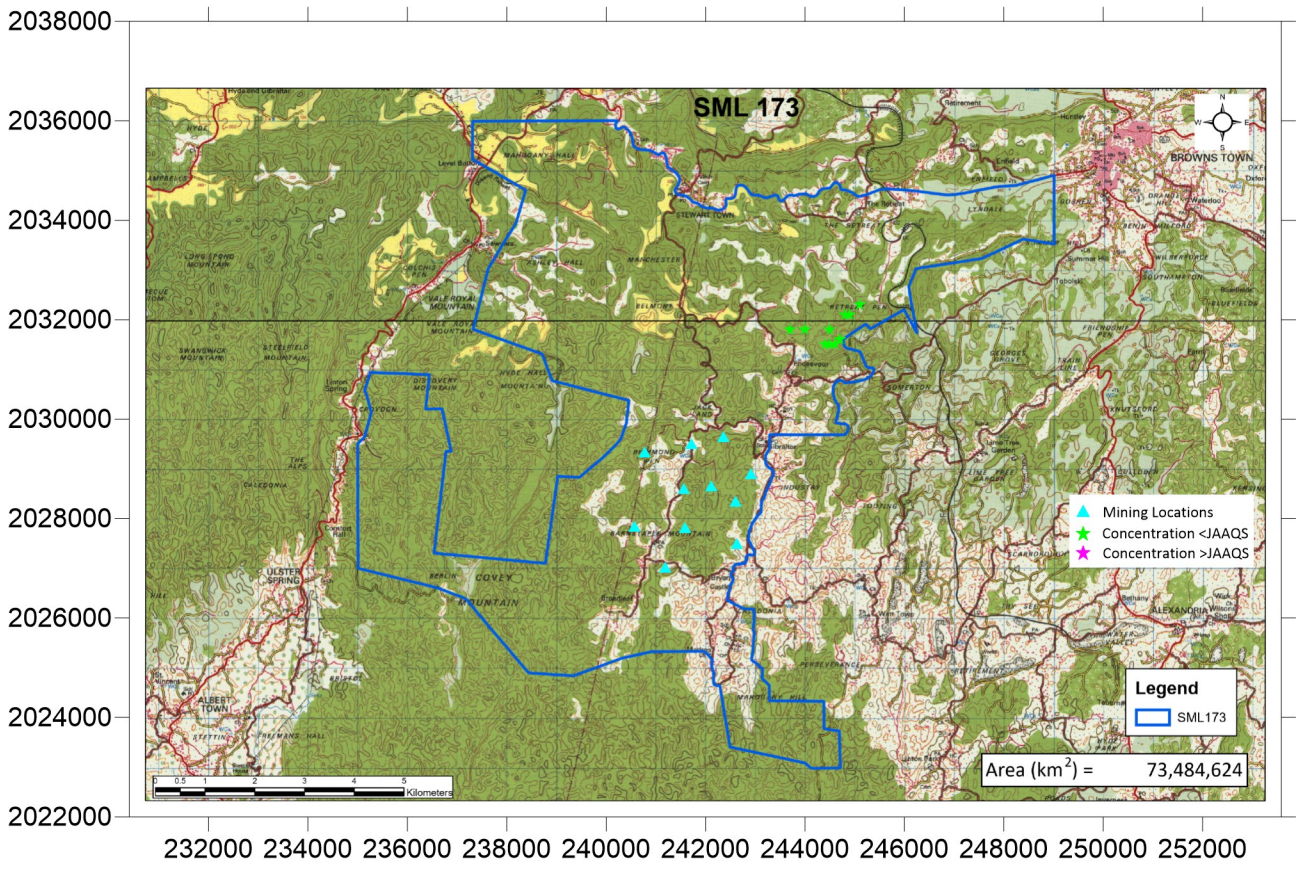


Table 1-13
2020-2024 CO 8-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2017	244500	2031500	17082908	274.93	0.00	274.93	No	No		17co8hr.inp
			244400	2031500	17082908	254.52		254.52	No	No		
			244600	2031500	17082908	250.70		250.70	No	No		
			244500	2031800	17022508	249.70		249.70	No	No		
			244300	2031400	17021308	242.79		242.79	No	No		
			244000	2031800	17082908	241.66		241.66	No	No		
			244700	2031600	17082908	239.66		239.66	No	No		
			244200	2031400	17021308	233.97		233.97	No	No		
			243800	2031300	17021308	231.73		231.73	No	No		
			243700	2031800	17012008	225.28		225.28	No	No		

Figure 1-13
CO
8-hr Averaging Period
2017
2020-2024 Mining Sites

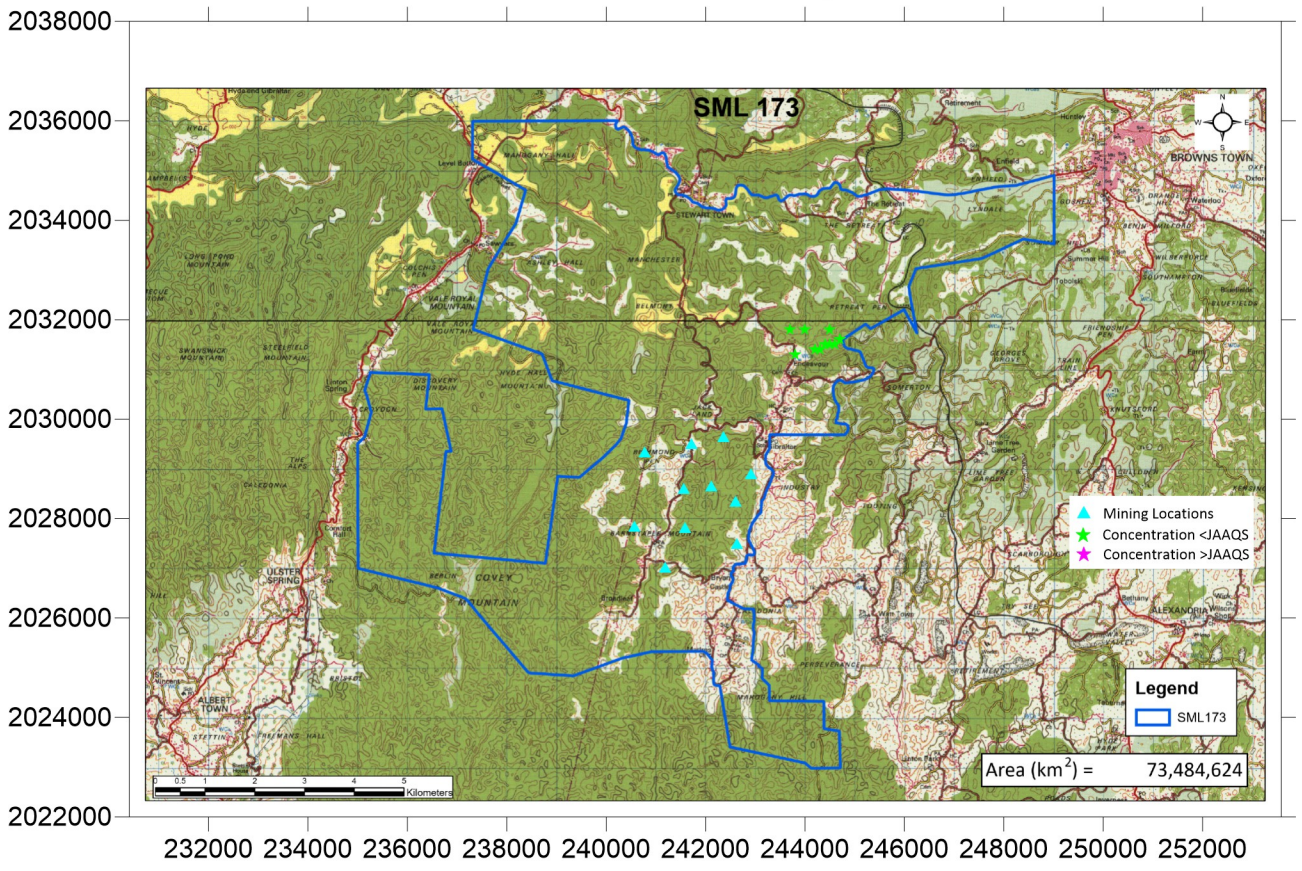


Table 1-14
2020-2024 CO 8-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2018	244400	2032000	18091208	316.67	0.00	316.67	No	No		18co8hr.inp
			244500	2031800	18091208	289.85		289.85	No	No		
			244500	2032100	18091208	253.18		253.18	No	No		
			245600	2032000	18060108	241.84		241.84	No	No		
			244900	2032100	18051108	234.38		234.38	No	No		
			244800	2032100	18042408	228.38		228.38	No	No		
			244700	2032100	18050208	218.66		218.66	No	No		
			244700	2031600	18061608	214.04		214.04	No	No		
			243800	2032200	18091208	203.59		203.59	No	No		
			244600	2032200	18042408	192.80		192.80	No	No		

Figure 1-14
CO
8-hr Averaging Period
2018
2020-2024 Mining Sites

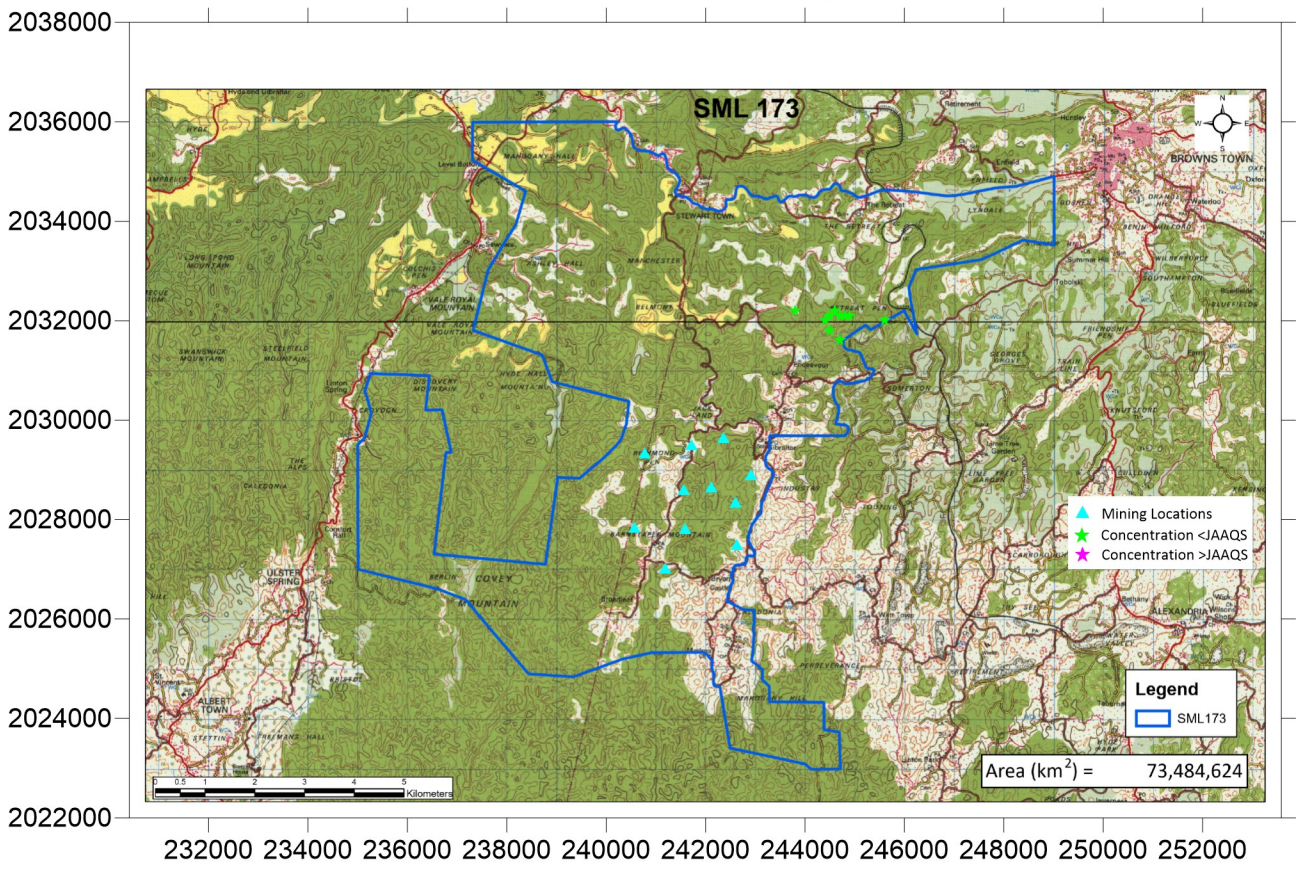


Table 1-15
2020-2024 CO 8-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2019	244800	2032100	19042508	258.34	0.00	258.34	No	No		19co8hr.inp
			245600	2032000	19081624	255.48		255.48	No	No		
			244500	2032100	19111508	246.60		246.60	No	No		
			244700	2031600	19082124	243.52		243.52	No	No		
			244500	2031500	19082124	243.57		243.57	No	No		
			244900	2032100	19042508	243.23		243.23	No	No		
			244400	2032000	19111508	236.41		236.41	No	No		
			244600	2031500	19082124	232.20		232.20	No	No		
			244700	2032100	19030308	229.41		229.41	No	No		
			244000	2031800	19082124	228.37		228.37	No	No		

Figure 1-15
CO
8-hr Averaging Period
2019
2020-2024 Mining Sites

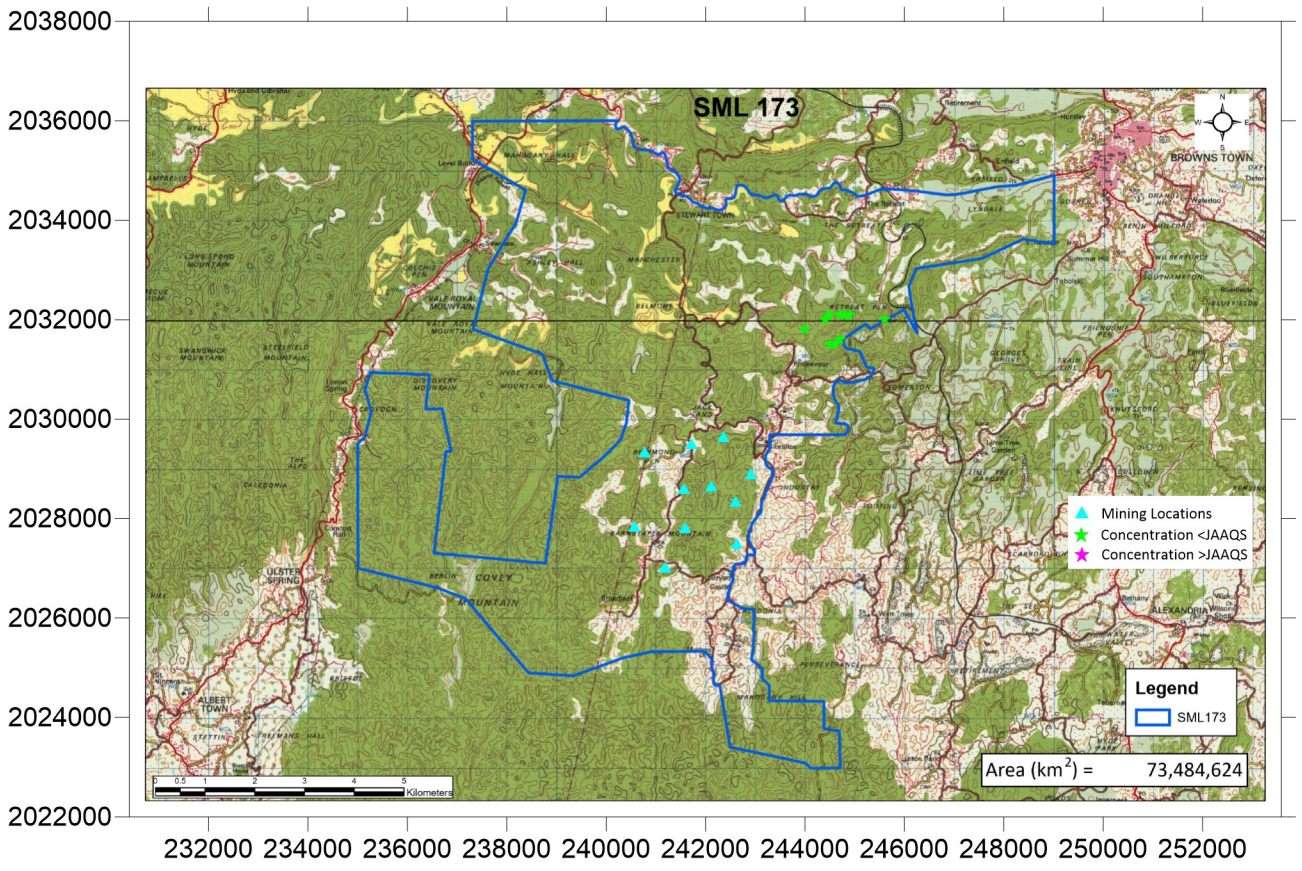


Table 1-16
2020-2024 SO2 Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2011	244800	2031700	-	12.58	0.00	12.58	No	No		11so2ann.inp
			244700	2031600	-	12.45		12.45	No	No		
			244600	2031700	-	12.19		12.19	No	No		
			244700	2031800	-	11.73		11.73	No	No		
			244700	2031700	-	11.70		11.70	No	No		
			244600	2031600	-	11.52		11.52	No	No		
			244600	2031500	-	11.48		11.48	No	No		
			245600	2032000	-	11.29		11.29	No	No		
			244500	2031800	-	11.10		11.10	No	No		
			248100	2031800	-	10.97		10.97	No	No		

Figure 1-16
SO_2
Annual Averaging Period
2011
2020-2024 Mining Sites

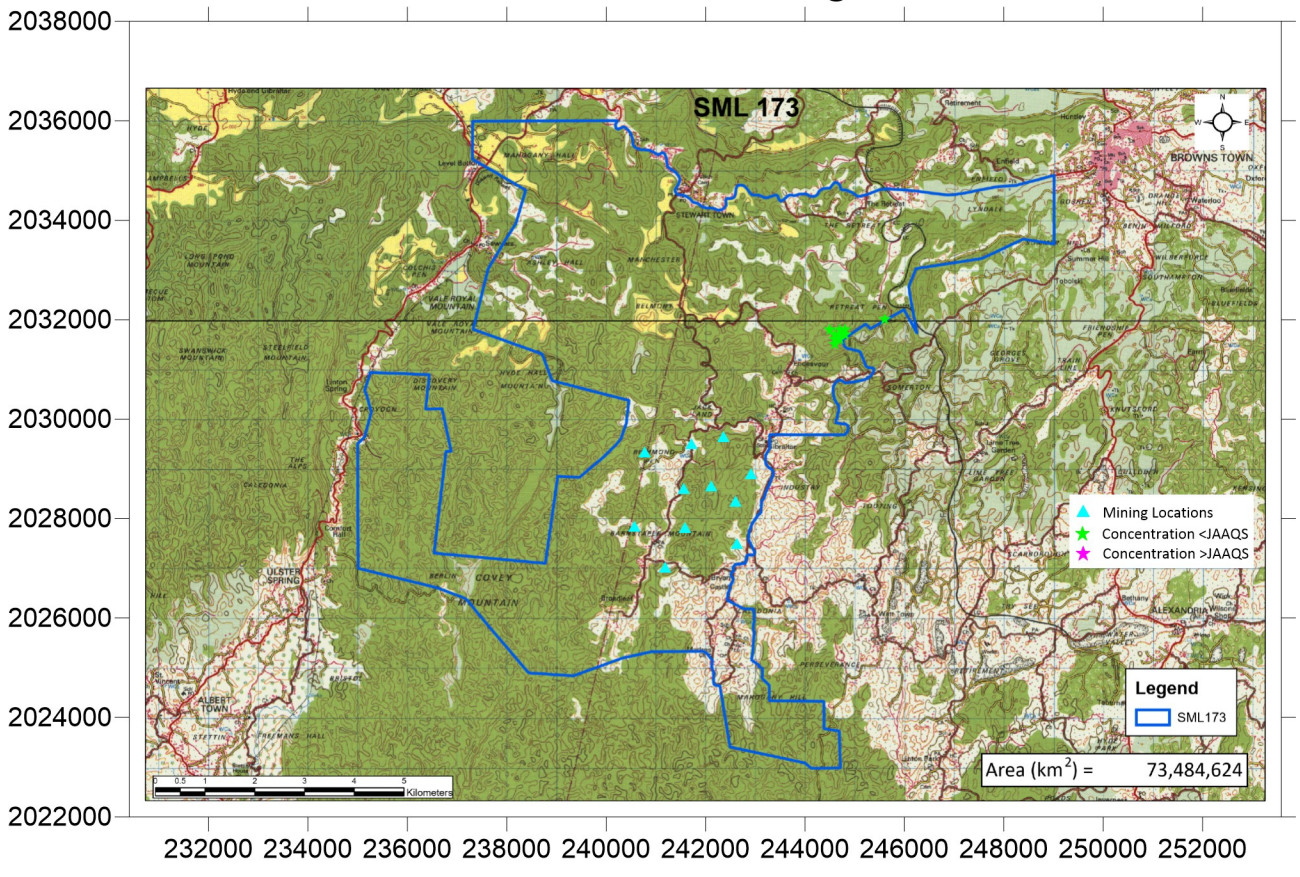


Table 1-17
2020-2024 SO2 Annual Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2016	245400	2031900	-	12.48	0.00	12.48	No	No		16so2ann.inp
			244700	2031600	-	12.18		12.18	No	No		
			245600	2032000	-	12.01		12.01	No	No		
			244800	2032100	-	11.83		11.83	No	No		
			244900	2032100	-	11.83		11.83	No	No		
			244500	2031800	-	11.78		11.78	No	No		
			245500	2032000	-	11.14		11.14	No	No		
			244500	2032100	-	11.01		11.01	No	No		
			244600	2031500	-	10.99		10.99	No	No		
			244400	2032000	-	10.95		10.95	No	No		

Figure 1-17
SO_2
Annual Averaging Period
2016
2020-2024 Mining Sites

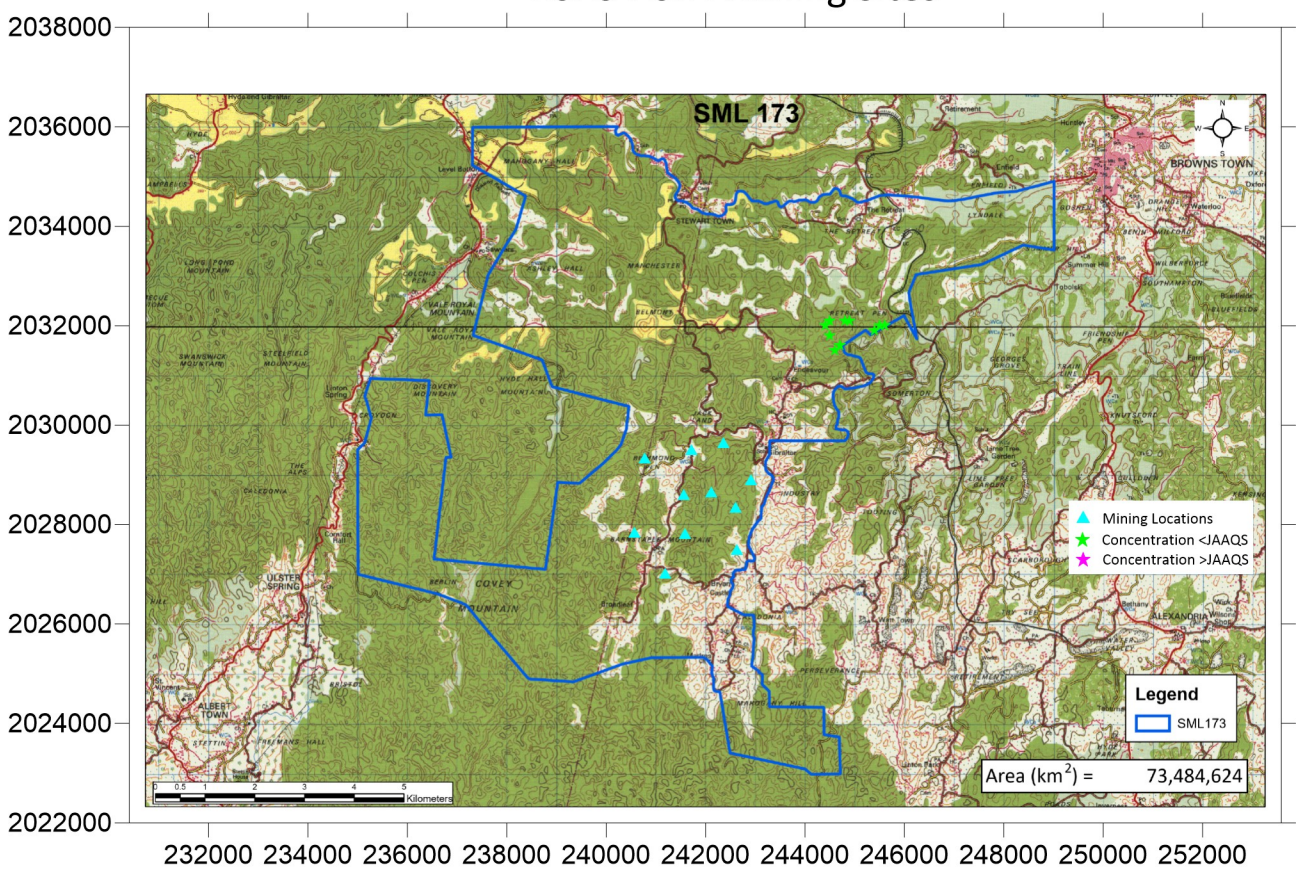


Table 1-18
2020-2024 SO2 Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.								
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2017	244700	2031600	-	12.56	0.00	12.56	No	No		17so2ann.inp
			245400	2031900	-	12.17		12.17	No	No		
			244500	2031800	-	12.16		12.16	No	No		
			244800	2031700	-	11.87		11.87	No	No		
			244800	2032100	-	11.72		11.72	No	No		
			245600	2032000	-	11.67		11.67	No	No		
			244900	2032100	-	11.65		11.65	No	No		
			244600	2031500	-	11.62		11.62	No	No		
			244700	2031800	-	11.48		11.48	No	No		
			244800	2031900	-	11.43		11.43	No	No		

Figure 1-18
SO_2
Annual Averaging Period
2017
2020-2024 Mining Sites

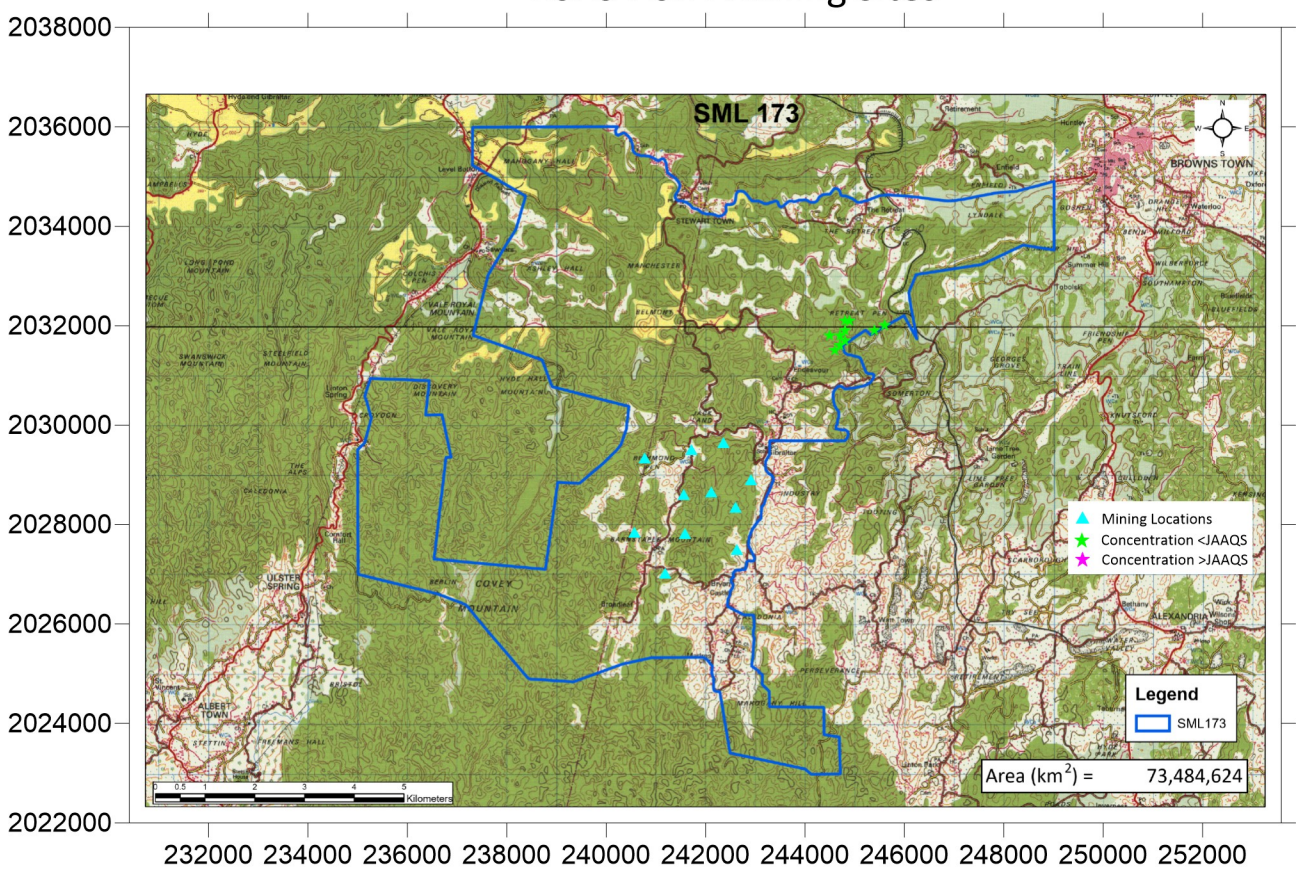


Table 1-19
2020-2024 SO2 Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2018	245600	2032000	-	13.39	0.00	13.39	No	No		18so2ann.inp
			245400	2031900	-	13.38		13.38	No	No		
			244800	2032100	-	13.25		13.25	No	No		
			244900	2032100	-	13.17		13.17	No	No		
			244700	2031600	-	12.91		12.91	No	No		
			244500	2031800	-	12.65		12.65	No	No		
			244700	2032100	-	12.27		12.27	No	No		
			244500	2032100	-	12.24		12.24	No	No		
			245500	2032000	-	12.06		12.06	No	No		
			244600	2031500	-	11.99		11.99	No	No		

Figure 1-19
SO_2
Annual Averaging Period
2018
2020-2024 Mining Sites

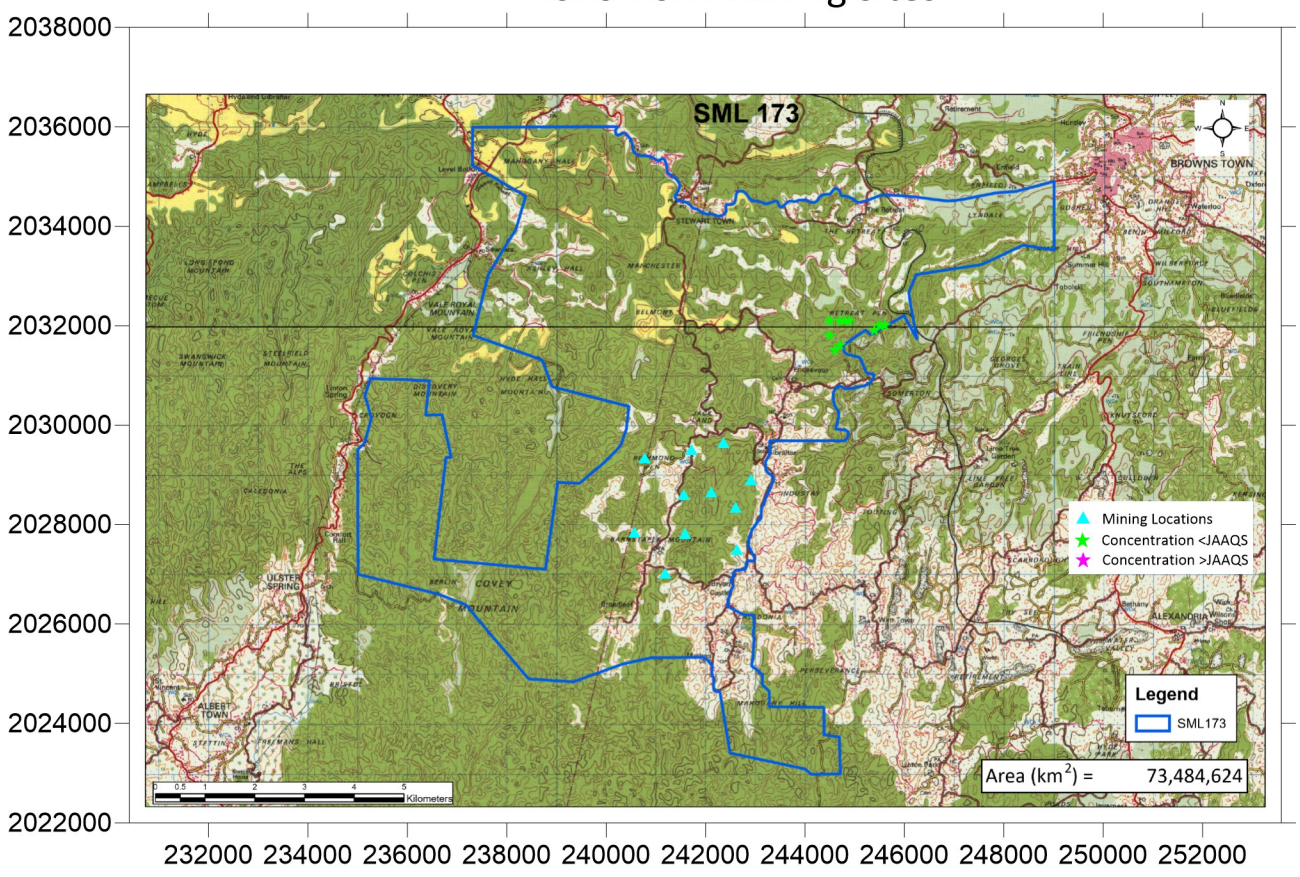


Table 1-20
2020-2024 SO2 Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2019	245600	2032000	-	17.00	0.00	17.00	No	No		19so2ann.inp
			245400	2031900	-	16.28		16.28	No	No		
			244700	2031600	-	15.95		15.95	No	No		
			244800	2032100	-	15.90		15.90	No	No		
			244500	2031800	-	15.81		15.81	No	No		
			244900	2032100	-	15.72		15.72	No	No		
			245500	2032000	-	15.37		15.37	No	No		
			244500	2032100	-	14.85		14.85	No	No		
			244400	2032000	-	14.80		14.80	No	No		
			244700	2032100	-	14.78		14.78	No	No		

Figure 1-20
SO_2
Annual Averaging Period
2019
2020-2024 Mining Sites

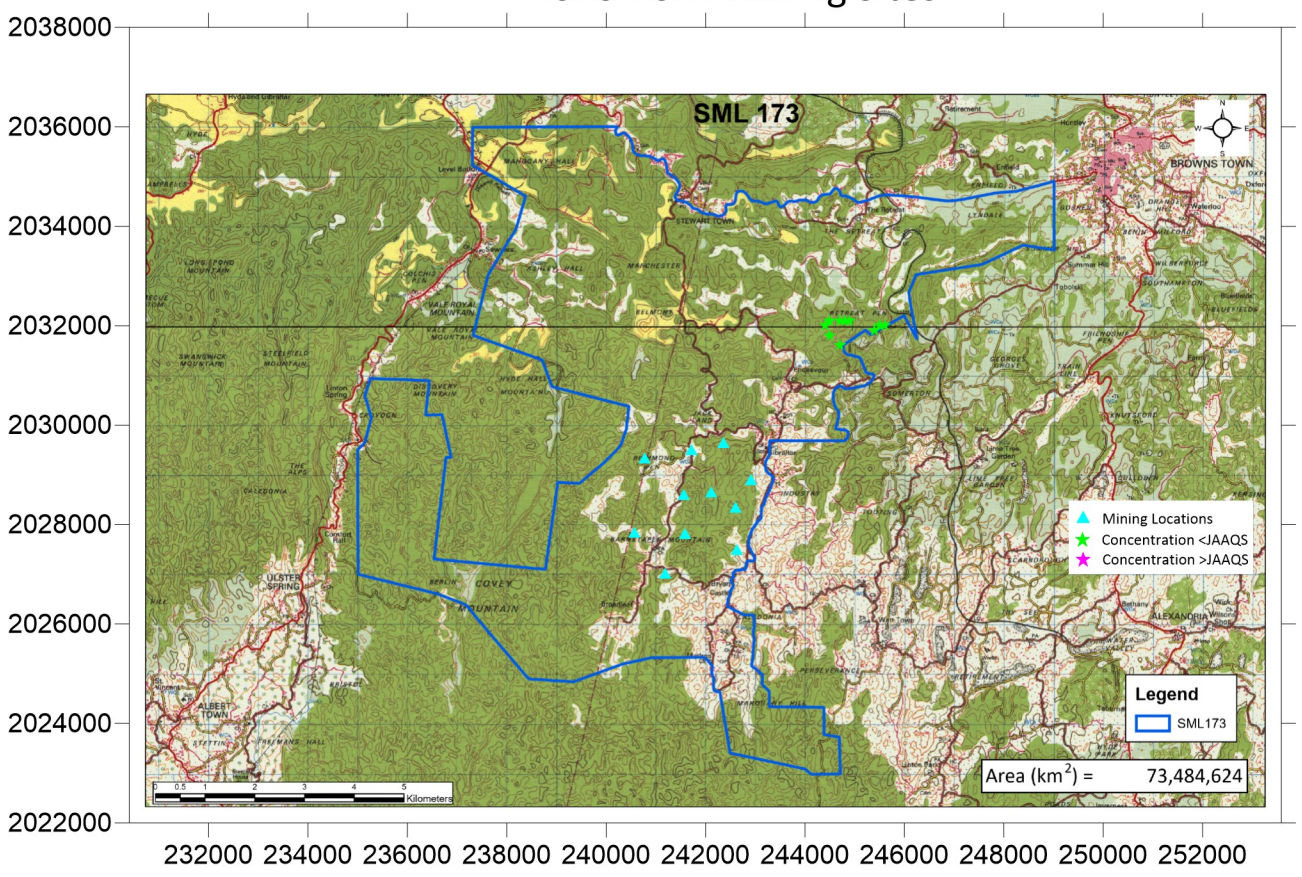


Table 1-21
2020-2024 SO2 24-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2011	245100	2032300	11031024	71.22	0.00	71.22	No	No		11so224h.inp
			244500	2032100	11110124	66.86		66.86	No	No		
			244700	2032100	11110124	66.26		66.26	No	No		
			244800	2032100	11110124	64.89		64.89	No	No		
			246000	2032300	11110824	63.57		63.57	No	No		
			245600	2032000	11111024	62.64		62.64	No	No		
			244600	2032200	11110124	59.28		59.28	No	No		
			244400	2032000	11110124	57.04		57.04	No	No		
			244600	2031600	11072624	56.24		56.24	No	No		
			244700	2031600	11092924	55.68		55.68	No	No		

Figure 1-21
SO_2
24-hr Averaging Period
2011
2020-2024 Mining Sites

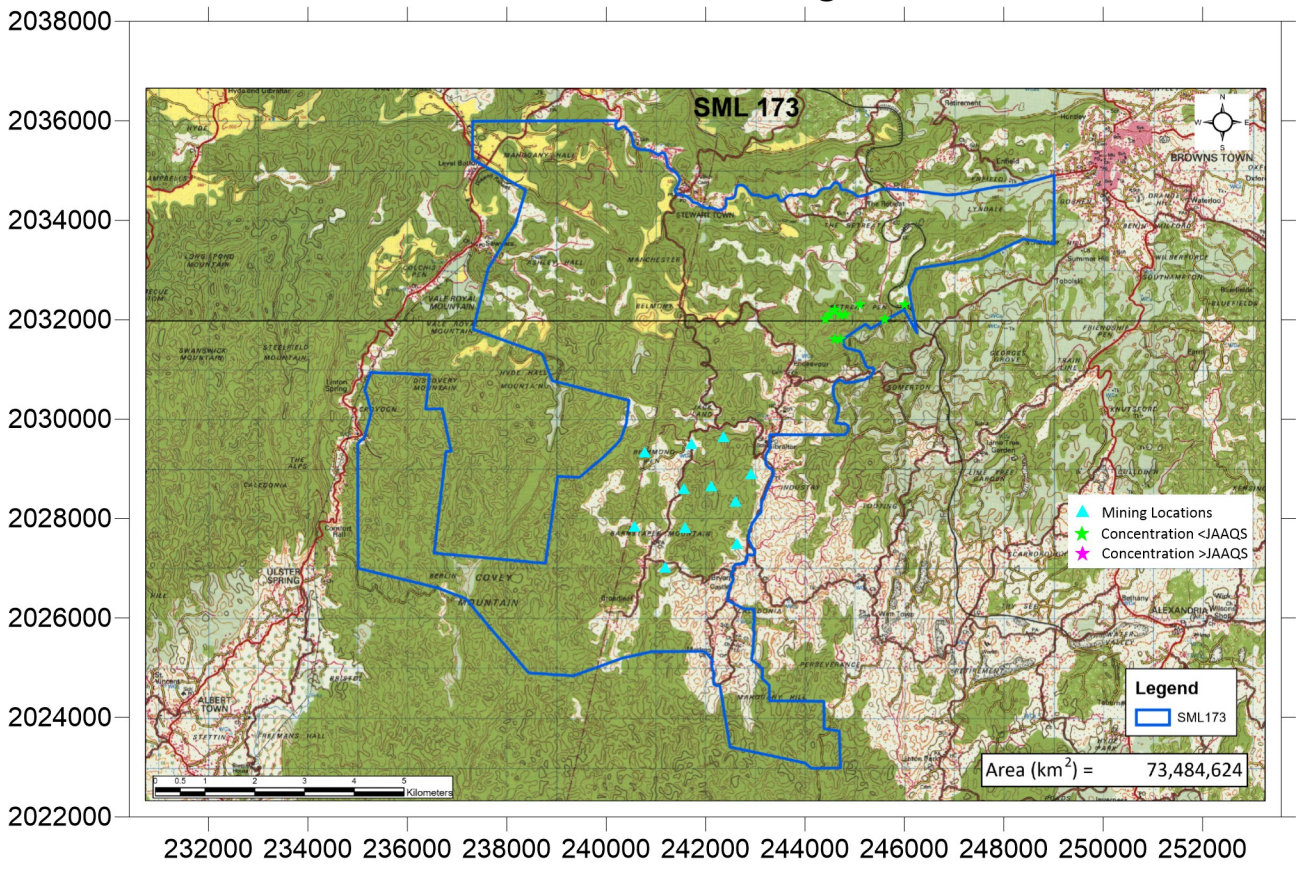


Table 1-22
2020-2024 SO2 24-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2016	244900	2032100	16011224	107.36	0.00	107.36	No	No		16so224h.inp
			244800	2032100	16011224	96.63		96.63	No	No		
			245100	2032300	16011224	95.19		95.19	No	No		
			245400	2031900	16011224	85.82		85.82	No	No		
			244600	2032200	16011224	75.88		75.88	No	No		
			244500	2031500	16111624	73.55		73.55	No	No		
			244700	2032100	16011224	73.51		73.51	No	No		
			245600	2032000	16011224	71.28		71.28	No	No		
			244000	2031800	16111624	71.19		71.19	No	No		
			244400	2032000	16010824	69.90		69.90	No	No		

Figure 1-22
SO_2
24-hr Averaging Period
2016
2020-2024 Mining Sites

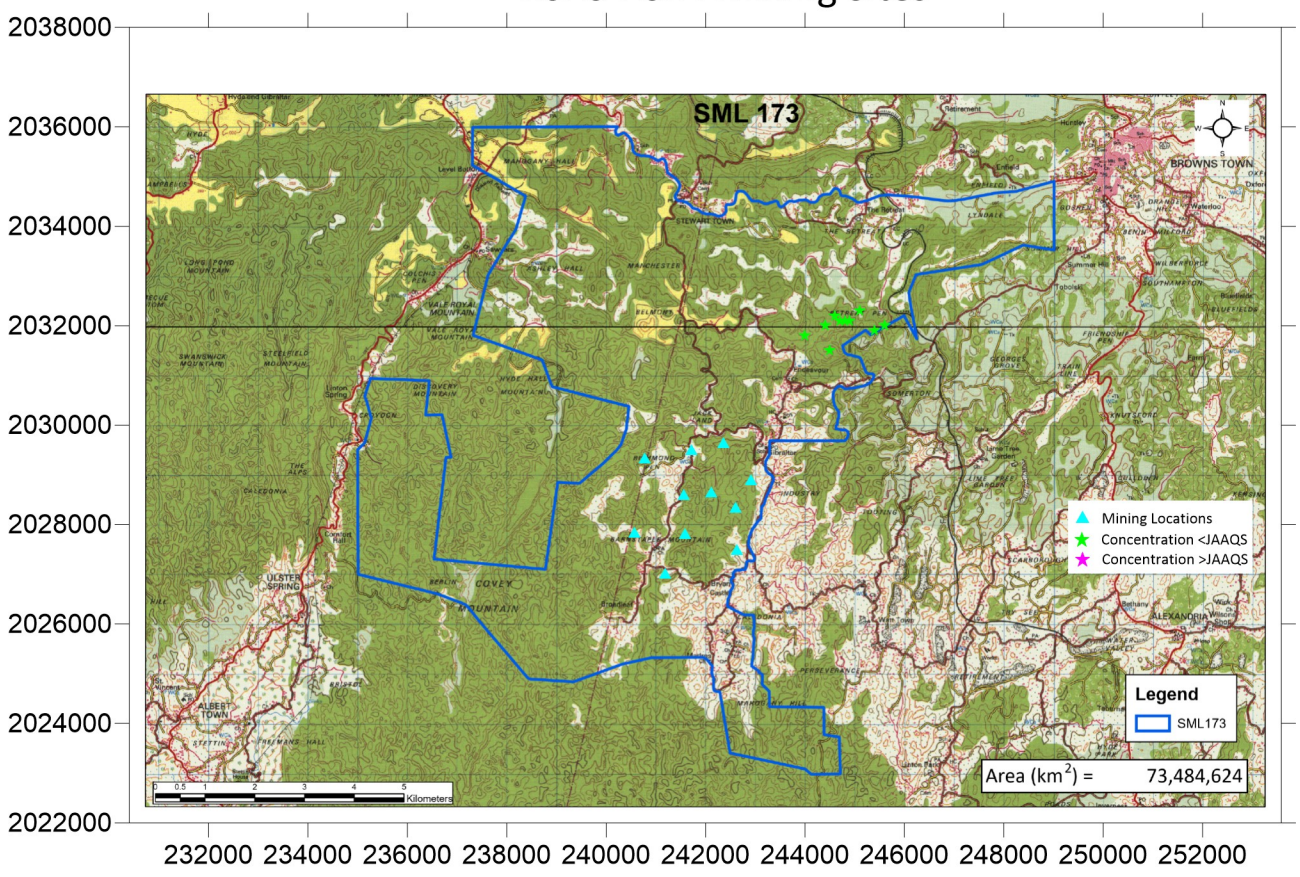


Table 1-23
2020-2024 SO2 24-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2017	244500	2031800	17022524	103.82	0.00	14.96	No	No		17so224h.inp
			245600	2032000	17012024	94.51		94.51	No	No		
			244400	2032000	17022524	87.92		87.92	No	No		
			244700	2031600	17082924	85.99		85.99	No	No		
			244500	2031500	17082924	83.23		83.23	No	No		
			244000	2031800	17082924	81.65		81.65	No	No		
			244600	2031500	17082924	78.42		78.42	No	No		
			244400	2031500	17082924	75.49		75.49	No	No		
			243800	2032000	17022524	74.89		74.89	No	No		
			243700	2031800	17082924	70.12		70.12	No	No		

Figure 1-23
SO_2
24-hr Averaging Period
2017
2020-2024 Mining Sites

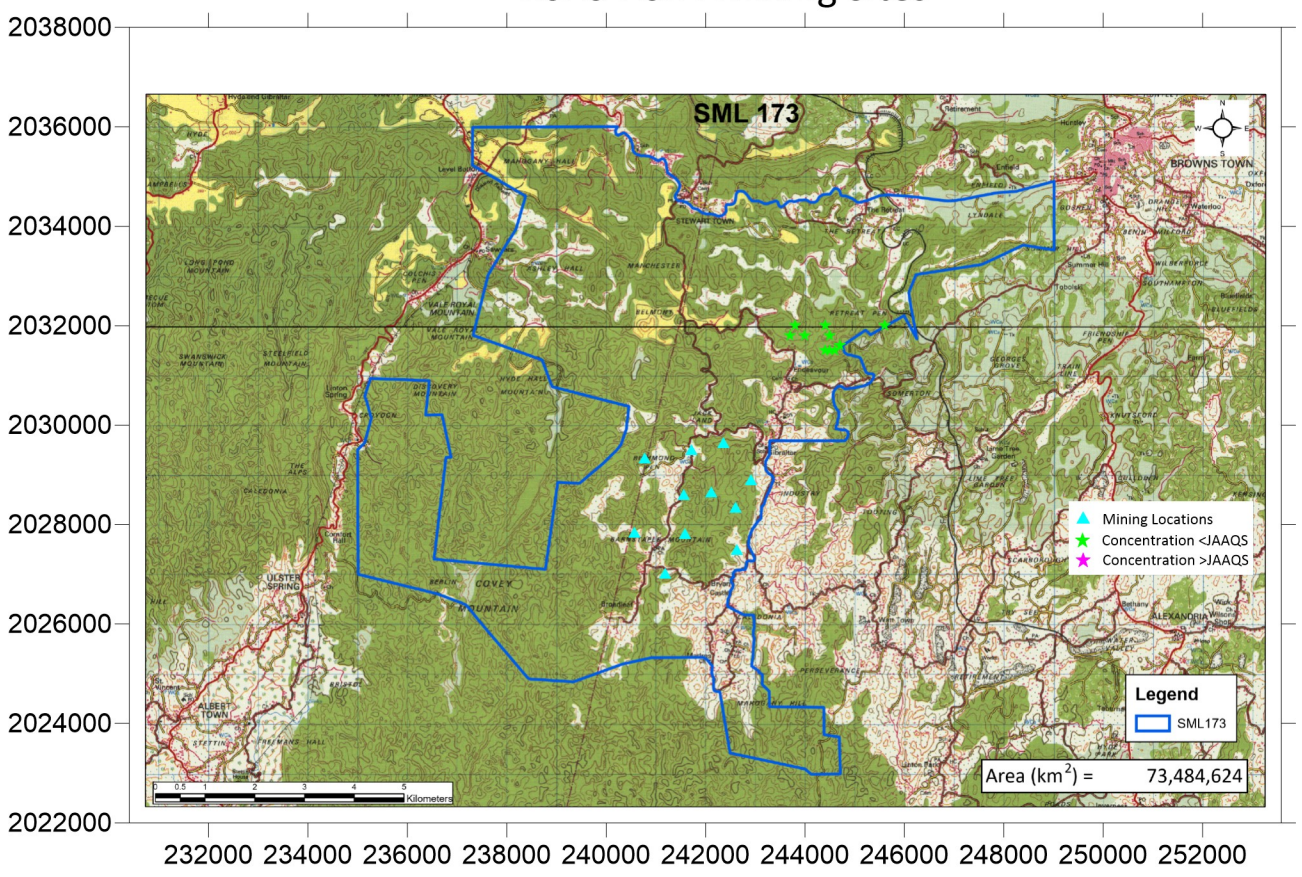


Table 1-24
2020-2024 SO2 24-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2018	244500	2031800	18041124	90.16	0.00	14.96	No	No		18so224h.inp
			245600	2032000	18060124	84.41		84.41	No	No		
			244700	2031600	18041124	79.09		79.09	No	No		
			244800	2032100	18051124	78.19		78.19	No	No		
			244900	2032100	18051124	77.65		77.65	No	No		
			244400	2032000	18112524	72.75		72.75	No	No		
			244500	2032100	18112524	72.72		72.72	No	No		
			244700	2032100	18051124	68.11		68.11	No	No		
			244600	2032200	18051124	67.68		67.68	No	No		
			243800	2032000	18041124	66.23		66.23	No	No		

Figure 1-24
SO_2
24-hr Averaging Period
2018
2020-2024 Mining Sites

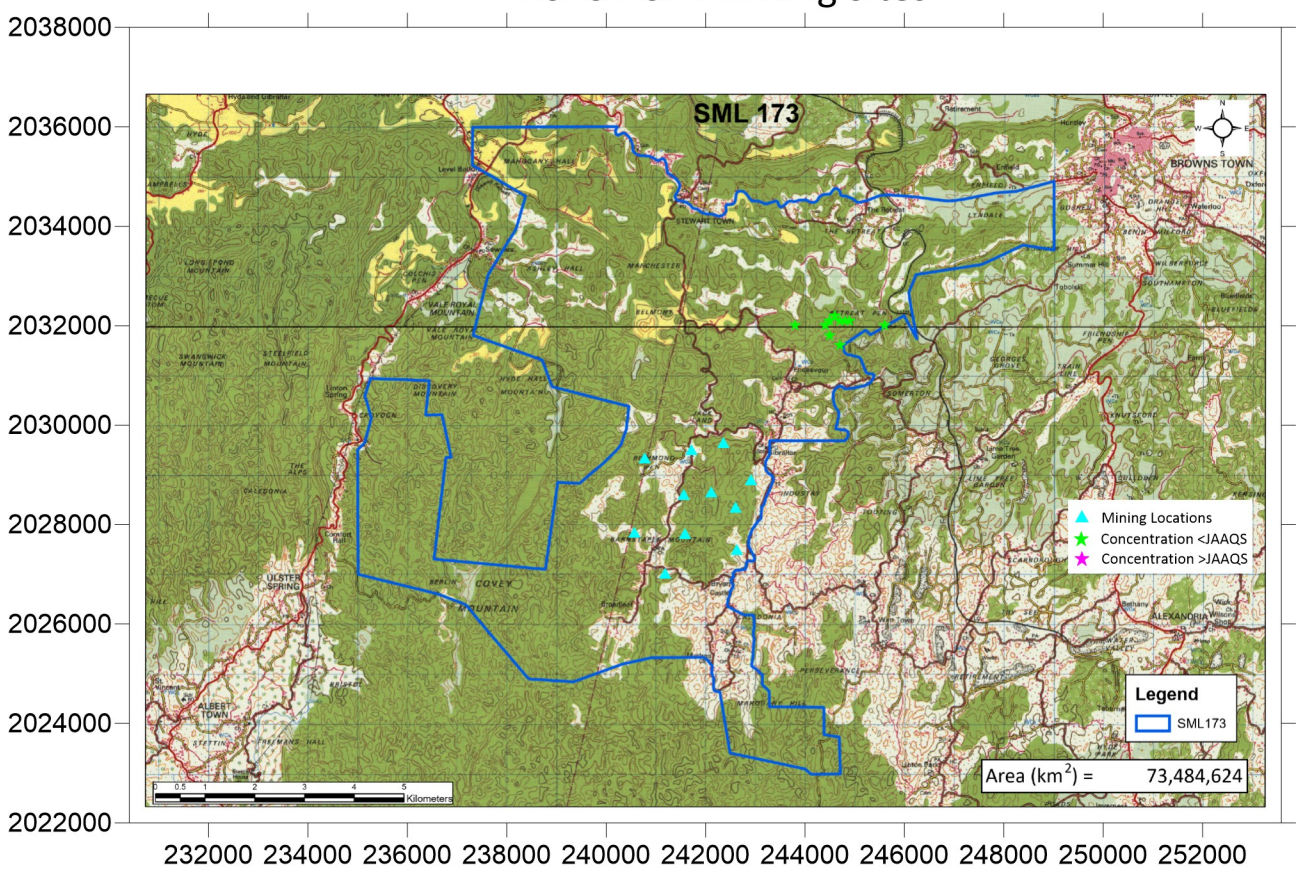


Table 1-25
2020-2024 SO2 24-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2019	244800	2032100	19070324	89.75	0.00	14.96	No	No		19so224h.inp
			244900	2032100	19070324	85.51		85.51	No	No		
			245600	2032000	19070224	82.27		82.27	No	No		
			244700	2032100	19070324	81.99		81.99	No	No		
			244700	2031600	19080624	78.54		78.54	No	No		
			244600	2032200	19070324	78.27		78.27	No	No		
			244500	2032100	19070324	74.41		74.41	No	No		
			244500	2031800	19090224	70.18		70.18	No	No		
			245100	2032300	19061324	64.49		64.49	No	No		
			244400	2031500	19081424	64.22		64.22	No	No		

Figure 1-25
SO_2
24-hr Averaging Period
2019
2020-2024 Mining Sites

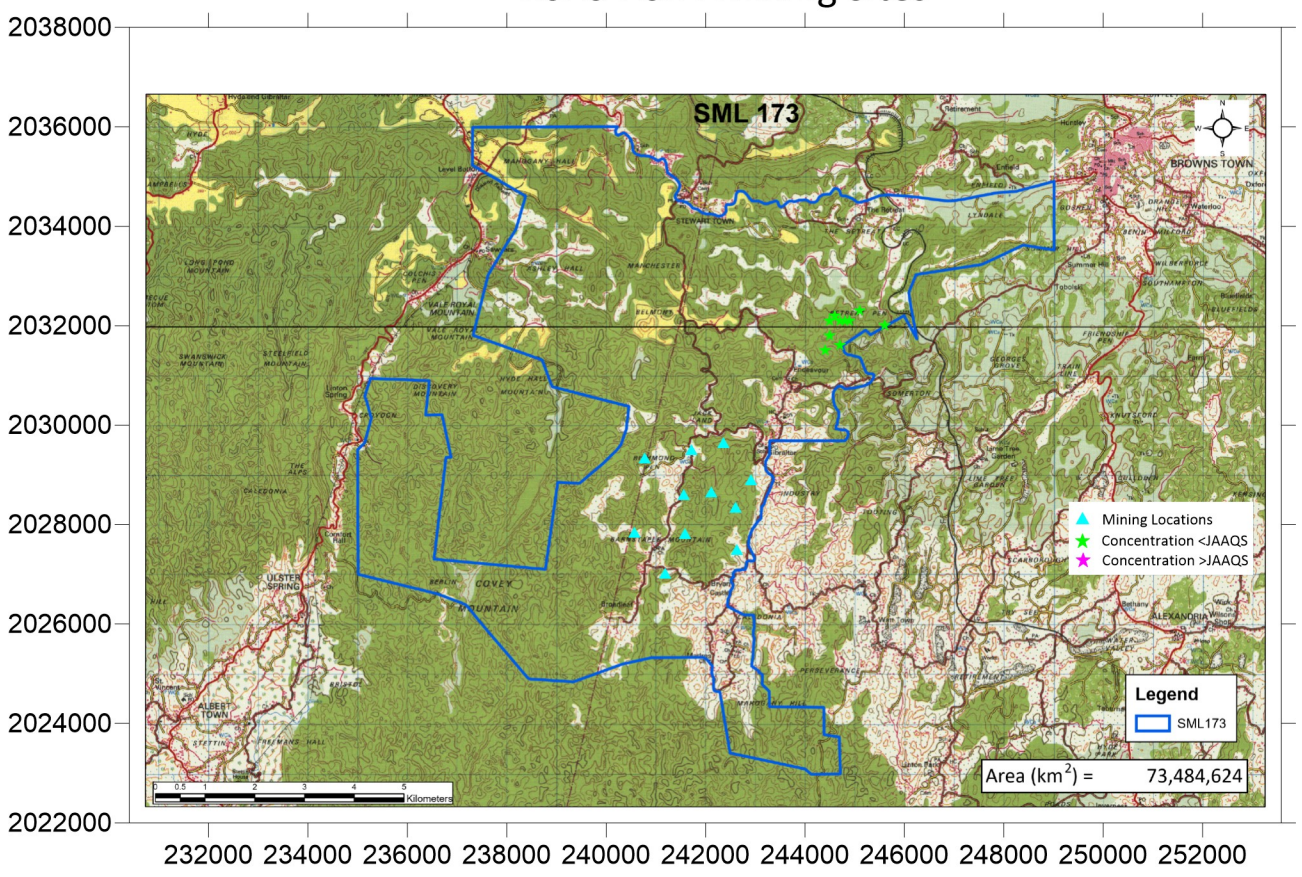


Table 1-26
2020-2024 SO2 1-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2011	245600	2032000	11031103	590.74	0.00	590.74	No	Yes		11so21hr.inp
			245100	2032300	11031024	580.39		580.39	No	Yes		
			244800	2032100	11042022	531.70		531.70	No	Yes		
			246100	2033300	11020906	530.65		530.65	No	Yes		
			244500	2031500	11030123	527.64		527.64	No	Yes		
			246200	2033400	11051301	525.67		525.67	No	Yes		
			244400	2031500	11042004	504.86		504.86	No	No		
			246000	2033300	11110222	499.15		499.15	No	No		
			246000	2032300	11110823	498.71		498.71	No	No		
			244900	2032100	11042022	497.13		497.13	No	No		

Figure 1-26
SO_2
1-hr Averaging Period
2011
2020-2024 Mining Sites

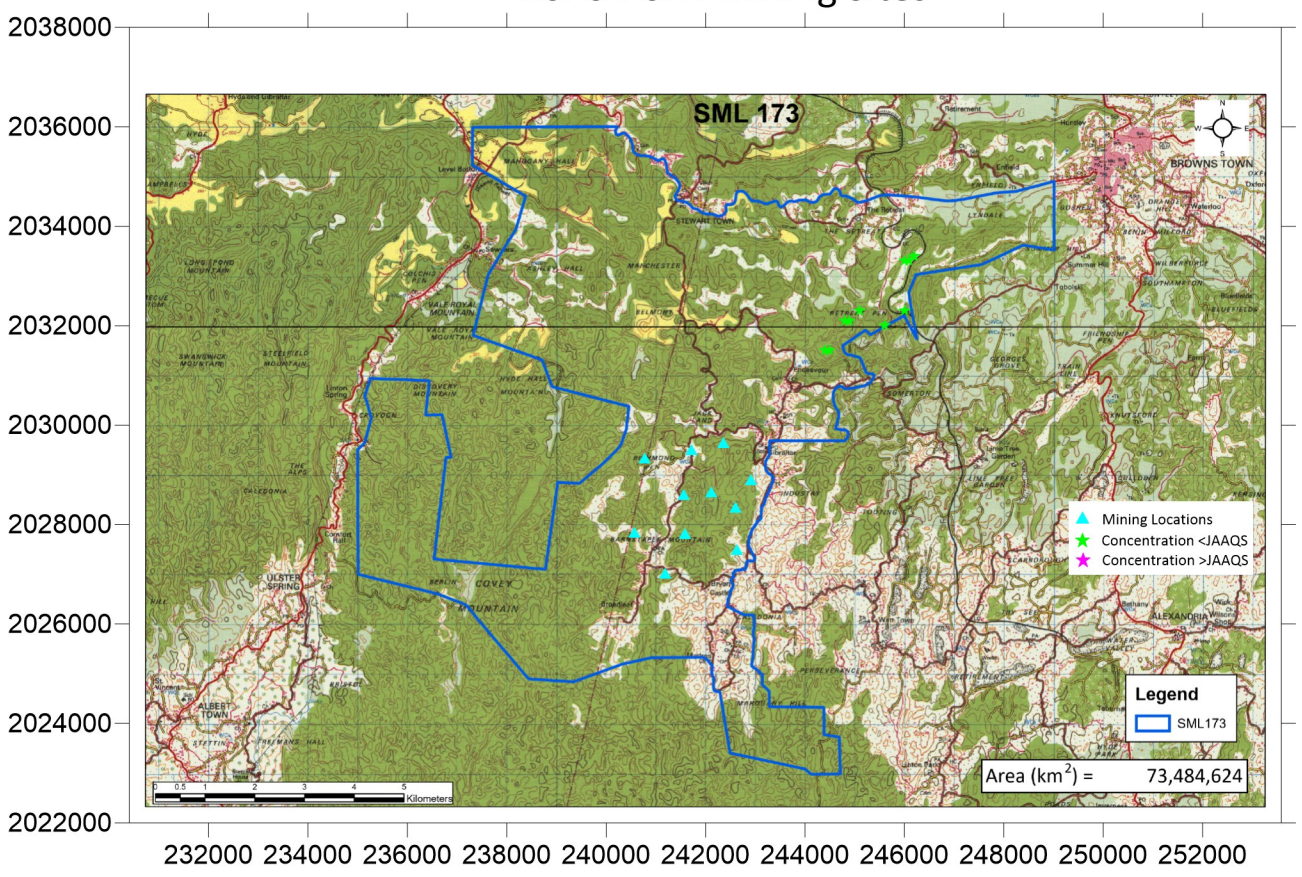


Table 1-27
2020-2024 SO2 1-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2016	245600	2032000	16061523	616.68	0.00	616.68	No	Yes		16so21hr.inp
			246000	2032300	16111601	571.93		571.93	No	Yes		
			245100	2032300	16011206	562.96		562.96	No	Yes		
			244800	2032100	16101802	536.61		536.61	No	Yes		
			244500	2031500	16041324	534.33		534.33	No	Yes		
			246100	2033300	16090323	530.88		530.88	No	Yes		
			246000	2032400	16102104	530.87		530.87	No	Yes		
			244500	2031800	16041704	524.90		524.90	No	No		
			247100	2033400	16011320	521.03		521.03	No	No		
			246700	2033400	16011321	515.12		515.12	No	No		

Figure 1-27
SO_2
1-hr Averaging Period
2016
2020-2024 Mining Sites

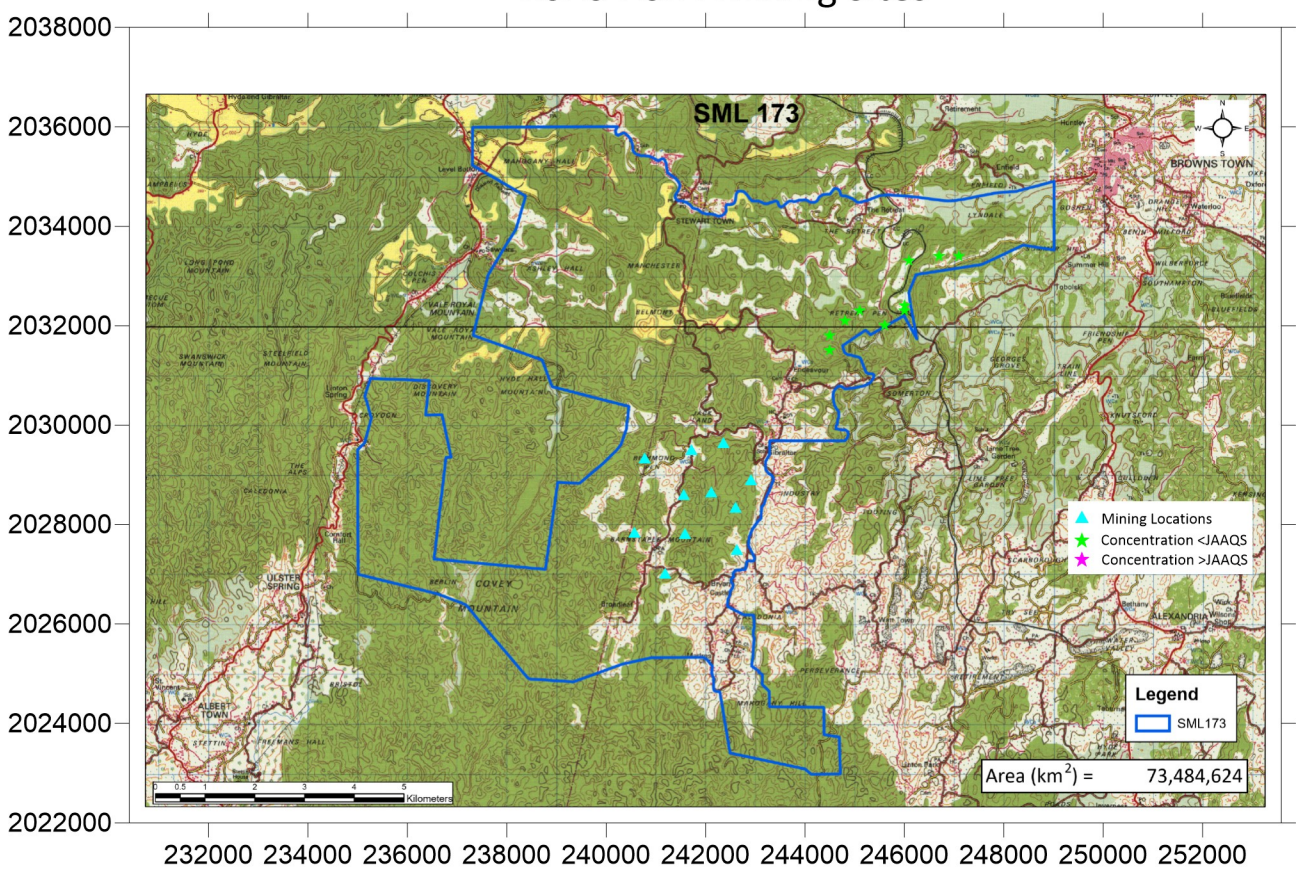


Table 1-28
2020-2024 SO2 1-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2017	245600	2032000	17122804	617.93	0.00	617.93	No	Yes		17so21hr.inp
			246000	2032300	17031222	606.48		606.48	No	Yes		
			245100	2032300	17090603	570.23		570.23	No	Yes		
			246000	2032200	17031222	554.88		554.88	No	Yes		
			244800	2032100	17020421	535.87		535.87	No	Yes		
			246200	2033400	17101406	525.61		525.61	No	Yes		
			244500	2031500	17021803	524.98		524.98	No	No		
			244500	2031800	17123101	522.78		522.78	No	No		
			246000	2032400	17031222	520.80		520.80	No	No		
			246000	2033300	17041324	519.43		519.43	No	No		

Figure 1-28
SO_2
1-hr Averaging Period
2017
2020-2024 Mining Sites

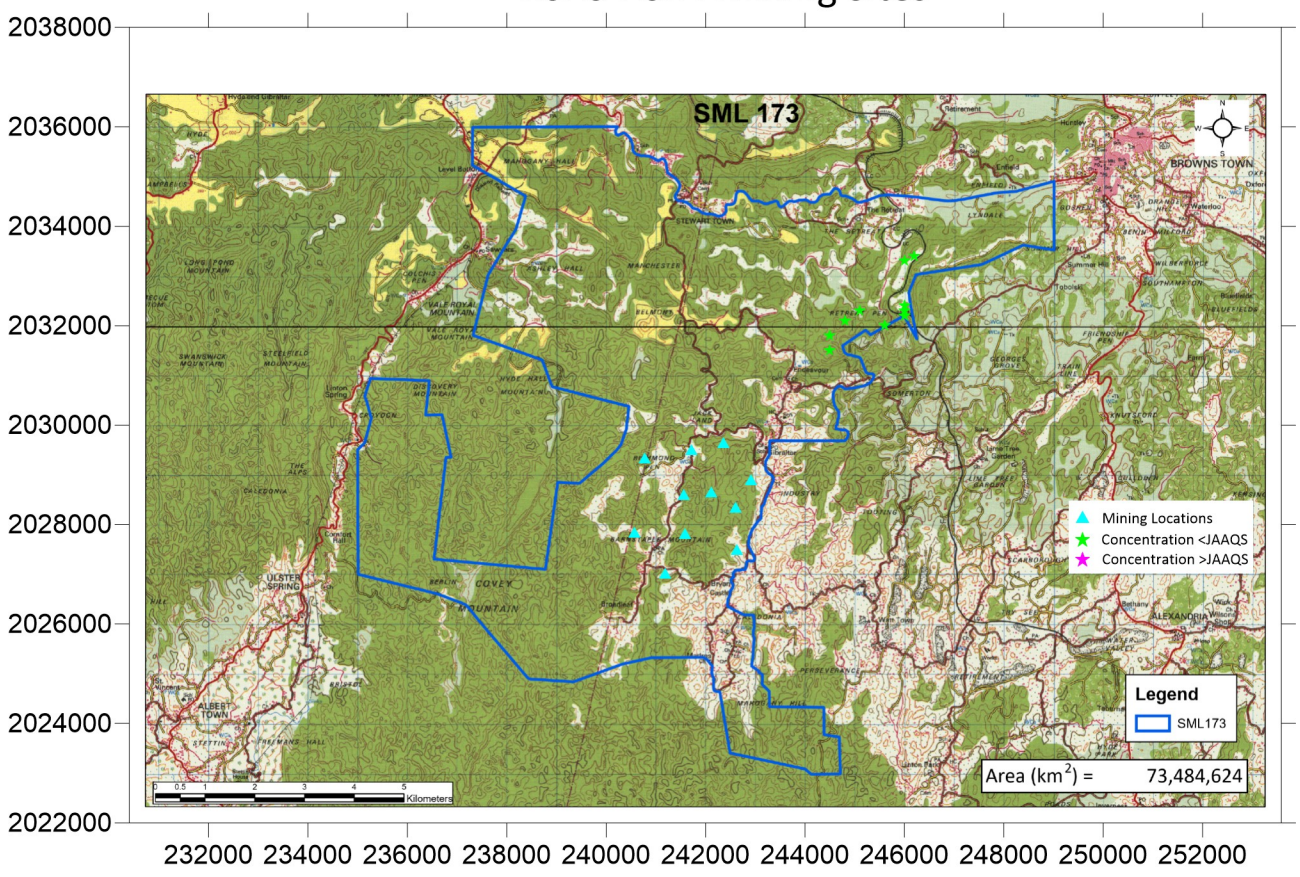


Table 1-29
2020-2024 SO2 1-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2018	245600	2032000	18041022	641.90	0.00	641.90	No	Yes		18so21hr.inp
			245100	2032300	18061023	580.51		580.51	No	Yes		
			246000	2032300	18061324	563.36		563.36	No	Yes		
			244800	2032100	18051105	535.97		535.97	No	Yes		
			244500	2031500	18112504	535.01		535.01	No	Yes		
			246200	2033400	18120123	527.23		527.23	No	Yes		
			244700	2032100	18060204	519.68		519.68	No	No		
			244400	2031500	18120624	519.36		519.36	No	No		
			246100	2033300	18033023	516.09		516.09	No	No		
			244500	2031800	18110106	515.47		515.47	No	No		

Figure 1-29
SO_2
1-hr Averaging Period
2018
2020-2024 Mining Sites

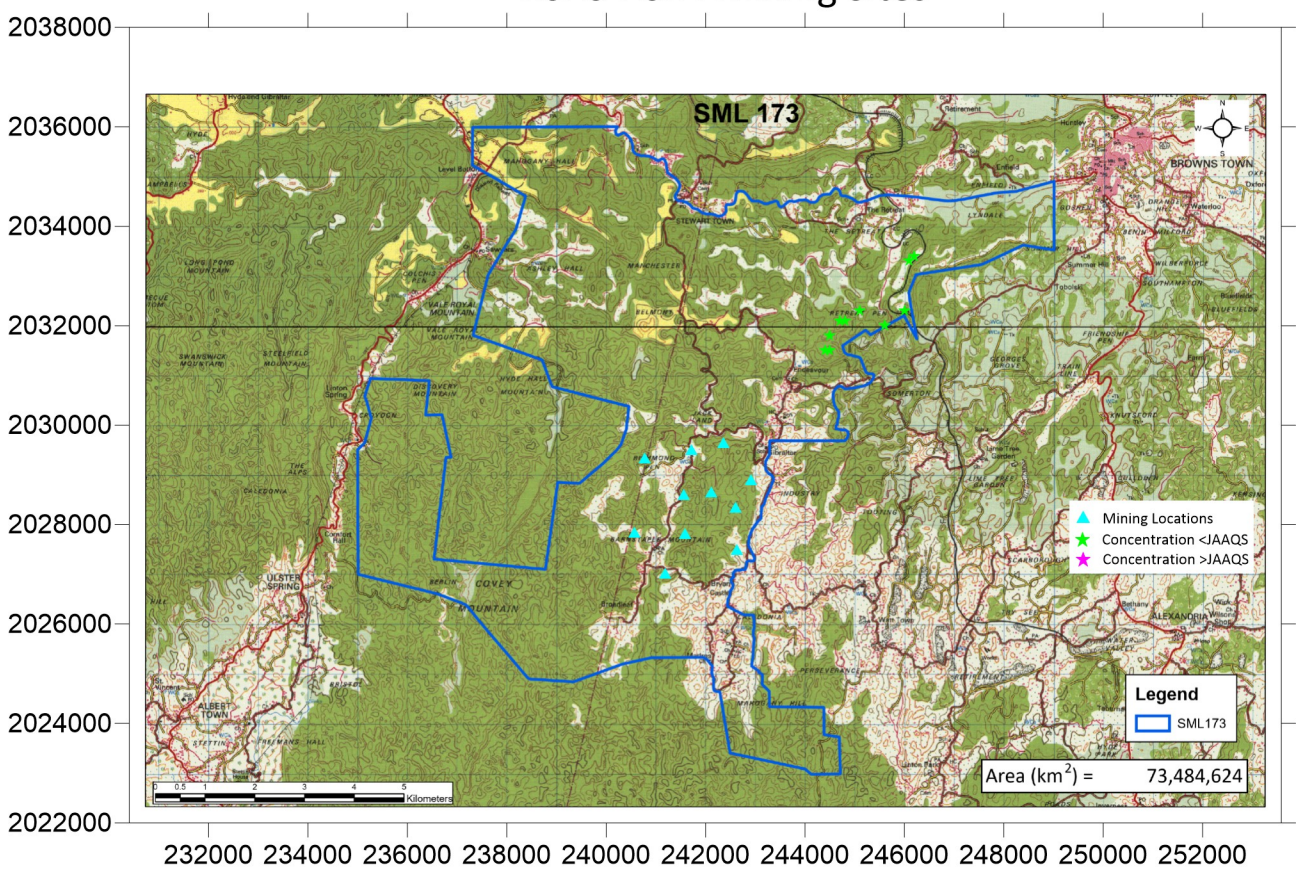


Table 1-30
2020-2024 SO2 1-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2019	245600	2032000	19050123	623.57	0.00	623.57	No	Yes		19so21hr.inp
			246000	2032300	19120502	570.46		570.46	No	Yes		
			245100	2032300	19110922	568.73		568.73	No	Yes		
			246000	2032400	19120502	553.17		553.17	No	Yes		
			244500	2031500	19122720	538.99		538.99	No	Yes		
			244800	2032100	19111502	538.81		538.81	No	Yes		
			246100	2033300	19011520	530.79		530.79	No	Yes		
			244700	2032100	19111502	516.25		516.25	No	No		
			244900	2032100	19092224	514.50		514.50	No	No		
			244500	2031800	19071002	510.25		510.25	No	No		

Figure 1-30
SO_2
1-hr Averaging Period
2019
2020-2024 Mining Sites

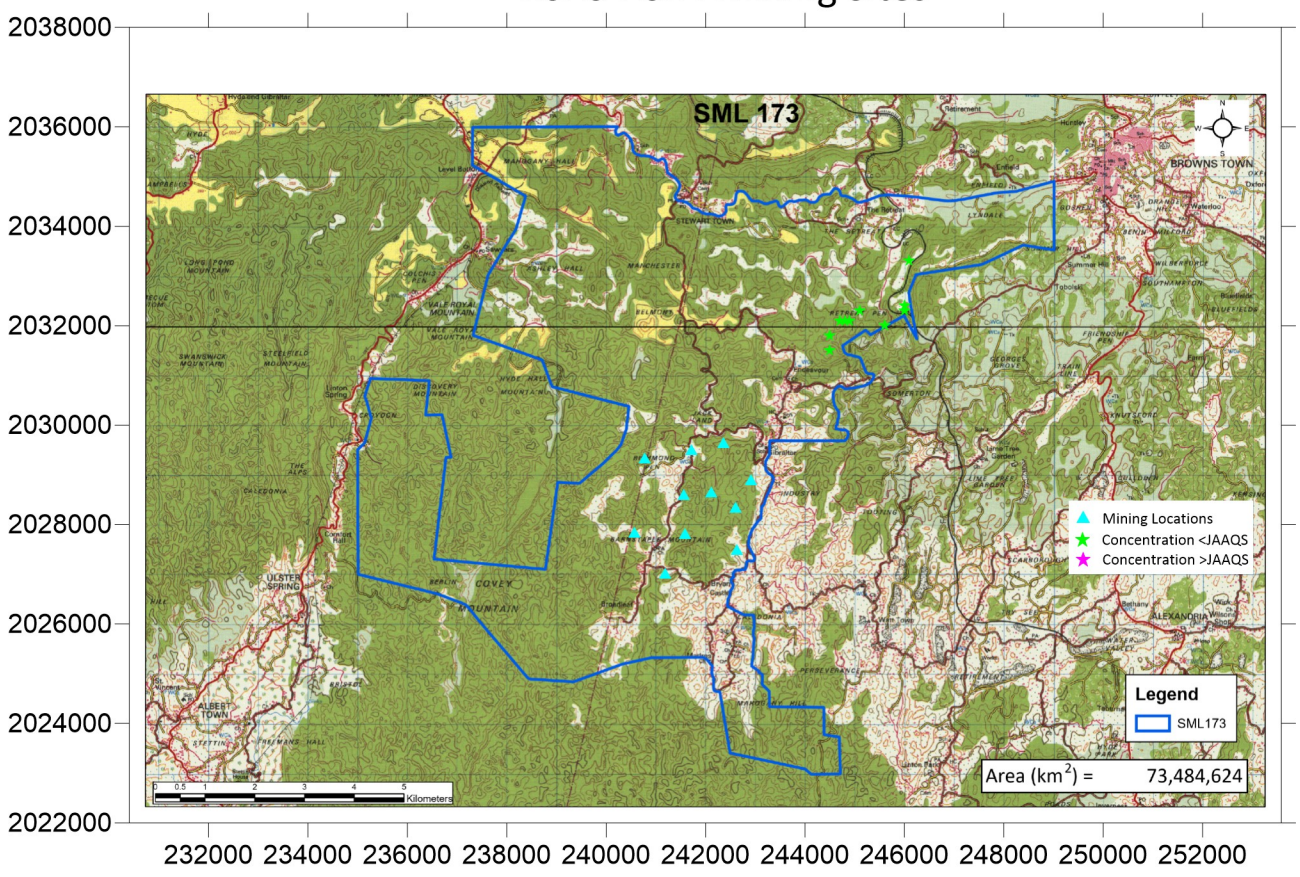


Table 1-31
2020-2024 PM-10 Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	50.00 (Annual)	2011	242900	2028900	-	110.56	20.00	130.56	Yes	Yes	Located in ore body mine site	11pm10an.inp
			242600	2027500	-	46.52		66.52	Yes	Yes	Located in ore body mine site	
			241700	2029500	-	44.71		64.71	Yes	Yes	Located in ore body mine site	
			241600	2027800	-	43.51		63.51	Yes	Yes	Located in ore body mine site	
			241200	2027000	-	25.54		45.54	No	Yes	Located in ore body mine site	
			242100	2028700	-	13.16		33.16	No	No	Located in ore body mine site	
			242600	2028300	-	11.77		31.77	No	No	Located in ore body mine site	
			240800	2029300	-	11.63		31.63	No	No	Located in ore body mine site	
			241500	2028600	-	10.82		30.82	No	No	Located in ore body mine site	
			241600	2028600	-	10.50		30.50	No	No	Located in ore body mine site	

Figure 1-31
PM-10
Annual Averaging Period
2011
2020-2024 Mining Sites

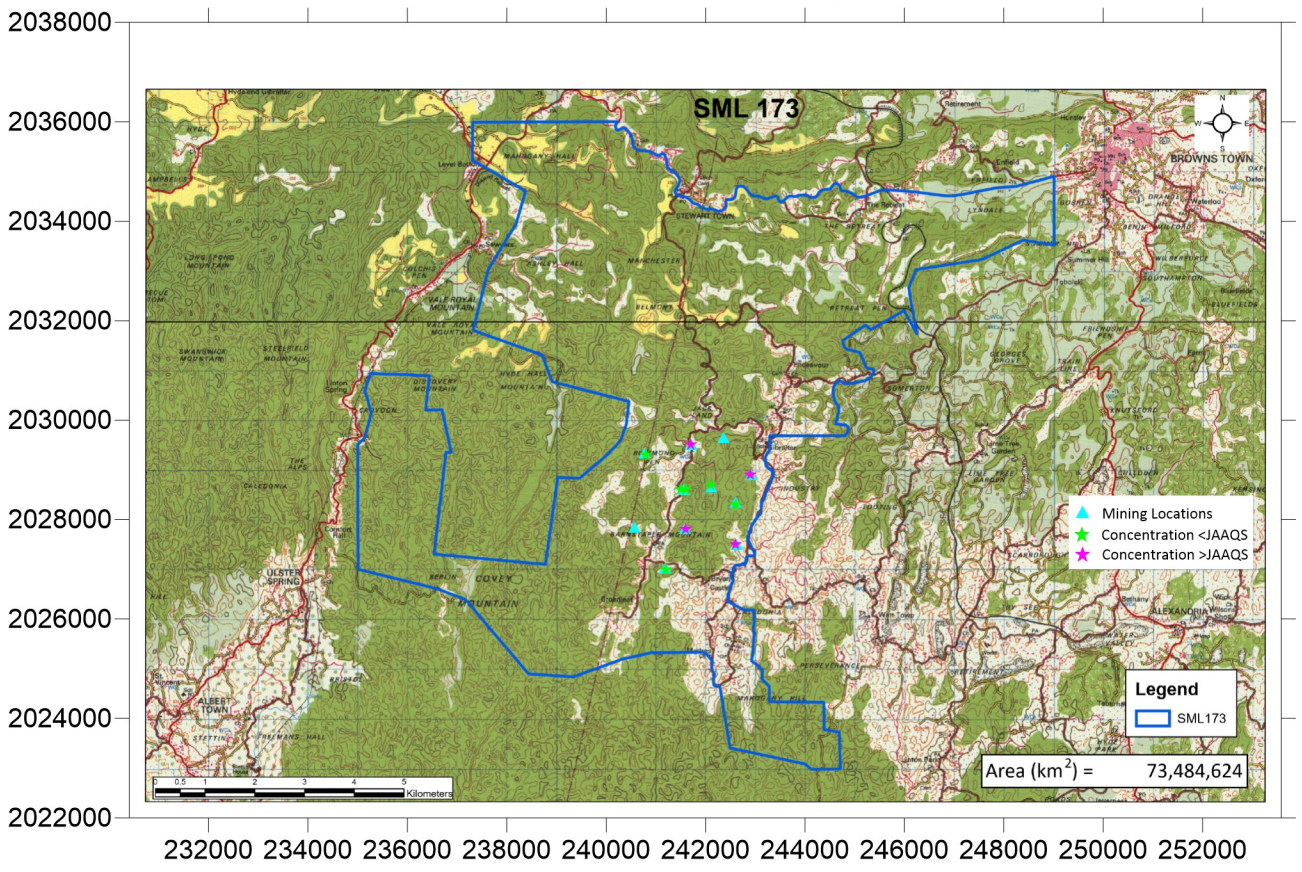


Table 1-32
2020-2024 PM-10 Annual Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.								
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	50.00 (Annual)	2016	242900	2028900	-	118.33	20.00	138.33	Yes	Yes	Located in ore body mine site	16pm10an.inp
			241700	2029500	-	48.03		68.03	Yes	Yes	Located in ore body mine site	
			241600	2027800	-	46.95		66.95	Yes	Yes	Located in ore body mine site	
			242600	2027500	-	39.73		59.73	Yes	Yes	Located in ore body mine site	
			241200	2027000	-	27.52		47.52	No	Yes	Located in ore body mine site	
			242100	2028700	-	13.67		33.67	No	No	Located in ore body mine site	
			240800	2029300	-	12.33		32.33	No	No	Located in ore body mine site	
			242600	2028300	-	11.83		31.83	No	No	Located in ore body mine site	
			241500	2028600	-	10.71		30.71	No	No	Located in ore body mine site	
			241600	2028600	-	10.21		30.21	No	No	Located in ore body mine site	

Figure 1-32
PM-10
Annual Averaging Period
2016
2020-2024 Mining Sites

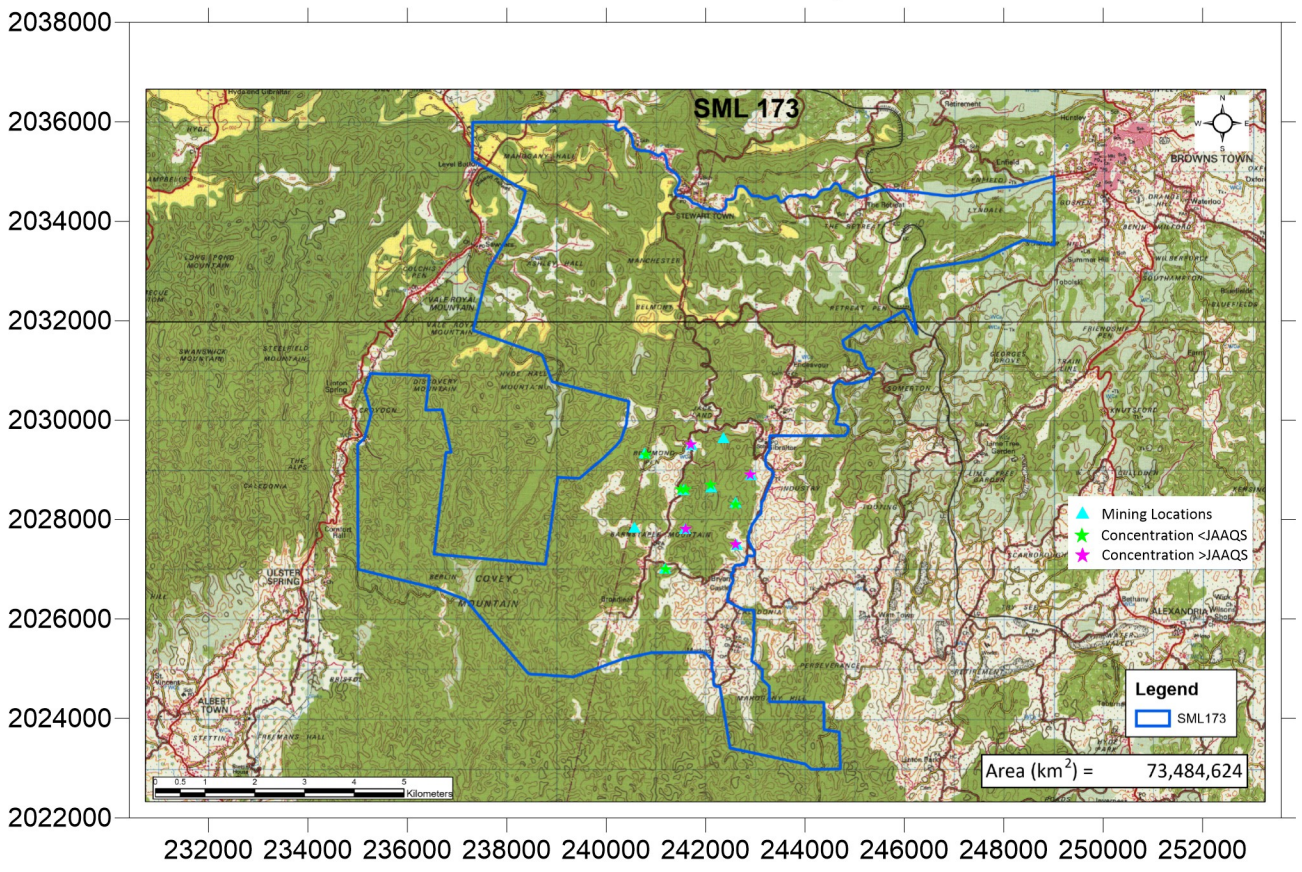


Table 1-33
2020-2024 PM-10 Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	50.00 (Annual)	2017	242900	2028900	-	119.50	20.00	139.50	Yes	Yes	Located in ore body mine site	17pm10an.inp
			241700	2029500	-	48.64		68.64	Yes	Yes	Located in ore body mine site	
			241600	2027800	-	48.18		68.18	Yes	Yes	Located in ore body mine site	
			242600	2027500	-	44.15		64.15	Yes	Yes	Located in ore body mine site	
			241200	2027000	-	28.32		48.32	No	Yes	Located in ore body mine site	
			242100	2028700	-	14.23		34.23	No	No	Located in ore body mine site	
			240800	2029300	-	12.84		32.84	No	No	Located in ore body mine site	
			242600	2028300	-	12.12		32.12	No	No	Located in ore body mine site	
			241500	2028600	-	10.99		30.99	No	No	Located in ore body mine site	
			241600	2028600	-	10.62		30.62	No	No	Located in ore body mine site	

Figure 1-33
PM-10
Annual Averaging Period
2017
2020-2024 Mining Sites

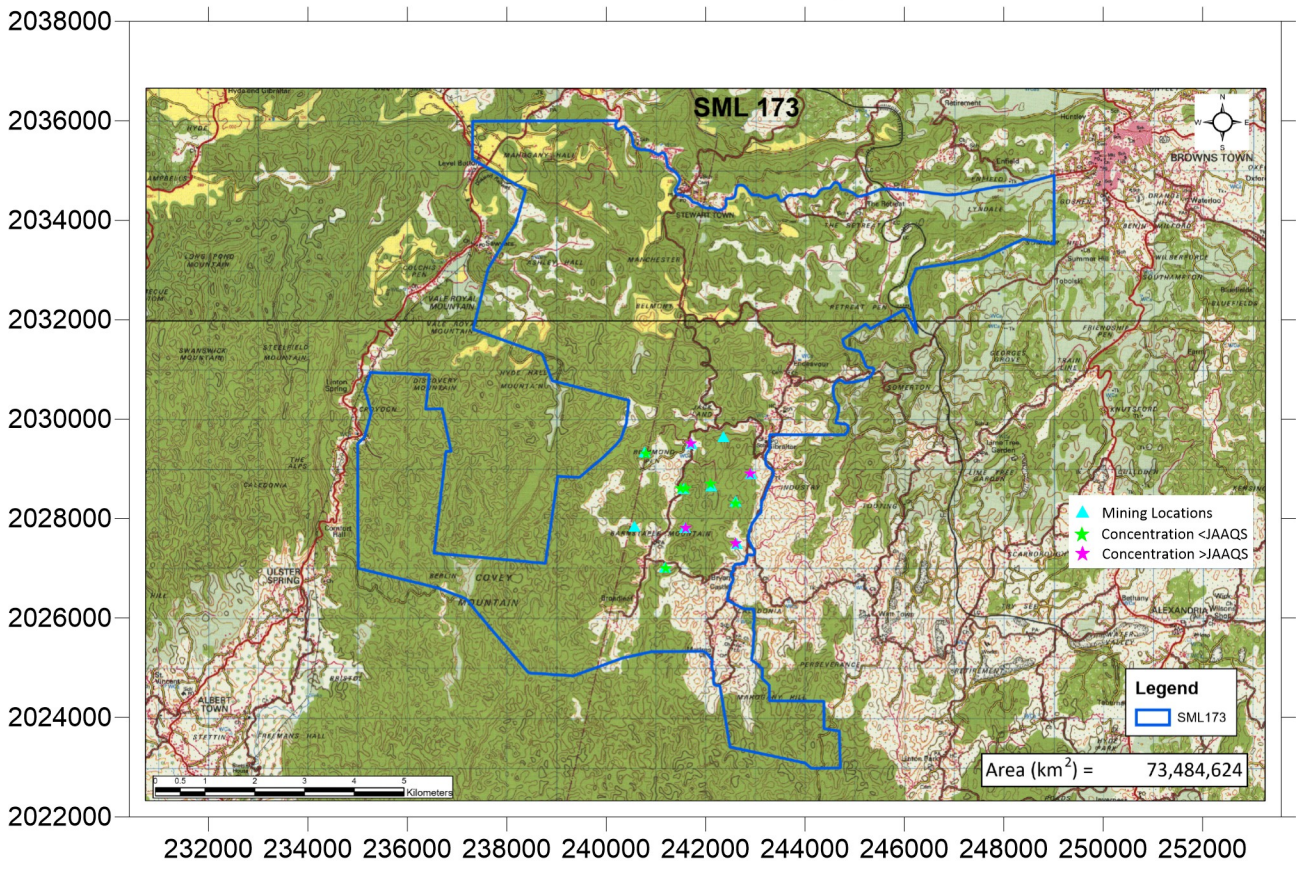


Table 1-34
2020-2024 PM-10 Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	50.00 (Annual)	2018	242900	2028900	-	115.09	20.00	135.09	Yes	Yes	Located in ore body mine site	18pm10an.inp
			241600	2027800	-	48.35		68.35	Yes	Yes	Located in ore body mine site	
			241700	2029500	-	46.82		66.82	Yes	Yes	Located in ore body mine site	
			242600	2027500	-	37.72		57.72	Yes	Yes	Located in ore body mine site	
			241200	2027000	-	28.59		48.59	No	Yes	Located in ore body mine site	
			242100	2028700	-	14.33		34.33	No	No	Located in ore body mine site	
			240800	2029300	-	12.33		32.33	No	No	Located in ore body mine site	
			242600	2028300	-	11.72		31.72	No	No	Located in ore body mine site	
			241500	2028600	-	10.45		30.45	No	No	Located in ore body mine site	
			241600	2028600	-	10.34		30.34	No	No	Located in ore body mine site	

Figure 1-34
PM-10
Annual Averaging Period
2018
2020-2024 Mining Sites

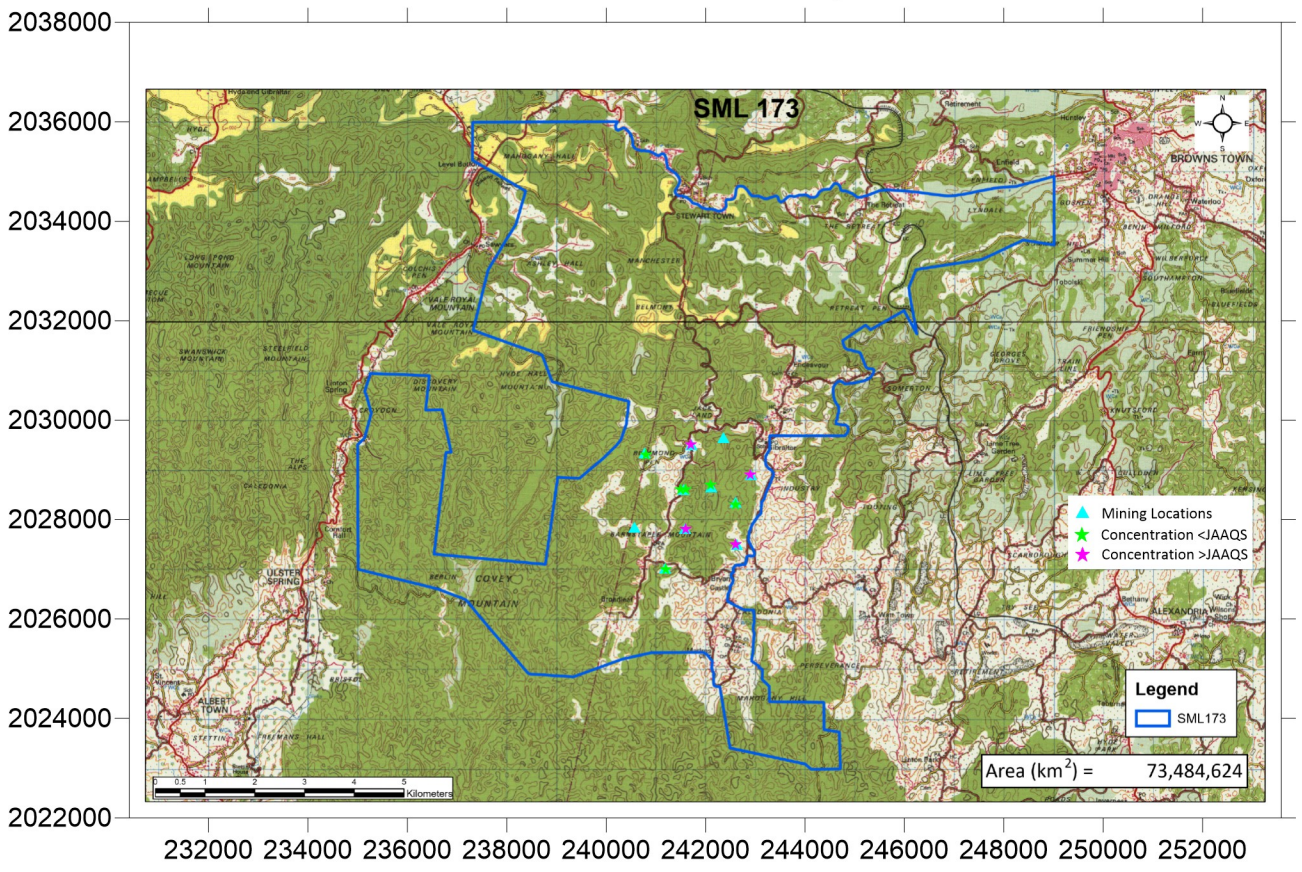


Table 1-35
2020-2024 PM-10 Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	50.00 (Annual)	2019	242900	2028900	-	112.26	20.00	132.26	Yes	Yes	Located in ore body mine site	19pm10an.inp
			241600	2027800	-	51.85		71.85	Yes	Yes	Located in ore body mine site	
			241700	2029500	-	46.10		66.10	Yes	Yes	Located in ore body mine site	
			242600	2027500	-	41.05		61.05	Yes	Yes	Located in ore body mine site	
			241200	2027000	-	30.57		50.57	Yes	Yes	Located in ore body mine site	
			242100	2028700	-	16.18		36.18	No	No	Located in ore body mine site	
			240800	2029300	-	13.69		33.69	No	No	Located in ore body mine site	
			242600	2028300	-	13.00		33.00	No	No	Located in ore body mine site	
			241600	2028600	-	11.24		31.24	No	No	Located in ore body mine site	
			241500	2028600	-	10.96		30.96	No	No	Located in ore body mine site	

Figure 1-35
PM-10
Annual Averaging Period
2019
2020-2024 Mining Sites

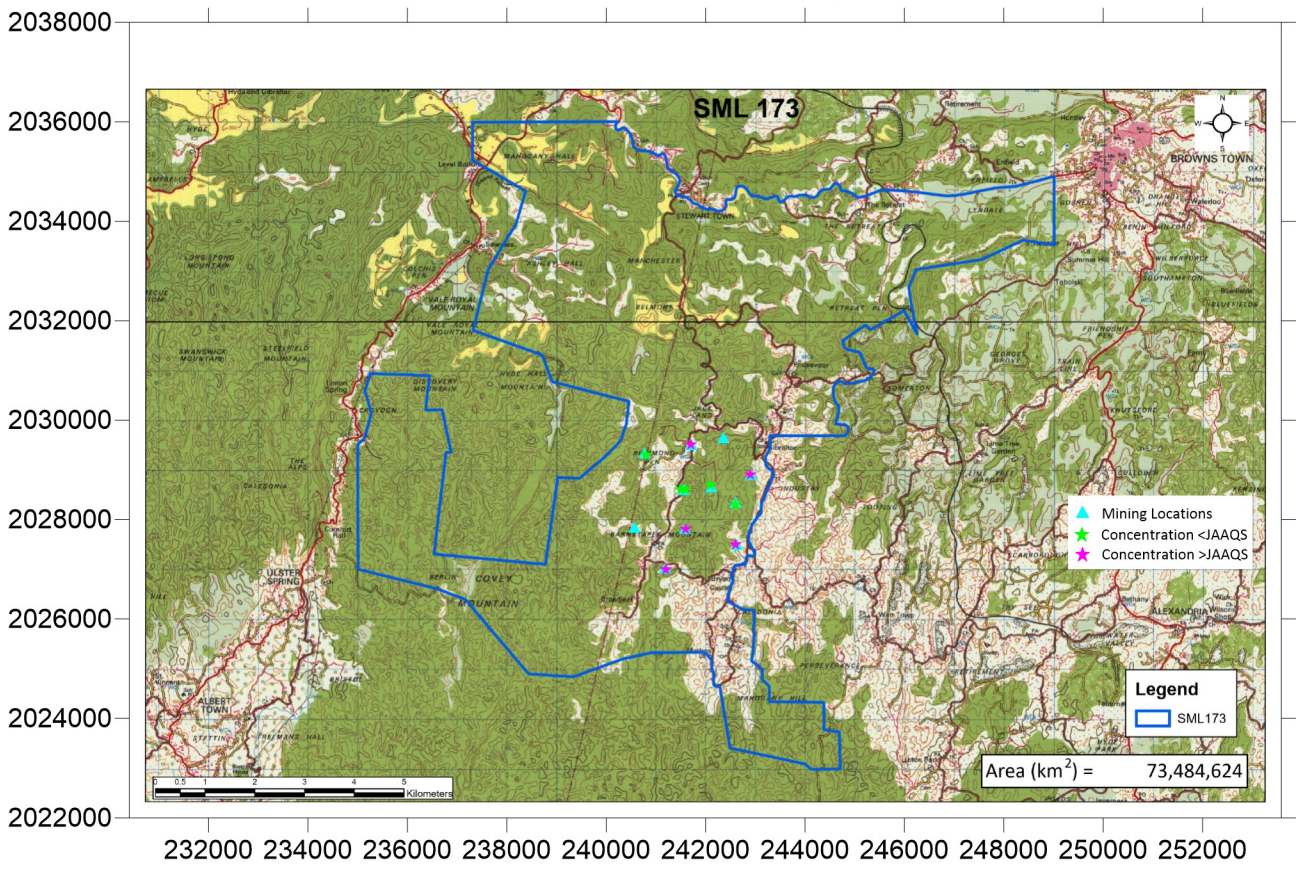


Table 1-36
2020-2024 PM-10 24-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	150.00 (24-hr)	2011	242900	2028900	11112024	507.08	9.00	516.08	Yes	Yes	Located in ore body mine site	11pm1024.inp
			242600	2027500	11072624	238.32		247.32	Yes	Yes	Located in ore body mine site	
			241700	2029500	11112024	205.09		214.09	Yes	Yes	Located in ore body mine site	
			241600	2027800	11110924	187.25		196.25	Yes	Yes	Located in ore body mine site	
			241200	2027000	11110924	108.46		117.46	No	Yes	Located in ore body mine site	
			244000	2023600	11021424	50.99		59.99	No	No		
			243700	2023500	11080424	50.91		59.91	No	No		
			243800	2023600	11080424	50.32		59.32	No	No		
			243800	2023500	11080424	50.22		59.22	No	No		
			244600	2023200	11111224	49.99		58.99	No	No		

Figure 1-36
PM-10
24-hr Averaging Period
2011
2020-2024 Mining Sites

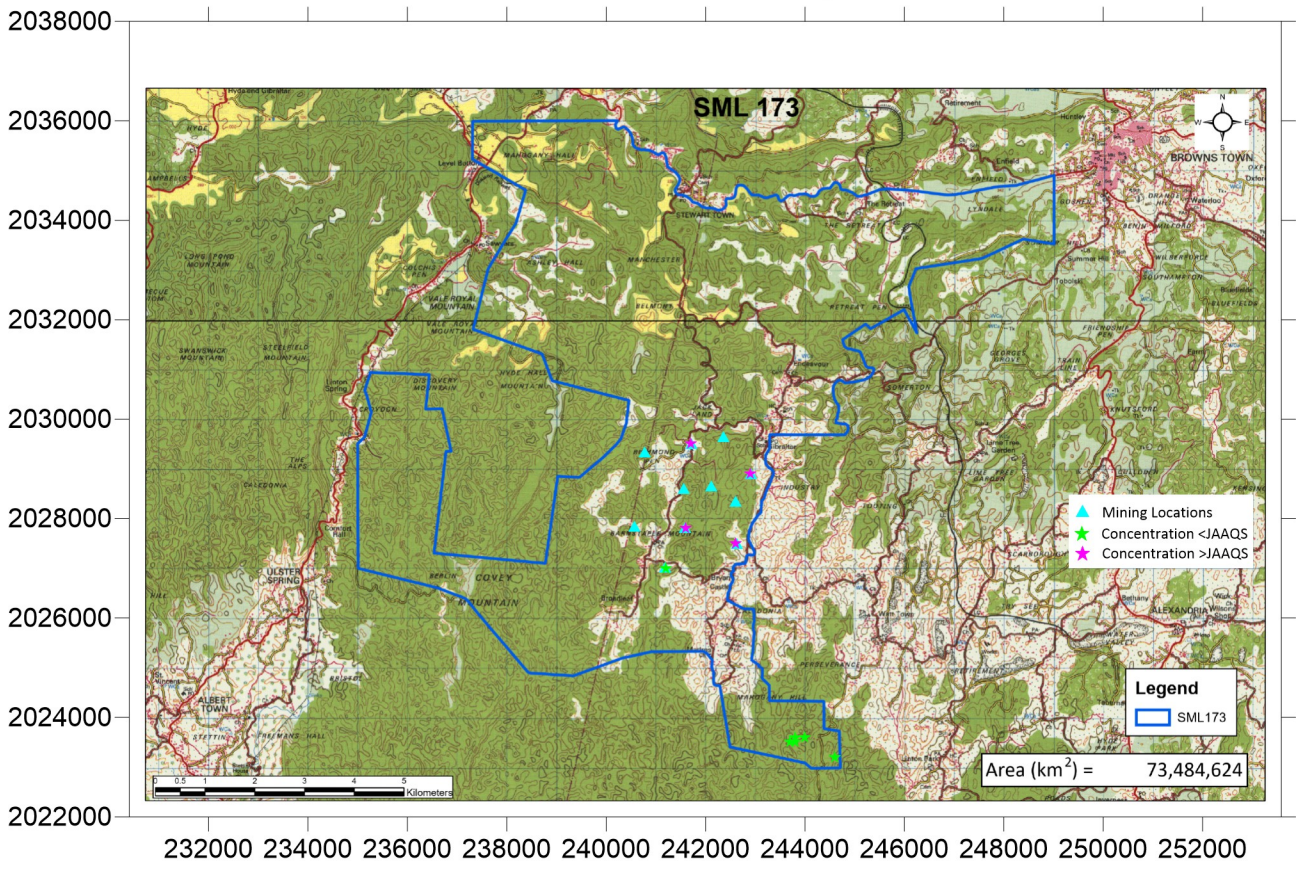


Table 1-37
2020-2024 PM-10 24-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	150.00 (24-hr)	2016	242900	2028900	16110824	655.03	9.00	664.03	Yes	Yes	Located in ore body mine site	16pm1024.inp
			241700	2029500	16110824	274.23		283.23	Yes	Yes	Located in ore body mine site	
			241600	2027800	16012424	184.68		193.68	Yes	Yes	Located in ore body mine site	
			242600	2027500	16010924	184.03		193.03	Yes	Yes	Located in ore body mine site	
			241200	2027000	16011224	99.50		108.50	No	No	Located in ore body mine site	
			242900	2025100	16110724	54.63		63.63	No	No		
			243100	2025000	16110924	51.01		60.01	No	No		
			242900	2025600	16042624	50.45		59.45	No	No		
			244100	2024000	16121624	48.30		57.30	No	No		
			242100	2028700	16011224	47.19		56.19	No	No	Located in ore body mine site	

Figure 1-37
PM-10
24-hr Averaging Period
2016
2020-2024 Mining Sites

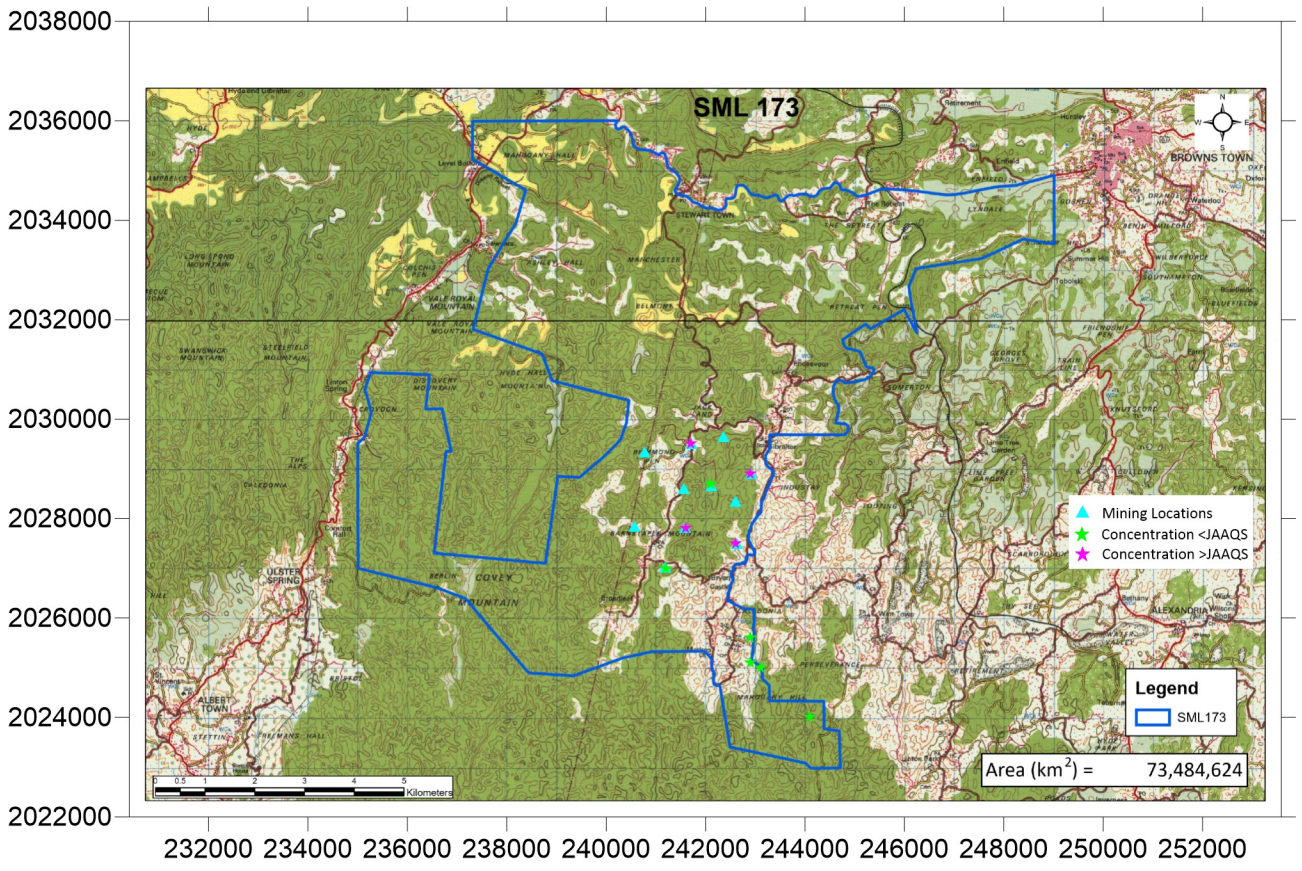


Table 1-38
2020-2024 PM-10 24-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	150.00 (24-hr)	2017	242900	2028900	17120324	702.97	9.00	711.97	Yes	Yes	Located in ore body mine site	17pm1024.inp
			241600	2027800	17121324	264.65		273.65	Yes	Yes	Located in ore body mine site	
			241700	2029500	17120324	259.66		268.66	Yes	Yes	Located in ore body mine site	
			242600	2027500	17120624	158.97		167.97	Yes	Yes	Located in ore body mine site	
			241200	2027000	17121324	112.11		121.11	No	Yes	Located in ore body mine site	
			240800	2029300	17121324	65.30		74.30	No	No	Located in ore body mine site	
			244100	2024000	17122724	52.67		61.67	No	No		
			242900	2024400	17020424	51.95		60.95	No	No		
			242600	2028300	17111624	50.47		59.47	No	No	Located in ore body mine site	
			243100	2024500	17020424	49.84		58.84	No	No		

Figure 1-38
PM-10
24-hr Averaging Period
2017
2020-2024 Mining Sites

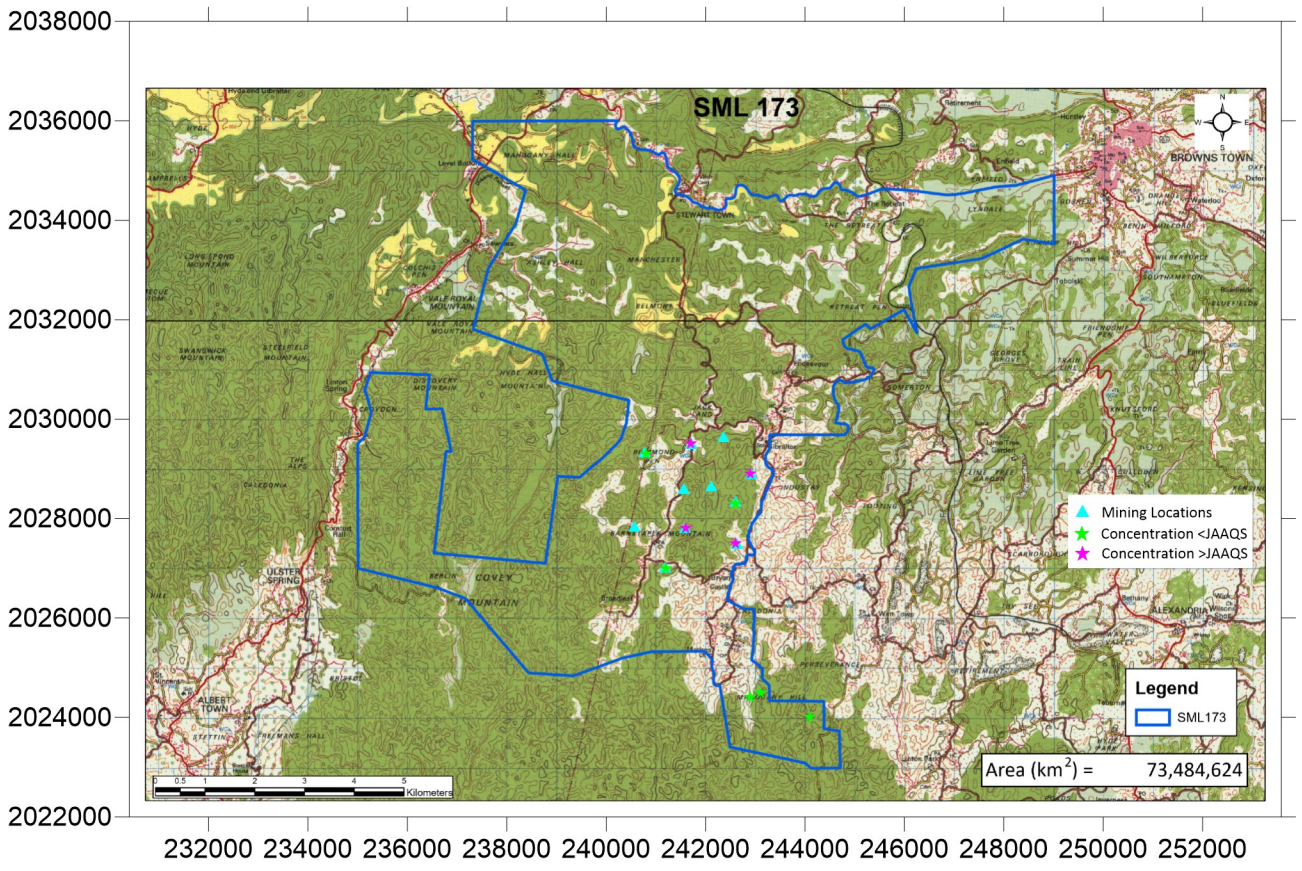


Table 1-39
2020-2024 PM-10 24-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	150.00 (24-hr)	2018	242900	2028900	18012524	501.47	9.00	510.47	Yes	Yes	Located in ore body mine site	18pm1024.inp
			241700	2029500	18020324	204.86		213.86	Yes	Yes	Located in ore body mine site	
			241600	2027800	18010324	183.56		192.56	Yes	Yes	Located in ore body mine site	
			242600	2027500	18012124	143.71		152.71	Yes	Yes	Located in ore body mine site	
			241200	2027000	18010324	114.53		123.53	No	Yes	Located in ore body mine site	
			242900	2025500	18101724	60.00		69.00	No	No		
			243300	2024100	18102224	58.66		67.66	No	No		
			243200	2024100	18102224	55.57		64.57	No	No		
			243100	2024000	18102224	55.11		64.11	No	No		
			244600	2023200	18011824	54.74		63.74	No	No		

Figure 1-39
PM-10
24-hr Averaging Period
2018
2020-2024 Mining Sites

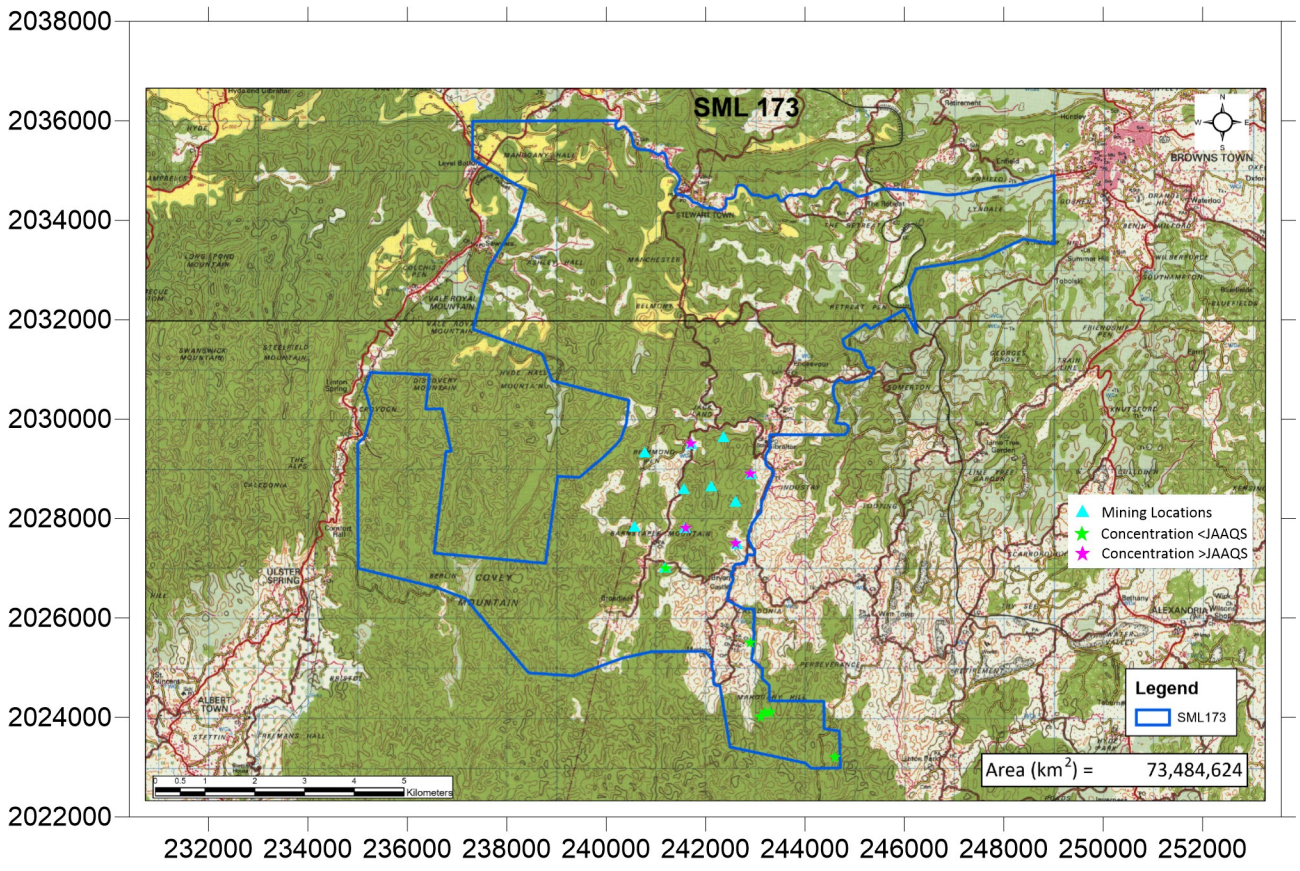


Table 1-40
2020-2024 PM-10 24-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	150.00 (24-hr)	2019	242900	2028900	19121224	872.59	9.00	881.59	Yes	Yes	Located in ore body mine site	19pm1024.inp
			241700	2029500	19121224	344.12		353.12	Yes	Yes	Located in ore body mine site	
			241600	2027800	19102824	200.00		209.00	Yes	Yes	Located in ore body mine site	
			242600	2027500	19072024	170.19		179.19	Yes	Yes	Located in ore body mine site	
			241200	2027000	19102824	120.50		129.50	No	Yes	Located in ore body mine site	
			243100	2025000	19112724	72.30		81.30	No	No		
			242900	2025000	19112724	61.78		70.78	No	No		
			242900	2025100	19112724	58.65		67.65	No	No		
			241500	2028600	19112724	58.39		67.39	No	No	Located in ore body mine site	
			244200	2023500	19121224	55.85		64.85	No	No		

Figure 1-40
PM-10
24-hr Averaging Period
2019
2020-2024 Mining Sites

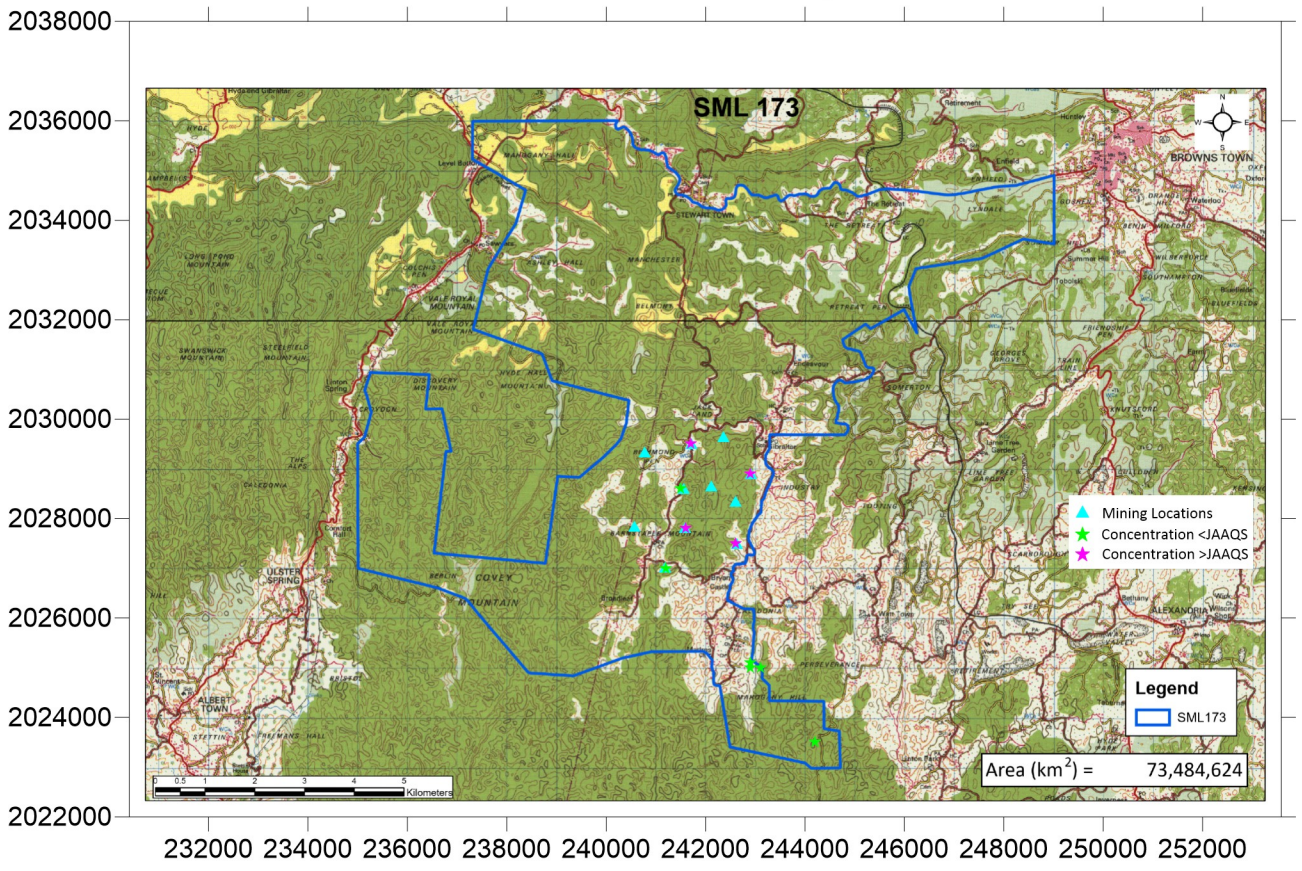


Table 1-41
2020-2024 TSP Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	60.00 (Annual)	2011	242900	2028900	-	277.00	20.00	297.00	Yes	Yes	Located in ore body mine site	11tspan2.inp
			242600	2027500	-	119.24		139.24	Yes	Yes	Located in ore body mine site	
			241700	2029500	-	112.75		132.75	Yes	Yes	Located in ore body mine site	
			241600	2027800	-	110.99		130.99	Yes	Yes	Located in ore body mine site	
			241200	2027000	-	66.08		86.08	Yes	Yes	Located in ore body mine site	
			242100	2028700	-	35.85		55.85	No	Yes	Located in ore body mine site	
			242600	2028300	-	34.44		54.44	No	Yes	Located in ore body mine site	
			240800	2029300	-	30.67		50.67	No	Yes	Located in ore body mine site	
			241500	2028600	-	29.62		49.62	No	Yes	Located in ore body mine site	
			241600	2028600	-	29.52		49.52	No	Yes	Located in ore body mine site	

Figure 1-41
TSP
Annual Averaging Period
2011
2020-2024 Mining Sites

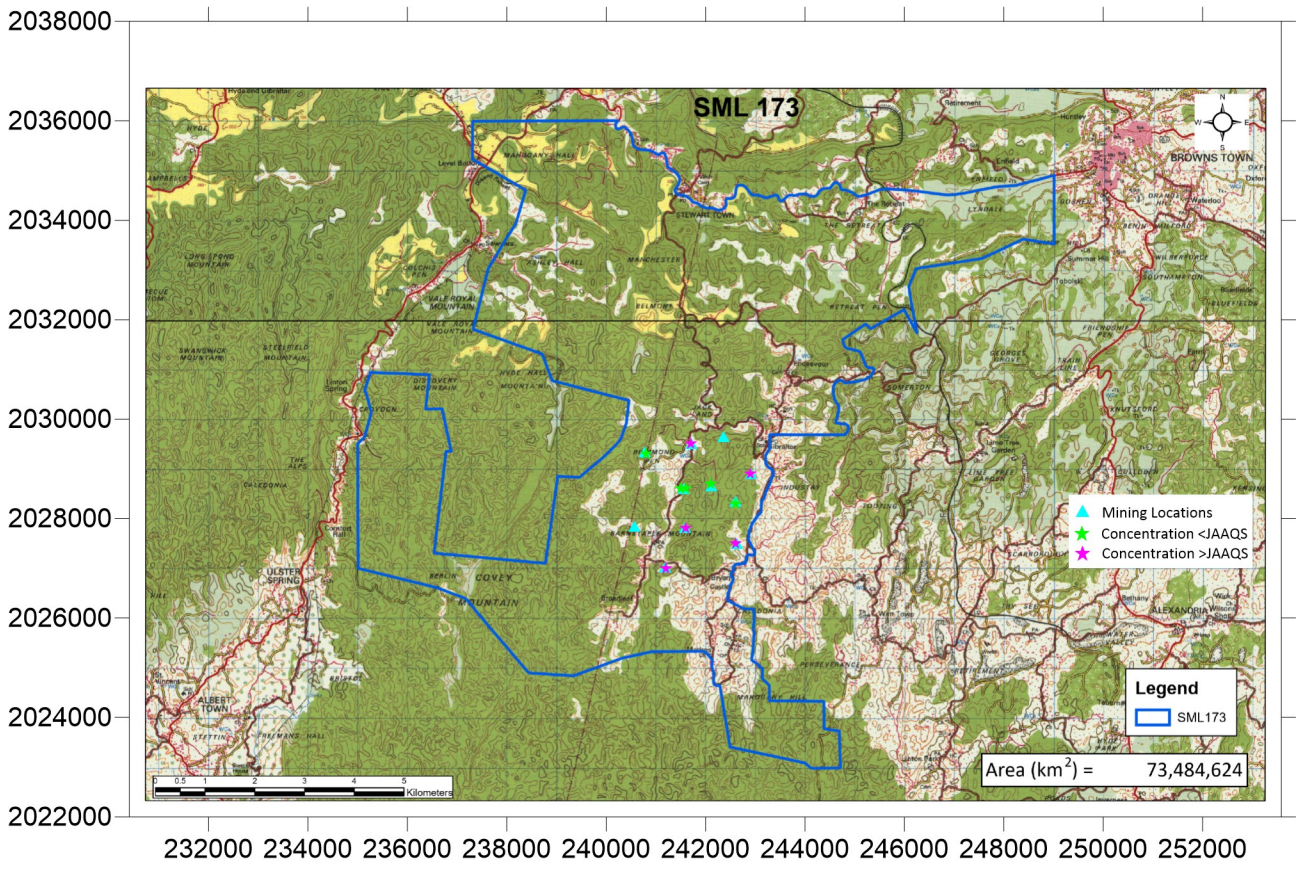


Table 1-42
2020-2024 TSP Annual Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	60.00 (Annual)	2016	242900	2028900	-	295.30	20.00	315.30	Yes	Yes	Located in ore body mine site	16tspan2.inp
			241700	2029500	-	120.38		140.38	Yes	Yes	Located in ore body mine site	
			241600	2027800	-	118.32		138.32	Yes	Yes	Located in ore body mine site	
			242600	2027500	-	110.12		130.12	Yes	Yes	Located in ore body mine site	
			241200	2027000	-	70.26		90.26	Yes	Yes	Located in ore body mine site	
			242100	2028700	-	36.14		56.14	No	Yes	Located in ore body mine site	
			242600	2028300	-	33.17		53.17	No	Yes	Located in ore body mine site	
			240800	2029300	-	31.56		51.56	No	Yes	Located in ore body mine site	
			241500	2028600	-	28.49		48.49	No	Yes	Located in ore body mine site	
			241600	2028600	-	27.78		47.78	No	Yes	Located in ore body mine site	

Figure 1-42
TSP
Annual Averaging Period
2011
2020-2024 Mining Sites

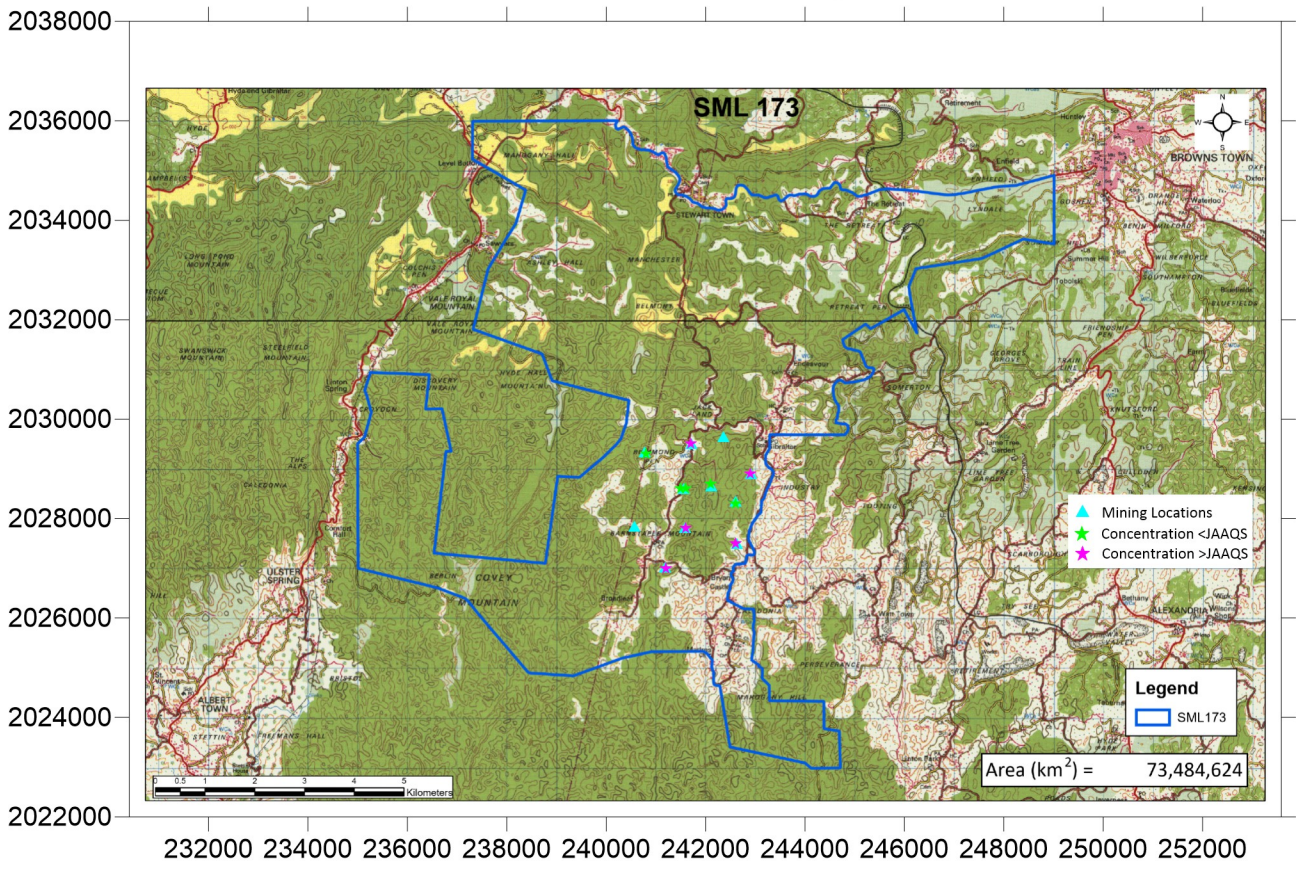


Table 1-43
2020-2024 TSP Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	60.00 (Annual)	2017	242900	2028900	-	298.81	20.00	318.81	Yes	Yes	Located in ore body mine site	17tspan2.inp
			241700	2029500	-	122.37		142.37	Yes	Yes	Located in ore body mine site	
			241600	2027800	-	121.63		141.63	Yes	Yes	Located in ore body mine site	
			242600	2027500	-	112.61		132.61	Yes	Yes	Located in ore body mine site	
			241200	2027000	-	72.41		92.41	Yes	Yes	Located in ore body mine site	
			242100	2028700	-	37.78		57.78	No	Yes	Located in ore body mine site	
			242600	2028300	-	34.49		54.49	No	Yes	Located in ore body mine site	
			240800	2029300	-	33.13		53.13	No	Yes	Located in ore body mine site	
			241500	2028600	-	29.57		49.57	No	Yes	Located in ore body mine site	
			241600	2028600	-	29.16		49.16	No	Yes	Located in ore body mine site	

Figure 1-43
TSP
Annual Averaging Period
2011
2020-2024 Mining Sites

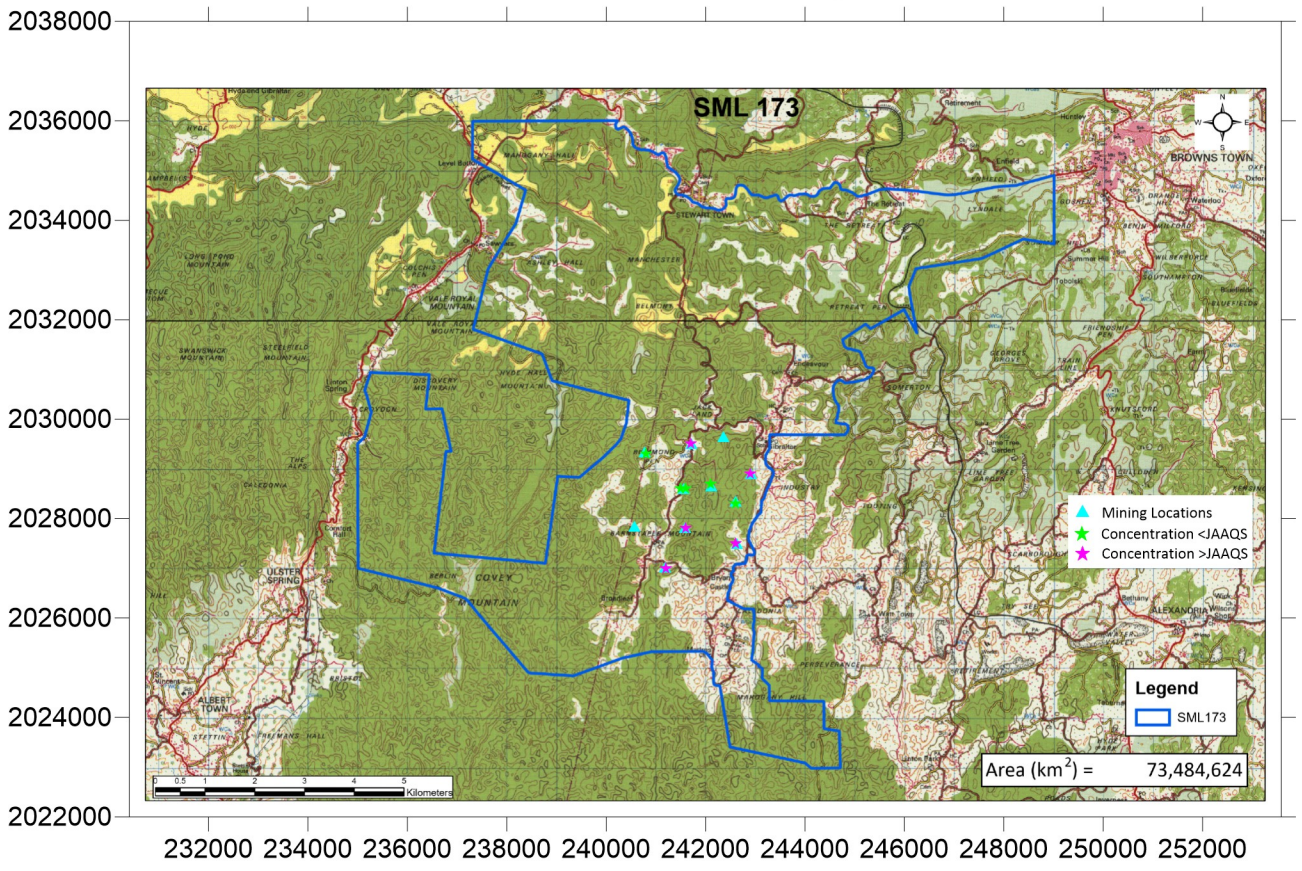


Table 1-44
2020-2024 TSP Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	60.00 (Annual)	2018	242900	2028900	-	286.57	20.00	306.57	Yes	Yes	Located in ore body mine site	18tspan2.inp
			241600	2027800	-	121.52		141.52	Yes	Yes	Located in ore body mine site	
			241700	2029500	-	116.85		136.85	Yes	Yes	Located in ore body mine site	
			242600	2027500	-	95.78		115.78	Yes	Yes	Located in ore body mine site	
			241200	2027000	-	72.67		92.67	Yes	Yes	Located in ore body mine site	
			242100	2028700	-	36.93		56.93	No	Yes	Located in ore body mine site	
			242600	2028300	-	32.19		52.19	No	Yes	Located in ore body mine site	
			240800	2029300	-	31.54		51.54	No	Yes	Located in ore body mine site	
			241600	2028600	-	27.55		47.55	No	Yes	Located in ore body mine site	
			241500	2028600	-	27.43		47.43	No	Yes	Located in ore body mine site	

Figure 1-44
TSP
Annual Averaging Period
2011
2020-2024 Mining Sites

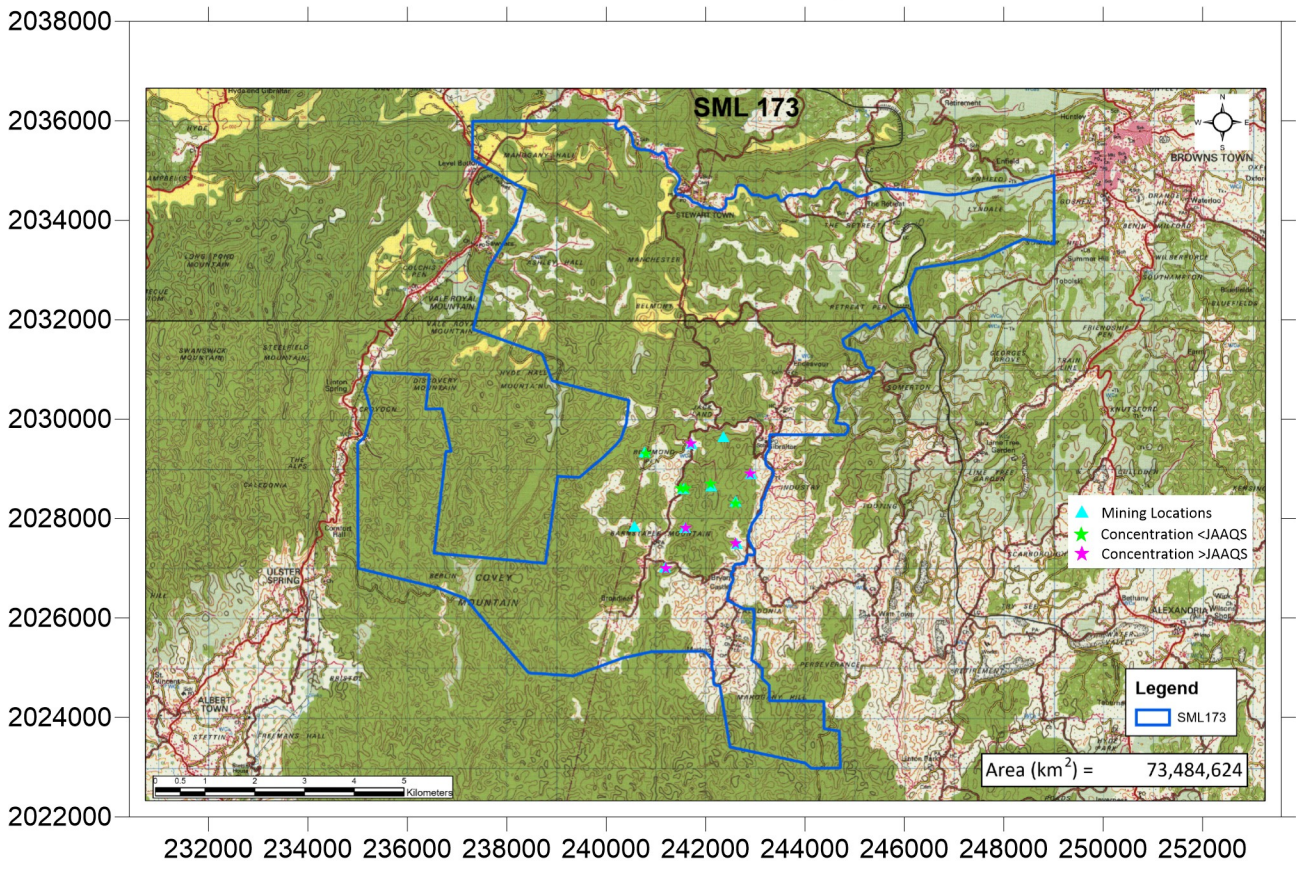


Table 1-45
2020-2024 TSP Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	60.00 (Annual)	2019	242900	2028900	-	279.83	20.00	299.83	Yes	Yes	Located in ore body mine site	19tspan2.inp
			241600	2027800	-	130.01		150.01	Yes	Yes	Located in ore body mine site	
			241700	2029500	-	115.16		135.16	Yes	Yes	Located in ore body mine site	
			242600	2027500	-	104.18		124.18	Yes	Yes	Located in ore body mine site	
			241200	2027000	-	77.41		97.41	Yes	Yes	Located in ore body mine site	
			242100	2028700	-	41.95		61.95	Yes	Yes	Located in ore body mine site	
			242600	2028300	-	35.70		55.70	No	Yes	Located in ore body mine site	
			240800	2029300	-	34.67		54.67	No	Yes	Located in ore body mine site	
			242600	2028400	-	30.33		50.33	No	Yes	Located in ore body mine site	
			241600	2028600	-	27.43		47.43	No	Yes	Located in ore body mine site	

Figure 1-45
TSP
Annual Averaging Period
2011
2020-2024 Mining Sites

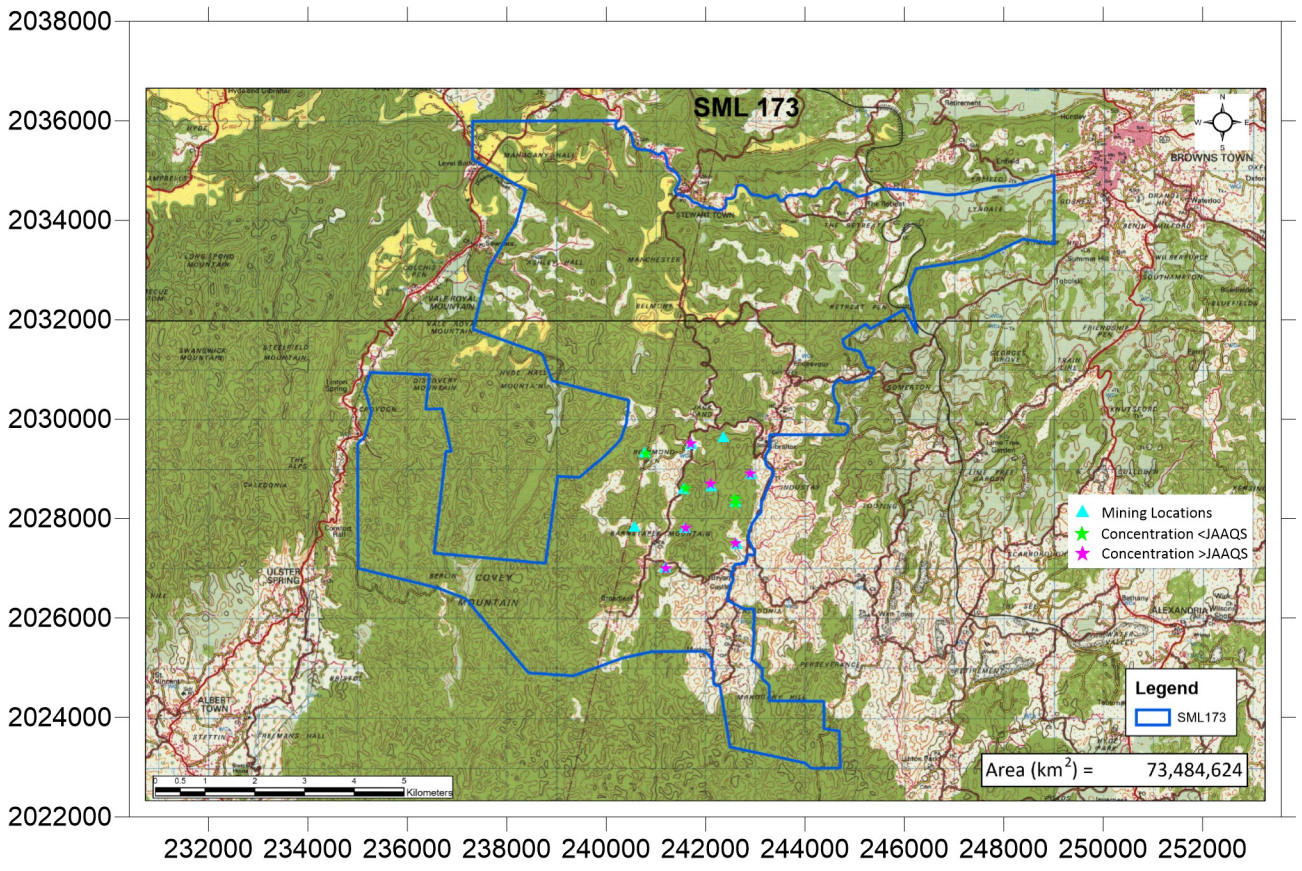


Table 1-46
2020-2024 TSP 24-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	150.00 (24-hr)	2011	242900	2028900	11112024	956.33	14.00	970.33	Yes	Yes	Located in ore body mine site	11tsp24.inp
			242600	2027500	11072624	435.83		449.83	Yes	Yes	Located in ore body mine site	
			241700	2029500	11112024	385.38		399.38	Yes	Yes	Located in ore body mine site	
			241600	2027800	11110924	352.38		366.38	Yes	Yes	Located in ore body mine site	
			241200	2027000	11110924	203.34		217.34	Yes	Yes	Located in ore body mine site	
			242600	2028300	11031124	82.63		96.63	No	No	Located in ore body mine site	
			240800	2029300	11110924	82.27		96.27	No	No	Located in ore body mine site	
			242100	2028700	11110124	80.12		94.12	No	No	Located in ore body mine site	
			241500	2028600	11102624	75.85		89.85	No	No	Located in ore body mine site	
			241600	2028600	11110224	61.02		75.02	No	No	Located in ore body mine site	

Figure 1-46
TSP
24-hr Averaging Period
2011
2020-2024 Mining Sites

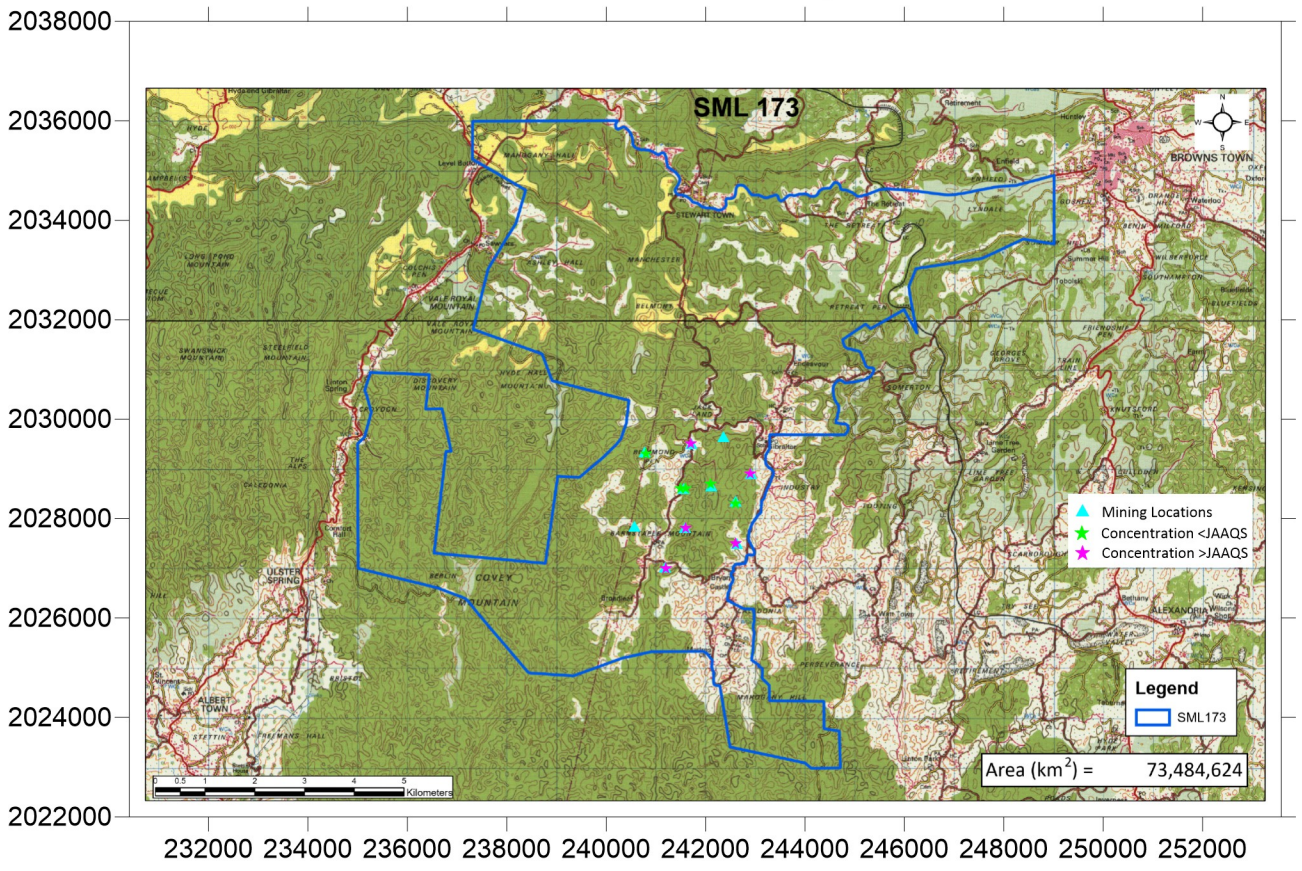


Table 1-47
2020-2024 TSP 24-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	150.00 (24-hr)	2016	242900	2028900	16110824	1238.41	14.00	1252.41	Yes	Yes	Located in ore body mine site	16tsp24.inp
			241700	2029500	16110824	517.74		531.74	Yes	Yes	Located in ore body mine site	
			241600	2027800	16012424	349.34		363.34	Yes	Yes	Located in ore body mine site	
			242600	2027500	16010924	339.98		353.98	Yes	Yes	Located in ore body mine site	
			241200	2027000	16011224	186.56		200.56	Yes	Yes	Located in ore body mine site	
			242100	2028700	16011224	83.22		97.22	No	No	Located in ore body mine site	
			241500	2028600	16121724	82.52		96.52	No	No	Located in ore body mine site	
			240800	2029300	16012424	78.43		92.43	No	No	Located in ore body mine site	
			242600	2028300	16101224	76.48		90.48	No	No	Located in ore body mine site	
			242600	2028400	16020324	64.20		78.20	No	No	Located in ore body mine site	

Figure 1-47
TSP
24-hr Averaging Period
2016
2020-2024 Mining Sites

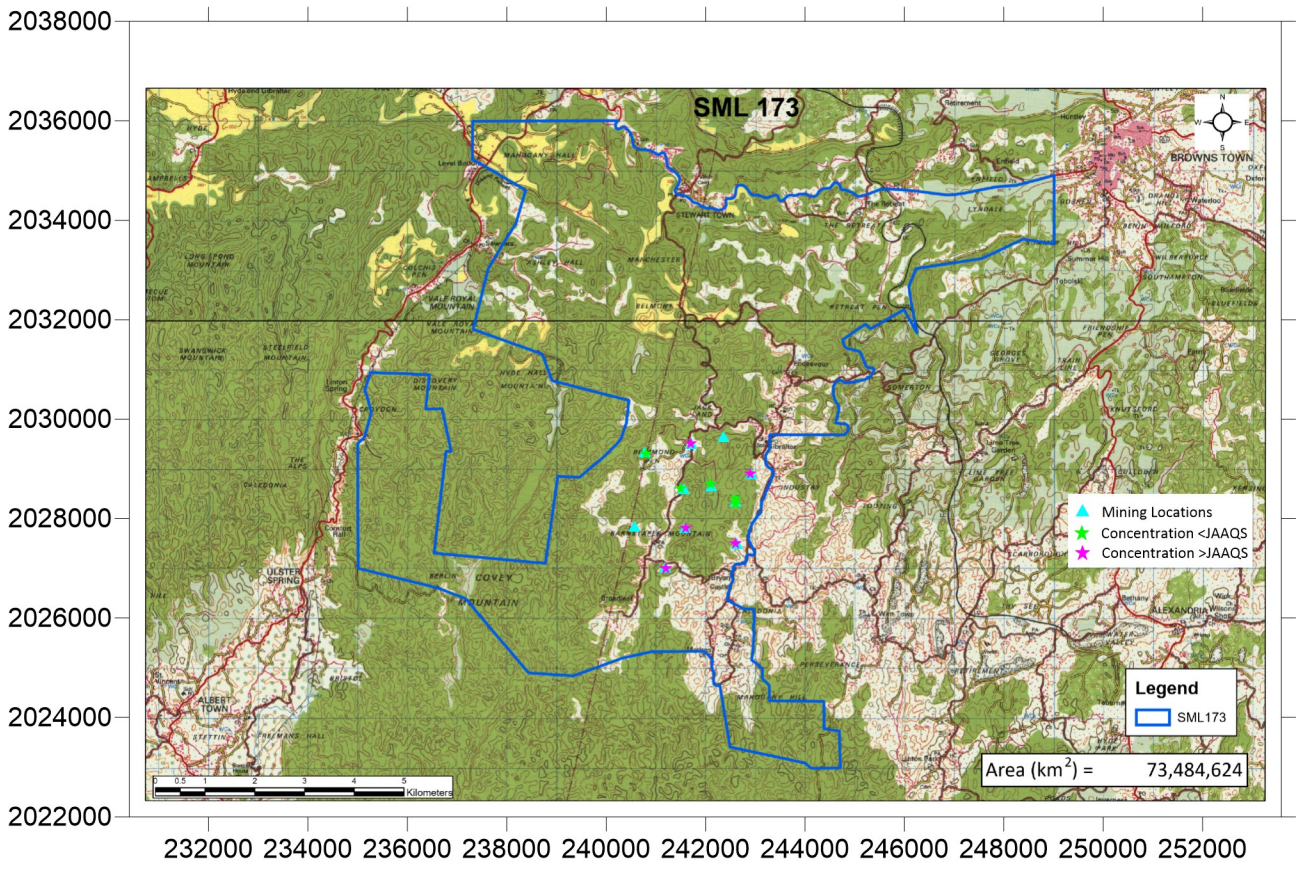


Table 1-48
2020-2024 TSP 24-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	150.00 (24-hr)	2017	242900	2028900		1328.40	14.00	1342.40	Yes	Yes	Located in ore body mine site	17tsp24.inp
			241600	2027800		500.50		514.50	Yes	Yes	Located in ore body mine site	
			241700	2029500		491.46		505.46	Yes	Yes	Located in ore body mine site	
			242600	2027500		292.81		306.81	Yes	Yes	Located in ore body mine site	
			241200	2027000		210.63		224.63	Yes	Yes	Located in ore body mine site	
			240800	2029300		122.78		136.78	No	Yes	Located in ore body mine site	
			242600	2028300		92.99		106.99	No	No	Located in ore body mine site	
			241500	2028600		87.30		101.30	No	No	Located in ore body mine site	
			242100	2028700		75.66		89.66	No	No	Located in ore body mine site	
			240600	2027800		66.54		80.54	No	No	Located in ore body mine site	

Figure 1-48
TSP
24-hr Averaging Period
2017
2020-2024 Mining Sites

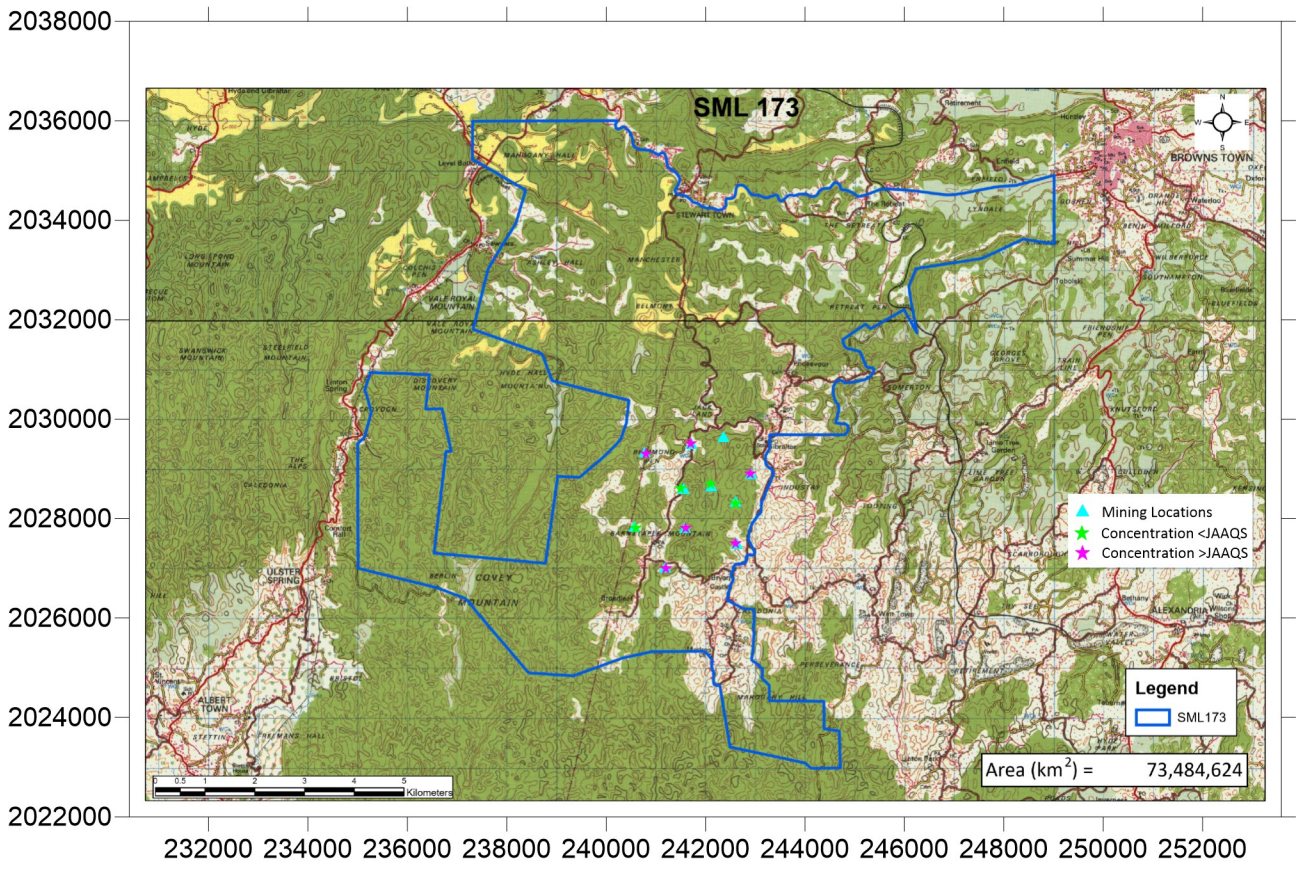


Table 1-49
2020-2024 TSP 24-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	150.00 (24-hr)	2018	242900	2028900	18012524	948.68	14.00	962.68	Yes	Yes	Located in ore body mine site	18tsp24.inp
			241700	2029500	18020324	386.56		400.56	Yes	Yes	Located in ore body mine site	
			241600	2027800	18010324	345.72		359.72	Yes	Yes	Located in ore body mine site	
			242600	2027500	18012124	261.76		275.76	Yes	Yes	Located in ore body mine site	
			241200	2027000	18010324	215.32		229.32	Yes	Yes	Located in ore body mine site	
			242600	2028300	18032224	88.32		102.32	No	No	Located in ore body mine site	
			241500	2028600	18022024	87.58		101.58	No	No	Located in ore body mine site	
			240800	2029300	18010324	77.34		91.34	No	No	Located in ore body mine site	
			242100	2028700	18121924	74.77		88.77	No	No	Located in ore body mine site	
			242900	2025500	18101724	60.01		74.01	No	No		

Figure 1-49
TSP
24-hr Averaging Period
2018
2020-2024 Mining Sites

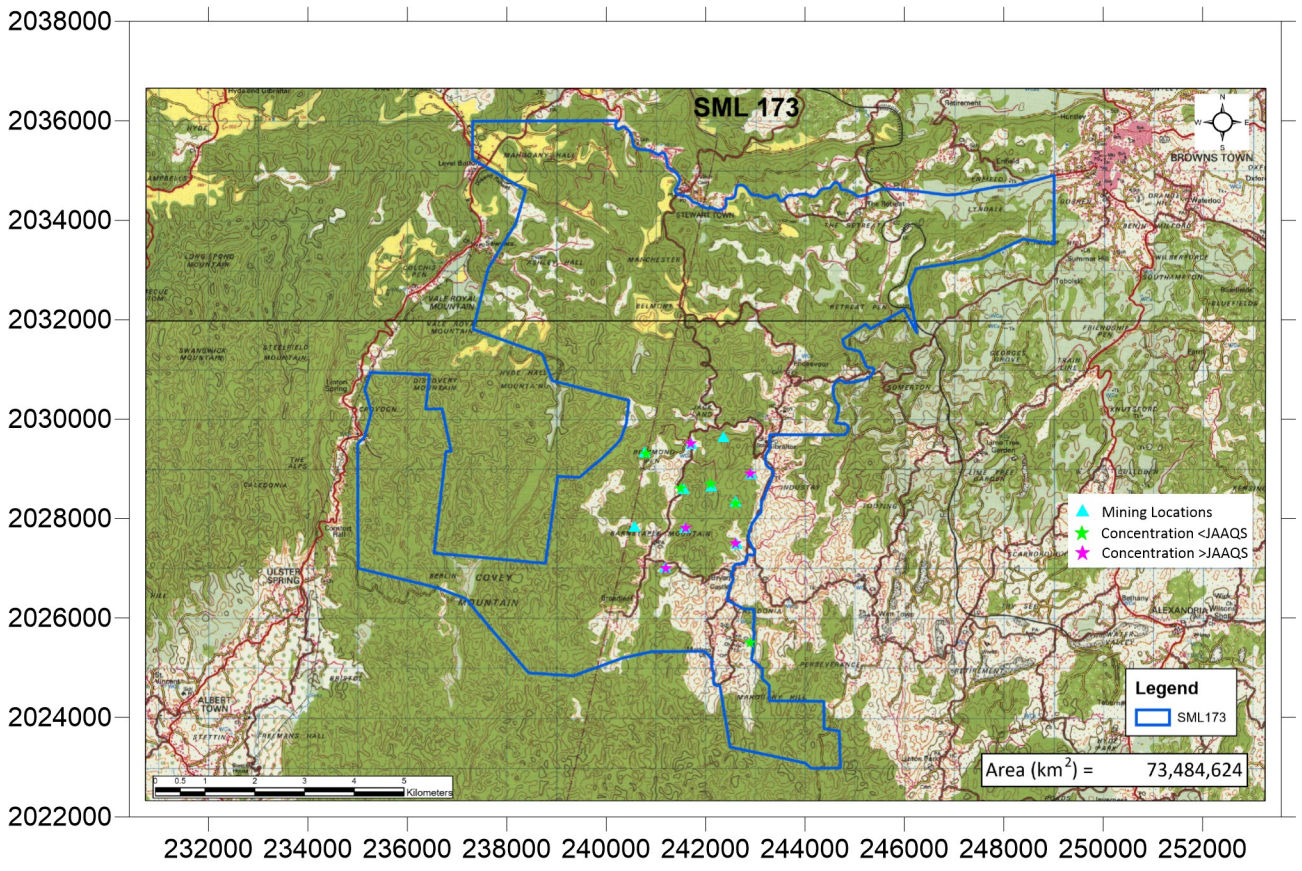
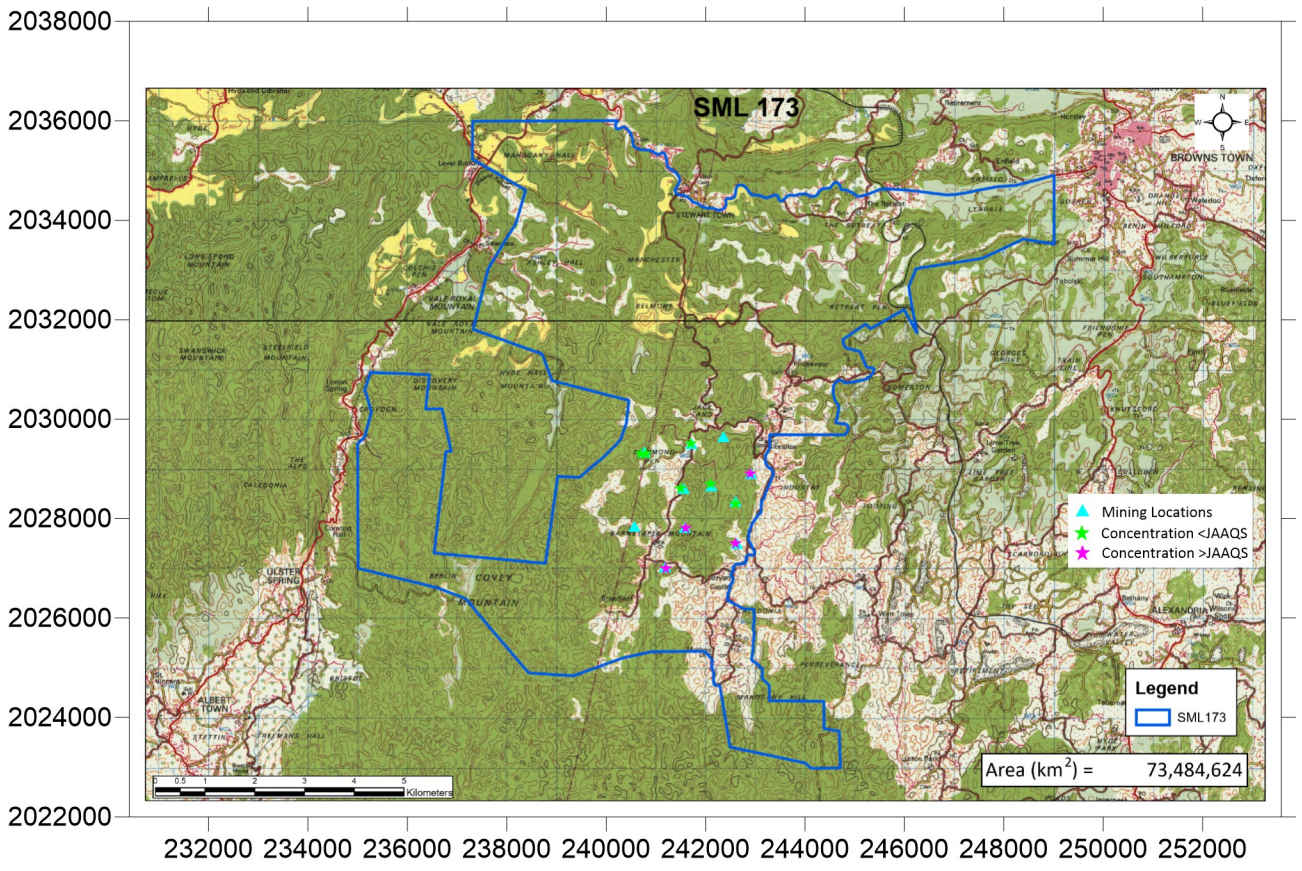


Table 1-50
2020-2024 TSP 24-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	150.00 (24-hr)	2019	242900	2028900	19121224	1649.20	14.00	1663.20	Yes	Yes	Located in ore body mine site	19tsp24.inp
			241700	2029500	19121224	650.85		664.85	Yes	Yes	Located in ore body mine site	
			241600	2027800	19102824	375.42		389.42	Yes	Yes	Located in ore body mine site	
			242600	2027500	19072024	313.76		327.76	Yes	Yes	Located in ore body mine site	
			241200	2027000	19102824	224.05		238.05	Yes	Yes	Located in ore body mine site	
			241500	2028600	19112724	108.47		122.47	No	Yes	Located in ore body mine site	
			242100	2028700	19122724	89.85		103.85	No	No	Located in ore body mine site	
			240800	2029300	19102824	88.33		102.33	No	No	Located in ore body mine site	
			240700	2029300	19121224	80.14		94.14	No	No	Located in ore body mine site	
			242600	2028300	19102824	79.84		93.84	No	No	Located in ore body mine site	

Figure 1-50
TSP
24-hr Averaging Period
2019
2020-2024 Mining Sites



Appendix 2
2025-2029 Mining Locations

Table 2-0
2025-2029 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Drying Plant Point Sources											
DE-01	Diesel Generator #641	244444.9	2042691.5		5.1816		0.305		23.010	449	722
DE-03	Diesel Generator #643	244434.8	2042695.6		5.1816		0.305		23.010	449	722
DE-06	Diesel Generator #6	244457.2	2042711		7.9248		0.305		70.570	343	616
DE-07	Diesel Generator #7	244452.5	2042699.4		7.9248		0.305		70.570	343	616
DE-08	Emergency Diesel Generator	244430.2	2042722.1		7.6200		0.152		25.060	399	672
DE-10	Tunnel 1 Bulldozer	243927.6	2042930.5		18.2880		0.203		12.981	474	747
DE-11	Tunnel 2 Bulldozer	243982.3	2042927.6		18.2880		0.203		12.981	474	747
DE-12	Diesel Generator #8	244462.2	2042710	27	8.2296	3	0.914	25.73	7.841	343	616
DE-13	Diesel Generator #9	244461.5	2042697.4	27	8.2296	3	0.914	25.73	7.841	343	616
D-01a	5010 Dryer	243962.3	2043068.3	73.63	22.4409	9.03	2.751	16.65	5.073	149	422
D-01b	5020 Dryer	243977.7	2043062.4	73.88	22.5171	9.03	2.751	31.89	9.719	149	422
D-01c	5030 Dryer	243994.5	2043056	75.83	23.1140	6.77	2.064	29.59	9.020	149	422
D-01d	5040 Dryer	244096.1	2043014.7	72.63	22.1361	12.77	3.891	16.65	5.073	149	422
C-12	Dryer #1/2/3 Belt to Dryer Belt Transfer	243957.3	2043031.8		6.0960	1.31644	0.401	146.94	44.787	60	333
C-13	Dryer #4 Belt to Dryer Belt Transfer	244059.2	2043001.3		5.4864	1	0.305	254.65	77.617	60	333
C-14a	Dryer Belt to Dome Storage Dust Collector	245134.6	2042600.6		1.0000	1.50451	0.459	234.38	71.438	60	333
C-14b	Dryer Belt to Dome Storage Dust Collector	245146.2	2042678		1.0000	1.50451	0.459	281.25	85.725	60	333
C-14c	Dryer Belt to Dome Storage Dust Collector	245028.2	2042677.7	36	10.9728	1.50451	0.459	337.50	102.870	60	333
C-15	Dome Dust Collecter	245124	2042735.5	8	2.4384	1.50451	0.459	178.13	54.293	60	333
C-17	Dedust Addition Dust Collector	245120.2	2042787.6		6.4008	1.12838	0.344	166.67	50.800	38	311
C-16	Dock Belt Dust Collector	245101.8	2042772.8		4.8768		0.688		24.130	38	311
C-18	Gantry Dust Collector	245370.7	2042929.9		18.2880		0.457		54.620	38	311
C-28A	Excavator Engine No. 1	243969.9	2043093.9	10	3.0480		0.203		12.981	474	747
C-28C	Screener Engine No. 1	243969.9	2043093.9	8	2.4384	0.58	0.178	153.50	46.787	500	773
C-28F	Excavator Engine No. 2	243969.9	2043093.9	10	3.0480		0.203		12.981	474	747
C-28H	Screener Engine No. 1	243969.9	2043093.9	8	2.4384	0.58	0.178	153.50	46.787	500	773
C-29A	Crusher System Excavator Engine	244343	2043026	10	3.0480	0.67	0.203		12.981		747
C-29C	Crusher System Generator	244239	2043030	10	3.0480	0.67	0.203		12.981		747

Table 2-0
2025-2029 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s (-m^2)	PM g/s	PM g/s (-m^2)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s (-m^2)	PM-10 g/s	PM-10 g/s (-m^2)
Drying Plant Po													
DE-01						5.475	0.17313546	0.17313546	-	5.475	0.17313546	0.17313546	-
DE-03						5.475	0.17313546	0.17313546	-	5.475	0.17313546	0.17313546	-
DE-06						7.112	0.22490852	0.22490852	-	7.112	0.22490852	0.22490852	-
DE-07						7.112	0.22490852	0.22490852	-	7.112	0.22490852	0.22490852	-
DE-08						0.200	0.00631143	0.11087927	-	0.200	0.00631143	0.11087927	-
DE-10						1.844	0.05829982	0.05829982	-	1.844	0.05829982	0.05829982	-
DE-11						1.844	0.05829982	0.05829982	-	1.844	0.05829982	0.05829982	-
DE-12						10.041	0.31751792	0.31751792	-	10.041	0.31751792	0.31751792	-
DE-13						8.925	0.28223815	0.28223815	-	8.925	0.28223815	0.28223815	-
D-01a						73.762	2.33257232	3.77001080	-	44.512	1.40759509	2.27501080	-
D-01b						73.762	2.33257232	7.53998395	-	44.512	1.40759509	4.54998395	-
D-01c						73.762	2.33257232	3.77001080	-	44.512	1.40759509	2.27510870	-
D-01d						73.762	2.33257232	6.22868894	-	44.512	1.40759509	3.75868894	-
C-12						1.023	0.03235409	0.05824104	-	0.171	0.00541459	0.00974688	-
C-13						2.031	0.06423080	0.07952142	-	0.171	0.00541459	0.01330824	-
C-14a						0.336	0.01062557	0.02426710	-	0.056	0.00177823	0.00406120	-
C-14b						0.336	0.01062557	0.02426710	-	0.056	0.00177823	0.00406120	-
C-14c						0.336	0.01062557	0.02426710	-	0.056	0.00177823	0.00406120	-
C-15						1.008	0.03187671	0.07280130	-	0.169	0.00533470	0.01218360	-
C-17						2.508	0.07929730	0.18110235	-	0.310	0.00979594	0.02237235	-
C-16						1.008	0.03187671	0.07280130	-	0.169	0.00533470	0.01218360	-
C-18						2.508	0.07929730	0.18110235	-	0.310	0.00979594	0.02237235	-
C-28A						0.830	0.02625557	0.02625557	-	0.830	0.02625557	0.02625557	-
C-28C						0.135	0.00426653	0.00426653	-	0.135	0.00426653	0.00426653	-
C-28F						0.830	0.02625557	0.02625557	-	0.830	0.02625557	0.02625557	-
C-28H						0.135	0.00426653	0.00426653	-	0.135	0.00426653	0.00426653	-
C-29A						1.403	0.04435171	0.04435171	-	1.403	0.04435171	0.04435171	-
C-29C						0.050	0.00159393	0.00159393	-	0.050	0.00159393	0.00159393	-

Table 2-0
2025-2029 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Po												
DE-01	31.637	1.00047565	1.00047565	-	140.785	4.45205479		-	43.018	1.36035008	1.36035008	-
DE-03	31.637	1.00047565	1.00047565	-	140.785	4.45205479		-	43.018	1.36035008	1.36035008	-
DE-06	41.098	1.29964997	1.29964997	-	182.884	5.78336206		-	55.881	1.76713841	1.76713841	-
DE-07	41.098	1.29964997	1.29964997	-	182.884	5.78336206		-	55.881	1.76713841	1.76713841	-
DE-08	0.186	0.00588111	0.10331932	-	2.109	0.06670038		-	0.617	0.01950807	0.34271775	-
DE-10	10.653	0.33688966	0.33688966	-	47.406	1.49913817		-	14.485	0.45807000	0.45807000	-
DE-11	10.653	0.33688966	0.33688966	-	47.406	1.49913817		-	14.485	0.45807000	0.45807000	-
DE-12	58.021	1.83479996	1.83479996	-	258.189	8.16474644		-	78.891	2.49478363	2.49478363	-
DE-13	51.574	1.63093330	1.63093330	-	229.501	7.25755239		-	70.125	2.21758545	2.21758545	-
D-01a	37.975	1.20089740	1.94095760	-	66.534	2.10400707		-	8.075	0.25537102	0.41249633	-
D-01b	37.975	1.20089740	3.88191514	-	66.534	2.10400707		-	8.075	0.25537102	0.82458922	-
D-01c	37.975	1.20089740	1.94095774	-	66.534	2.10400707		-	8.075	0.25537102	0.41354524	-
D-01d	37.975	1.20089740	3.20679947	-	66.534	2.10400707		-	8.075	0.25537102	0.68125256	-
C-12												
C-13												
C-14a												
C-14b												
C-14c												
C-15												
C-17												
C-16												
C-18												
C-28A	0.774	0.02446541	0.08265546	-	8.774	0.27747359		-	2.521	0.07972144	0.26933583	-
C-28C	0.126	0.00397563	0.01343151	-	1.426	0.04508946		-	0.410	0.01295473	0.04376707	-
C-28F	0.774	0.02446541	0.08265546	-	8.774	0.27747359		-	2.521	0.07972144	0.26933583	-
C-28H	0.126	0.00397563	0.01343151	-	1.426	0.04508946		-	0.410	0.01295473	0.04376707	-
C-29A	1.307	0.04132773	0.08265546	-	14.822	0.46871693		-	4.259	0.13466792	0.26933583	-
C-29C	2.095	0.06625352	0.13250703	-	0.844	0.02669838		-	5.880	0.18595889	0.37191778	-

Table 2-0
2025-2029 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Mine Point Sources											
DE-01	Emergency Diesel Generator 6411	248142.5	2026050		3.6576		0.102		12.530	474	747
DE-02	Emergency Diesel Generator 6412	248142.4	2026048.9		3.6576		0.102		12.530	474	747
DE-03	Emergency Diesel Generator 6414	247292.3	2025523.2		3.6576		0.102		12.530	474	747
DE-04	Water Valley Dozer/Loader Engines	248177.8	2026073.4	8	2.4384		0.203		12.981	474	747
DE-05	Tobolskil Dozer/Loader Engines	246824	2030833	8	2.4384		0.203		12.981	474	747
DE-06a	Excavator Engines A	239060.2	2033188	8	2.4384		0.203		12.981	474	747
DE-06b	Excavator Engines B	242038.9	2033639.6	8	2.4384		0.203		12.981	474	747
DE-06c	Excavator Engines C	240552.5	2032509.8	8	2.4384		0.203		12.981	474	747
DE-06d	Excavator Engines D	242536.4	2031557.7	8	2.4384		0.203		12.981	474	747
DE-06e	Excavator Engines E	242005.3	2030322.1	8	2.4384		0.203		12.981	474	747
DE-06f	Excavator Engines F	241288.7	2029026.3	8	2.4384		0.203		12.981	474	747
DE-06g	Excavator Engines G	240080.2	2027704.3	8	2.4384		0.203		12.981	474	747
DE-06h	Excavator Engines H	241012.4	2027208.5	8	2.4384		0.203		12.981	474	747
DE-06i	Excavator Engines I	239088.1	2025960.7	8	2.4384		0.203		12.981	474	747
DE-06j	Excavator Engines J	241611.1	2025935.1	8	2.4384		0.203		12.981	474	747
DE-06k	Excavator Engines K	243308.7	2023997.7	8	2.4384		0.203		12.981	474	747
DE-07	Rejects Excavator/Loader Engine	247682.2	2025991.1	8	2.4384		0.203		12.981	474	747
DE-08	Rejects Dozer Engine	247682.2	2025991.1	8	2.4384		0.203		12.981	474	747

Table 2-0
2025-2029 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s (-m^2)	PM g/s	PM g/s (-m^2)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s (-m^2)	PM-10 g/s	PM-10 g/s (-m^2)
Mine Point Sou													
DE-01						0.095	0.00301228	0.05291965	-	0.095	0.00301228	0.05291965	-
DE-02						0.095	0.00301228	0.05291965	-	0.095	0.00301228	0.05291965	-
DE-03						0.095	0.00301228	0.05291965	-	0.095	0.00301228	0.05291965	-
DE-04						27.654	0.87449726	0.87449726	-	27.654	0.87449726	0.87449726	-
DE-05						27.654	0.87449726	0.87449726	-	27.654	0.87449726	0.87449726	-
DE-06a						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06b						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06c						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06d						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06e						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06f						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06g						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06h						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06i						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06j						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06k						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-07						0.560	0.01772251	0.01772251	-	0.560	0.01772251	0.01772251	-
DE-08						0.623	0.01969167	0.01969167	-	0.623	0.01969167	0.01969167	-

Table 2-0
2025-2029 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Mine Point Sou												
DE-01	0.550	0.01740665	0.30579999	-	2.449	0.07745851		-	0.748	0.02366788	0.41579727	-
DE-02	0.550	0.01740665	0.30579999	-	2.449	0.07745851		-	0.748	0.02366788	0.41579727	-
DE-03	0.550	0.01740665	0.30579999	-	2.449	0.07745851		-	0.748	0.02366788	0.41579727	-
DE-04	159.799	5.05334490	5.05334490	-	711.095	22.48707248		-	217.279	6.87104993	6.87104993	-
DE-05	159.799	5.05334490	5.05334490	-	711.095	22.48707248		-	217.279	6.87104993	6.87104993	-
DE-06a	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	-
DE-06b	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06c	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06d	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06e	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06f	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06g	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06h	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06i	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06j	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06k	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-07	0.522	0.01651415	0.01651415	-	5.923	0.18729467		-	1.702	0.05381197	0.05381197	-
DE-08	0.580	0.01834906	0.01834906	-	6.581	0.20810519		-	1.891	0.05979108	0.05979108	-

Table 2-0
2025-2029 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Drying Plant Pseudo-point Sources											
DE-09	Diesel Starter Engine	244421.5	2042704.4		0.7620		1.000		0.001	177	450
B-01	Boiler No. 1	244108.3	2043000.6		10.3632		1.000		0.001	170	443
B-02	Boiler No. 2	244110.3	2043005.4		10.3632		1.000		0.001	170	443
C-04	Stockpile Feeder Belt Transfer	243896.6	2042880.4		13.7160		1.000		0.001	25	298
C-05	Stockpile Spreading Belt Transfer	243910.8	2042924.9		24.3840		1.000		0.001	25	298
C-06	Stockpile Transfer (Tunnel 1 Belts)	243932.7	2042957.9		3.0480		1.000		0.001	25	298
C-07	Stockpile Transfer (Tunnel 2 Belts)	243999.3	2042915.5		2.1336		1.000		0.001	25	298
C-08	Dryer #1 Feeder Belt Transfer	243939.8	2043013.2		9.4488		1.000		0.001	25	298
C-09	Dryer #2 Feeder Belt Transfer	243955.2	2043002.5		10.0584		1.000		0.001	25	298
C-10	Dryer #3 Feeder Belt Transfer	243974.7	2042999.8		8.2296		1.000		0.001	25	298
C-11	Dryer #4 Feeder Belt Transfer	244078.2	2042968		6.0960		1.000		0.001	25	298
C-14F	Dryer Belt to Dome Storage Fugitives	245062	2042609.4		2.1336		1.000		0.001	60	333
C-21	Bauxite Recovery - Dry Products Building Rejects Transfer	243856.7	2043084.1		3.0480		1.000		0.001	60	333
C-23	Bauxite Recovery - Dryer #4 Rejects and Stockpile	244107.9	2043032.5		9.1440		1.000		0.001	60	333
C-27	Bauxite Recovery - Transfer from Dome to Main Stockpile	244087.6	2042942.3		1.0000		1.000		0.001	25	298
C-28B	Raw Material Stockpile Transfer Fugitives-Screener 1	243969.9	2043093.9	10	3.0480		1.000		0.001	25	298
C-28D	Screener No. 1 Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-28E	Product Conveyor No. 1 Transfer Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-28G	Raw Material Stockpile Transfer Fugitives-Screener 2	243969.9	2043093.9	10	3.0480		1.000		0.001	25	298
C-28I	Screener No. 2 Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-28J	Product Conveyor No. 2 Transfer Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-29B	Raw Material Stockpile Transfer Fugitives	244317	2042997	10	3.0480		1.000		0.001	25	298
C-29D	Primary Crusher Fugitives	244303	2043003	5	1.5240		1.000		0.001	25	298
C-29E	Crusher Conveyor Tranfer Fugitives	244291	2043007	7.5	2.2860		1.000		0.001	25	298
C-29F	Screening Fugitives	244282	2043009	10	3.0480		1.000		0.001	25	269
C-29G	Screener Conveyor Transfer Fugitives	244273	2043011	5	1.5240		1.000		0.001	25	298
C-29H	Product Conveyor Transfer Fugitives	244260	2043019	20	6.0960		1.000		0.001	25	298
C-29J	Product Truck Loading	244223	2043046	10	3.0480		1.000		0.001	25	298
C-29K	Dock Fugitive Emissions	245324	2042871	10	3.0480		1.000		0.001	25	298

Table 2-0
2025-2029 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM				Emission Rate PM-10			
						Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Ps													
DE-09						0.002	0.00006706	0.00117809	-	0.002	0.00006706	0.00117809	-
B-01						1.098	0.03471907	0.03471907	-	1.098	0.03471907	0.03471907	-
B-02						1.098	0.03471907	0.03471907	-	1.098	0.03471907	0.03471907	-
C-04						1.142	0.03611475	0.10182000	-	0.191	0.00604395	0.01704000	-
C-05						1.142	0.03611475	0.10182000	-	0.191	0.00604395	0.01704000	-
C-06						4.568	0.14445901	0.23348274	-	0.764	0.02417582	0.03907431	-
C-07						2.287	0.07232889	0.07232889	-	0.383	0.01210454	0.01210454	-
C-08						0.461	0.01459267	0.01459267	-	0.077	0.00244214	0.00244214	-
C-09						0.923	0.02918534	0.02918534	-	0.154	0.00488429	0.00488429	-
C-10						0.461	0.01459267	0.01459267	-	0.077	0.00244214	0.00244214	-
C-11						0.762	0.02410963	0.02410963	-	0.128	0.00403485	0.00403485	-
C-14F						1.018	0.03219869	0.07353667	-	0.170	0.00538859	0.01230667	-
C-21						1.525	0.04822077	0.04822077	-	0.255	0.00806995	0.00806995	-
C-23						1.525	0.04822077	0.04822077	-	0.255	0.00806995	0.00806995	-
C-27						0.076	0.00241104	0.01697000	-	0.013	0.00040350	0.00284000	-
C-28B						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28D						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28E						1.360	0.04302037	0.10253188	-	0.232	0.00733979	0.01749317	-
C-28G						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28I						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28J						1.360	0.04302037	0.10253188	-	0.232	0.00733979	0.01749317	-
C-29B						0.032	0.00101194	0.00133333	-	0.032	0.00101194	0.00133333	-
C-29D						1.200	0.03794778	0.05000000	-	0.540	0.01707650	0.02250000	-
C-29E						0.140	0.00442724	0.00583333	-	0.046	0.00145467	0.00191667	-
C-29F						2.200	0.06957094	0.09166667	-	0.740	0.02340113	0.03083333	-
C-29G						0.140	0.00442724	0.00583333	-	0.046	0.00145467	0.00191667	-
C-29H						0.140	0.00442724	0.00583333	-	0.046	0.00145467	0.00191667	-
C-29J						0.100	0.00316232	0.00416667	-	0.100	0.00316232	0.00416667	-
C-29K						0.560	0.01770897	0.02333333	-	0.184	0.00581866	0.00766667	-

Table 2-0
2025-2029 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Ps												
DE-09	0.002	0.00006249	0.00109777	-	0.022	0.00070869		-	0.007	0.00020727	0.00364138	-
B-01	23.621	0.74698610	0.74698610	-	4.990	0.15781396		-	1.663	0.05260465	0.05260465	-
B-02	23.621	0.74698610	0.74698610	-	4.990	0.15781396		-	1.663	0.05260465	0.05260465	-
C-04												
C-05												
C-06												
C-07												
C-08												
C-09												
C-10												
C-11												
C-14F												
C-21												
C-23												
C-27												
C-28B												
C-28D												
C-28E												
C-28G												
C-28I												
C-28J												
C-29B												
C-29D												
C-29E												
C-29F												
C-29G												
C-29H												
C-29J												
C-29K												

Table 2-0
2025-2029 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Mine Pseudo-point Sources											
C-01a	Mine Clearing A	239060.2	2033188		1.0000		1.000		0.001	25	298
C-01b	Mine Clearing B	242038.9	2033639.6		1.0000		1.000		0.001	25	298
C-01c	Mine Clearing C	240552.5	2032509.8		1.0000		1.000		0.001	25	298
C-01d	Mine Clearing D	242536.4	2031557.7		1.0000		1.000		0.001	25	298
C-01e	Mine Clearing E	242005.3	2030322.1		1.0000		1.000		0.001	25	298
C-01f	Mine Clearing F	241288.7	2029026.3		1.0000		1.000		0.001	25	298
C-01g	Mine Clearing G	240080.2	2027704.3		1.0000		1.000		0.001	25	298
C-01h	Mine Clearing H	241012.4	2027208.5		1.0000		1.000		0.001	25	298
C-01i	Mine Clearing I	239088.1	2025960.7		1.0000		1.000		0.001	25	298
C-01j	Mine Clearing J	241611.1	2025935.1		1.0000		1.000		0.001	25	298
C-01k	Mine Clearing K	243308.7	2023997.7		1.0000		1.000		0.001	25	298
C-02a	Truck Loading A	239060.2	2033188	8	2.4384		1.000		0.001	25	298
C-02b	Truck Loading B	242038.9	2033639.6	8	2.4384		1.000		0.001	25	298
C-02c	Truck Loading C	240552.5	2032509.8	8	2.4384		1.000		0.001	25	298
C-02d	Truck Loading D	242536.4	2031557.7	8	2.4384		1.000		0.001	25	298
C-02e	Truck Loading E	242005.3	2030322.1	8	2.4384		1.000		0.001	25	298
C-02f	Truck Loading F	241288.7	2029026.3	8	2.4384		1.000		0.001	25	298
C-02g	Truck Loading G	240080.2	2027704.3	8	2.4384		1.000		0.001	25	298
C-02h	Truck Loading H	241012.4	2027208.5	8	2.4384		1.000		0.001	25	298
C-02i	Truck Loading I	239088.1	2025960.7	8	2.4384		1.000		0.001	25	298
C-02j	Truck Loading J	241611.1	2025935.1	8	2.4384		1.000		0.001	25	298
C-02k	Truck Loading K	243308.7	2023997.7	8	2.4384		1.000		0.001	25	298
C-03	Truck Unloading (Tobolski)	246828	2030857	4	1.2192		1.000		0.001	25	298
C-04	Truck Unloading (Water Valley)	248255.9	2026056.4	4	1.2192		1.000		0.001	25	298
C-07	Railcar Loading (Tobolski)	246700	2030833	12	3.6576		1.000		0.001	25	298
C-08	Railcar Loading (Water Valley)	248179.3	2026035.2	12	3.6576		1.000		0.001	25	298
C-09	Rejects Screening (Water Valley)	247682.2	2025991.1	8	2.4384		1.000		0.001	25	298
C-10	Recovered Bauxite Truck Loading (Water Valley)	247682.2	2025991.1	8	2.4384		1.000		0.001	25	298
C-11	Reject Rock Truck Loading (Water Valley)	247682.2	2025991.1	4	1.2192		1.000		0.001	25	298
C-12	Reject Rock Truck Unloading (Water Valley)	247688.6	2025728.6	4	1.2192		1.000		0.001	25	298
HR-1	Haul Road Fugitives	248257.3	2026108.3		1.0000		1.000		0.001	25	298
HR-2	Rejects Screening Haul Road Fugitives	248257.3	2026108.3		1.0000		1.000		0.001	25	298
Drying Plant Area Sources											
C-01	Railcar Unloading	244054.1	2042803.3		1.0000		0.000		0.000	25	298
C-02	Railcar Unloading Pan Feeder Transfer	244055.2	2042816.3		2.4384		0.000		0.000	25	298
C-03	Railcar Unloading Belt Ttansfer	244008.1	2042834.4		3.9624		0.000		0.000	25	298
C-12F	Dryer #1/2/3 Belt to Dryer Belt Fugitives	243943.7	2043042.3		1.8288		0.000		0.000	60	333
C-13F	Dryer #4 Belt to Dryer Belt Fugtives	244084.2	2042994		1.8288		0.000		0.000	60	333
C-19	Ship Loading	245335.4	2042922.3		7.9248		0.000		0.000	38	311
M-1	Steel Cutting	244187.8	2042792.5		1.0000		0.000		0.000	25	298
M-2	Welding Emissions	244187.8	2042792.5		1.0000		0.000		0.000	25	298
M-3	Fugitive Emissions from Painting Operations	244187.8	2042792.5		1.0000		0.000		0.000	25	298
M-4	Outdoor Blasting Emissions	244187.8	2042792.5		1.0000		0.000		0.000	25	298

Table 2-0
2025-2029 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s (-m^2)	PM g/s	PM g/s (-m^2)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s (-m^2)	PM-10 g/s	PM-10 g/s (-m^2)
Mine Pseudo-p													
C-01a						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01b						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01c						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01d						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01e						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01f						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01g						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01h						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01i						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01j						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01k						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-02a						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02b						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02c						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02d						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02e						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02f						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02g						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02h						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02i						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02j						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02k						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-03						1.142	0.03611475	0.05829982	-	0.191	0.00604395	0.05829982	-
C-04						1.142	0.03611475	0.36114752	-	0.191	0.00604395	0.06043954	-
C-07						1.142	0.03611475	0.36114752	-	0.191	0.00604395	0.06043954	-
C-08						1.142	0.03611475	0.36114752	-	0.191	0.00604395	0.06043954	-
C-09						0.053	0.00167433	0.00167433	-	0.009	0.00028021	0.00028021	-
C-10						0.032	0.00100460	0.00100460	-	0.005	0.00016812	0.00016812	-
C-11						0.021	0.00066973	0.00066973	-	0.004	0.00011208	0.00011208	-
C-12						0.021	0.00066973	0.00066973	-	0.004	0.00011208	0.00011208	-
HR-1						1041.639	32.93990316	32.93990316	-	205.021	6.48342062	6.48342062	-
HR-2						3.809	0.12046335	0.12046335	-	1.534	0.04849488	0.04849488	-
Drying Plant Ar													
C-01	13.41	10.97			21.04	1.142	0.00024550	0.102	0.00069215	0.191	0.00004109	0.017	0.00011583
C-02	2.06	1.37			21.04	1.142	0.01279667	0.102	0.03607824	0.191	0.00214158	0.017	0.00603784
C-03	3.53	1.68			21.04	1.142	0.00608977	0.102	0.01716916	0.191	0.00101915	0.017	0.00287333
C-12F	51.1	10.9			21.04	1.033	0.00005867	0.059	0.00010562	0.173	0.00000982	0.010	0.00001768
C-13F	20.58	12.61			20.58	1.018	0.00012408	0.080	0.00030952	0.170	0.00002076	0.013	0.00005180
C-19	99.42	17.41			-29.44	12.665	0.00023138	0.400	0.00023138	1.565	0.00002858	0.049	0.00002858
M-1	64.08	43.85			21.04	0.067	0.00000075	0.004	0.00000075	0.067	0.00000075	0.004	0.00000075
M-2	64.08	43.85			21.04	0.741	0.00000834	0.047	0.00000834	0.741	0.00000834	0.047	0.00000834
M-3	64.08	43.85			21.04	5.010	0.00005638	0.317	0.00005638	5.010	0.00005638	0.317	0.00005638
M-4	64.08	43.85			21.04	9.979	0.00011231	0.631	0.00011231	2.359	0.00002655	0.149	0.00002655

Table 2-0
2025-2029 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Mine Pseudo-p												
C-01a												-
C-01b												-
C-01c												-
C-01d												-
C-01e												-
C-01f												-
C-01g												-
C-01h												-
C-01i												-
C-01j												-
C-01k												-
C-02a												-
C-02b												
C-02c												
C-02d												
C-02e												
C-02f												
C-02g												
C-02h												
C-02i												
C-02j												
C-02k												
C-03												
C-04												
C-07												
C-08												
C-09												
C-10												
C-11												
C-12												
HR-1												
HR-2												
Drying Plant Ar												
C-01												
C-02												
C-03												
C-12F												
C-13F												
C-19												
M-1	0.0002	0.0000000025	0.00001	0.0000000049	0.026	0.00000029		0.00000000	0.015	0.00000016	0.001	0.00000033
M-2												
M-3												
M-4												

Table 2-0
2025-2029 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Mine Area Sources											
C-05	Stockpile Emissions (Water Valley)	248219.8	2026031.7		6.0960				0.000	25	298
C-06	Stockpile Emissions (Tobolski)	246830	2030803		6.0960				0.000	25	298
M-1	Steel Cutting	247346.1	2025567.9		1.0000				0.000	25	298
M-2	Welding Emissions	247346.1	2025567.9		1.0000				0.000	25	298
M-3	Fugitive Emissions from Painting Operations	247346.1	2025567.9		1.0000				0.000	25	298
M-4	Outdoor Abrasive Blasting Emissions	247346.1	2025567.9		1.0000				0.000	25	298

Point Source ID	Description	UTMX	UTMY	Release Height		Diameter of Stack		Avg Discharge Velocity		Max Discharge Velocity	
				ft	m	ft	m	ft/s	m/s	ft/s	m/s
Drying Plant Volume Sources											
C-05F	Stockpile Fugitives	243928	2042948		4.5720						
C-15F	Dome Fugitives	245090.2	2042745.6		1.3716						
C-16F	Dock Belt Fugitives	245101.9	2042768.7		1.8288						
C-17F	Dedust Addition Fugitives	245116.3	2042781.9		1.2192						
C-18F	Gantry Fugitives	245275.3	2042926.4		15.2400						
C-22	Bauxite Recovery - Dry Products Building Reject Pile Fugitives	243835.6	2043074.7		4.5720						
C-24	Bauxite Recovery - Dryer #4 Reject Pile Fugitives	244086.8	2043023.1		4.5720						
C-25	Bauxite Recovery - Dome to Dome Stockpile Transfer	245030.5	2042590		1.0000						
C-26	Dome Stockpile Fugitives	245030.5	2042590		6.0960						
C-28K	Product Storage Pile 1 Fugitives	243978.9	2043087.7	12.5	3.8100						
C-28L	Product Storage Pile 2 Fugitives	243978.9	2043087.7	12.5	3.8100						
C-29I	Product Storage Pile Fugitives	244242	2043000	12.5	3.8100						
C-29L	Product Storage Pile Fugitives (Dock)	245322	2042848	12.5	3.8100						

Table 2-0
2025-2029 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s ($-m^2$)	PM g/s	PM g/s ($-m^2$)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s ($-m^2$)	PM-10 g/s	PM-10 g/s ($-m^2$)
Mine Area Sour													
C-05	65.05	63.71			9.7	0.170	0.00000130	0.271	0.00006547	0.085	0.00000065	0.136	0.00003274
C-06	85.2	84.83			16.98	0.167	0.00000073	0.318	0.00004394	0.084	0.00000037	0.159	0.00002197
M-1	48.61	15.65			26.2	0.003	0.00000012	0.000	0.00000024	0.003	0.00000012	0.0002	0.00000024
M-2	48.61	15.65			26.2	0.177	0.00000737	0.011	0.00001474	0.177	0.00000737	0.011	0.00001474
M-3	48.61	15.65			26.2	0.188	0.00000781	0.012	0.00001562	0.188	0.00000781	0.012	0.00001562
M-4	48.61	15.65			26.2	2.495	0.00010370	0.158	0.00020741	0.590	0.00002451	0.037	0.00004902

2.200

Point Source ID	Discharge Temperature F	Discharge Temperature K	Syo m	Szo m		Emission Rate PM Permitted mtpy	PM g/s ($-m^2$)	PM g/s	PM g/s ($-m^2$)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s ($-m^2$)	PM-10 g/s	PM-10 g/s ($-m^2$)
Drying Plant Vo													
C-05F			72.75	4.25		1.684	0.05326273	1.04018271		0.842	0.02663137	0.52009135	
C-15F			1.87	0.64		1.018	0.03219869	0.07353667		0.170	0.00538859	0.01230667	
C-16F			2.54	0.85		1.018	0.03219869	0.07353667		0.170	0.00538859	0.01230667	
C-17F			1.50	0.57		2.533	0.08009828	0.18293167		0.313	0.00989488	0.02259833	
C-18F			1.17	7.09		2.533	0.08009828	0.18293167		0.313	0.00989488	0.02259833	
C-22			7.61	2.13		0.046	0.00145159	0.02967396		0.023	0.00072580	0.01483698	
C-24			7.61	2.13		0.051	0.00161199	0.03273328		0.025	0.00080600	0.01636664	
C-25			14.18	0.47		0.015	0.00048221	0.00678800		0.003	0.00008070	0.00113600	
C-26			14.18	2.84		0.089	0.00279944	0.05467106		0.044	0.00139972	0.02733553	
C-28K			5.15	1.77		0.147	0.00465365	0.01942323		0.074	0.00232682	0.00971162	
C-28L			5.15	1.77		0.147	0.00465365	0.01942323		0.074	0.00232682	0.00971162	
C-29I			5.15	1.77		0.294	0.00930730	0.06562065		0.147	0.00465365	0.03281033	
C-29L			5.15	1.77		0.147	0.00465365	0.03281033		0.074	0.00232682	0.01640516	

Table 2-0
2025-2029 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Mine Area Sour												
C-05												
C-06												
M-1	0.00001	0.0000000004	0.0000006	0.0000000008	0.001	0.00000006		0.00000000	0.001	0.00000003	0.00004	0.00000005
M-2												
M-3												
M-4												

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Vo												
C-05F												
C-15F												
C-16F												
C-17F												
C-18F												
C-22												
C-24												
C-25												
C-26												
C-28K												
C-28L												
C-29I												
C-29L												

Table 2-1
2025-2029 NO2 Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
NO2	100.00 (Annual)	2011	242500	2031600	-	81.69	0.00	81.69	No	Yes	Located in ore body mine site	11no2ann.inp
			244700	2031600	-	55.68		55.68	No	No		
			244600	2031700	-	55.11		55.11	No	No		
			244700	2031800	-	53.97		53.97	No	No		
			244700	2031700	-	51.92		51.92	No	No		
			244600	2031600	-	51.78		51.78	No	No		
			244600	2031500	-	50.94		50.94	No	No		
			245600	2032000	-	50.79		50.79	No	No		
			244500	2031800	-	50.00		50.00	No	No		
			244800	2031800	-	49.08		49.08	No	No		

Figure 2-1
NO_2
Annual Averaging Period
2011
2025-2029 Mining Sites

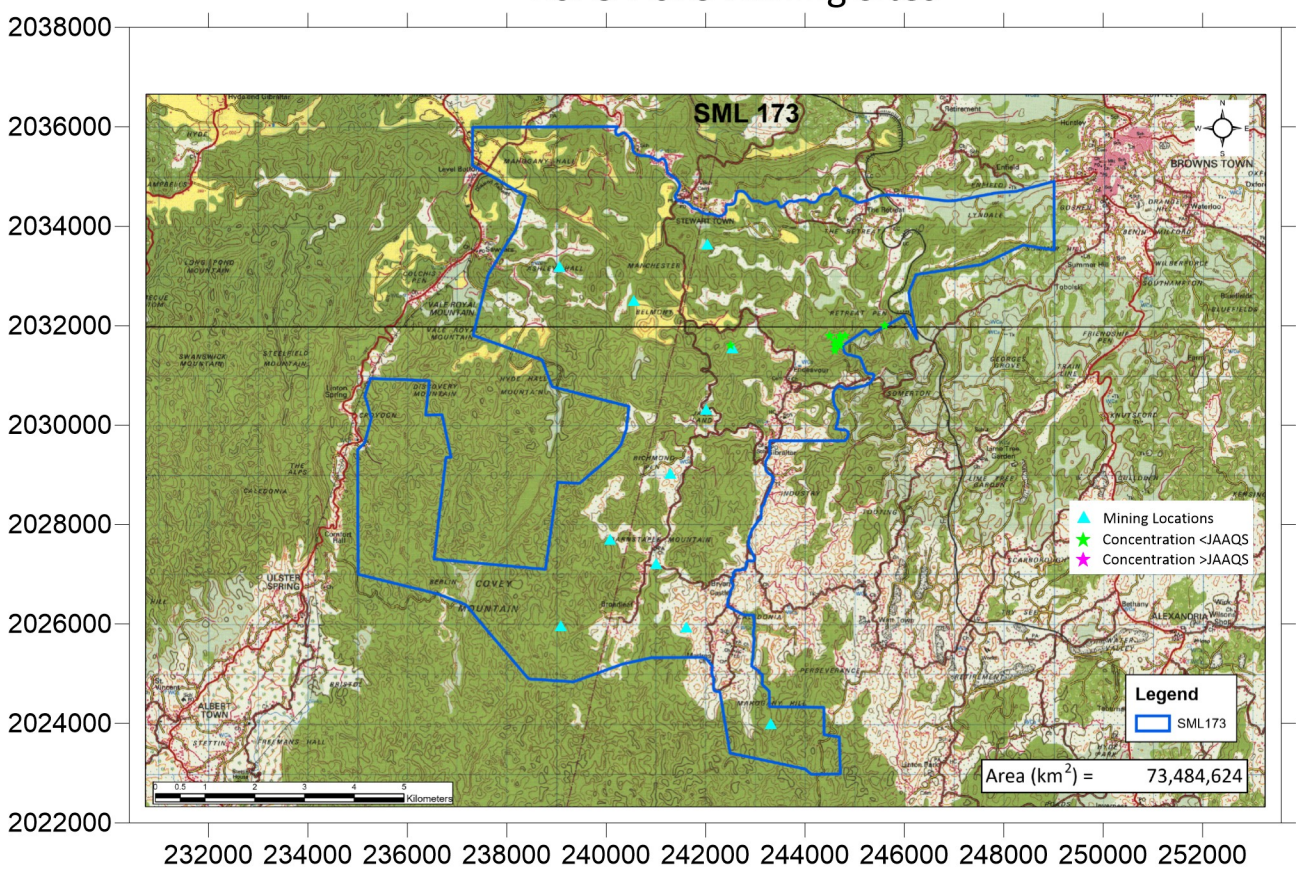


Table 2-2
2025-2029 odeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2016	242500	2031600	-	88.66	0.00	88.66	No	Yes	Located in ore body mine site	16no2ann.inp
			245400	2031900	-	55.28		55.28	No	No		
			244700	2031600	-	53.94		53.94	No	No		
			245600	2032000	-	53.25		53.25	No	No		
			244900	2032100	-	52.44		52.44	No	No		
			244800	2032100	-	52.39		52.39	No	No		
			244500	2031800	-	52.15		52.15	No	No		
			245500	2032000	-	49.34		49.34	No	No		
			244500	2032100	-	48.75		48.75	No	No		
			244600	2031500	-	48.65		48.65	No	No		

Figure 2-2
NO_2
Annual Averaging Period
2016
2025-2029 Mining Sites

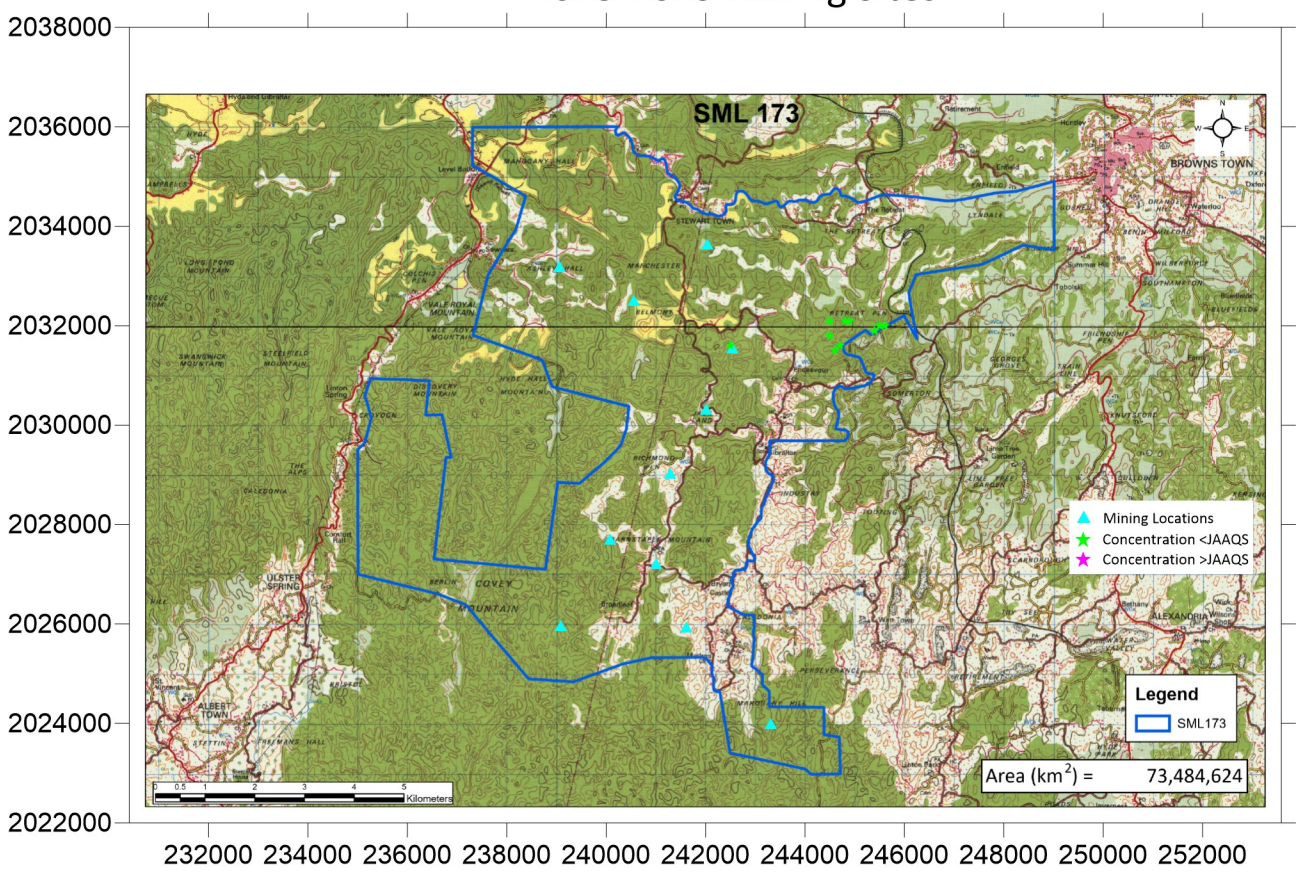


Table 2-3
2025-2029 NO2 Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2017	242500	2031600	-	55.93	0.000	55.93	No	No	Located in ore body mine site	17no2ann.inp
			244700	2031600	-	55.63		55.63	No	No		
			240000	2027700	-	55.36		55.36	No	No	Located in ore body mine site	
			245400	2031900	-	53.88		53.88	No	No		
			244500	2031800	-	53.84		53.84	No	No		
			244800	2031700	-	52.56		52.56	No	No		
			244800	2032100	-	51.90		51.90	No	No		
			245600	2032000	-	51.69		51.69	No	No		
			244900	2032100	-	51.64		51.64	No	No		
			244600	2031500	-	51.43		51.43	No	No		

Figure 2-3
NO_2
Annual Averaging Period
2017
2025-2029 Mining Sites

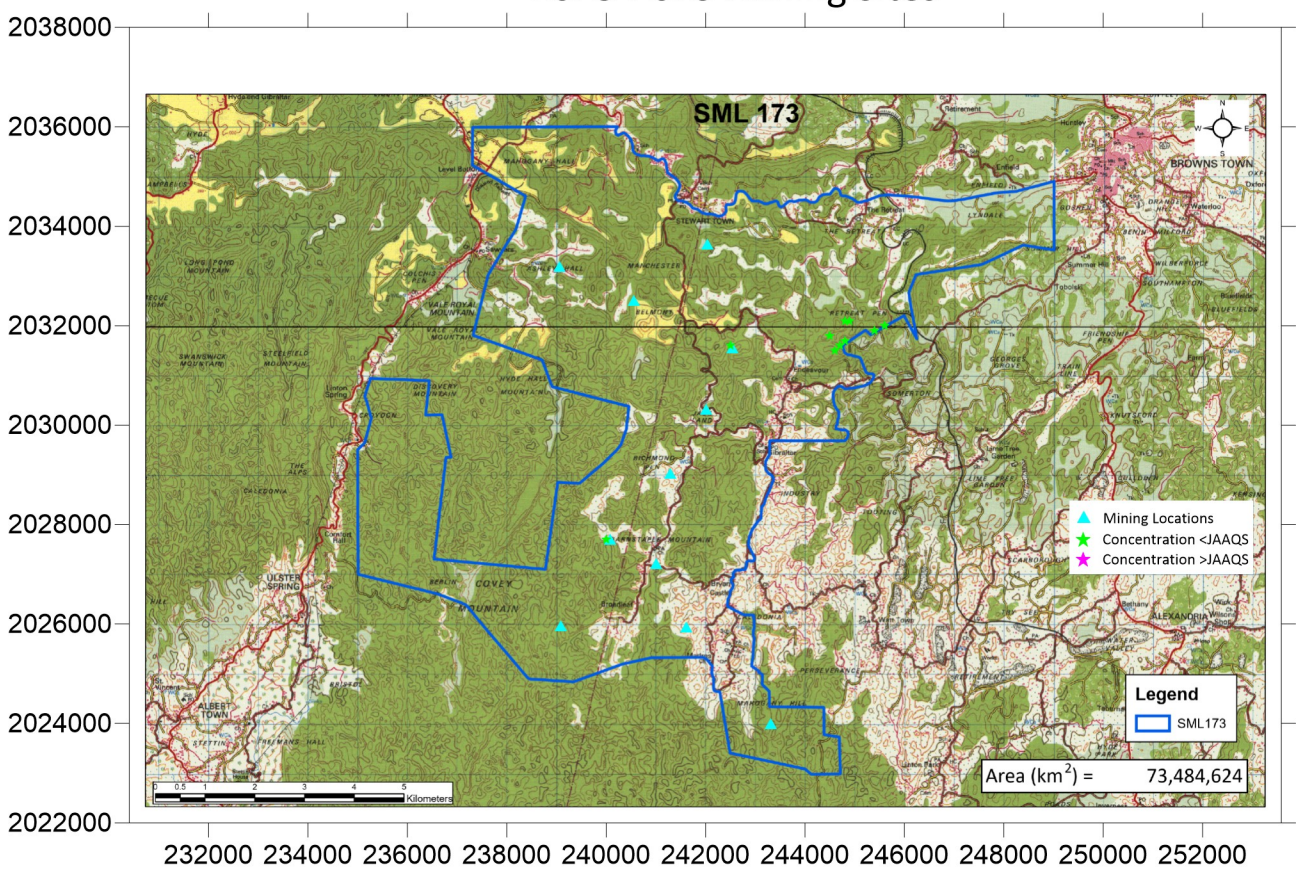


Table 2-4
2025-2029 NO2 Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2018	242500	2031600	-	102.84	0.00	102.84	Yes	Yes	Located in ore body mine site	18no2ann.inp
			245600	2032000	-	59.39		59.39	No	No		
			245400	2031900	-	59.33		59.33	No	No		
			244800	2032100	-	58.73		58.73	No	No		
			244900	2032100	-	58.38		58.38	No	No		
			244700	2031600	-	57.19		57.19	No	No		
			244500	2031800	-	56.04		56.04	No	No		
			244700	2032100	-	54.32		54.32	No	No		
			244500	2032100	-	54.20		54.20	No	No		
			245500	2032000	-	53.47		53.47	No	No		

Figure 2-4
NO_2
Annual Averaging Period
2018
2025-2029 Mining Sites

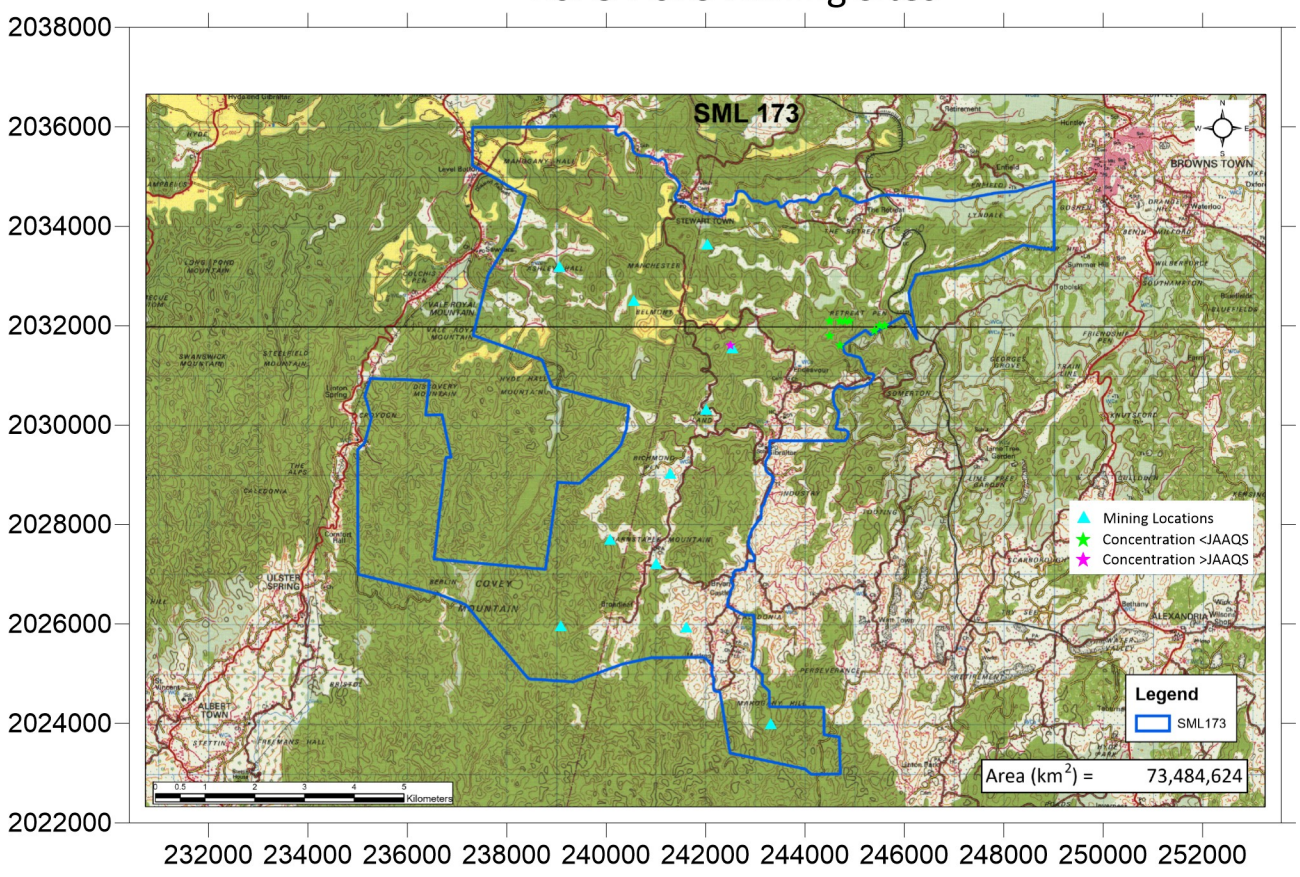


Table 2-5
2025-2029 NO2 Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2019	242500	2031600	-	124.05	0.00	124.05	Yes	Yes	Located in ore body mine site	19no2ann.inp
			245600	2032000	-	75.46		75.46	No	Yes		
			245400	2031900	-	72.26		72.26	No	No		
			244700	2031600	-	70.75		70.75	No	No		
			244800	2032100	-	70.52		70.52	No	No		
			244500	2031800	-	70.09		70.09	No	No		
			244900	2032100	-	69.73		69.73	No	No		
			245500	2032000	-	68.22		68.22	No	No		
			244500	2032100	-	65.83		65.83	No	No		
			244400	2032000	-	65.61		65.61	No	No		

Figure 2-5
NO_2
Annual Averaging Period
2019
2025-2029 Mining Sites

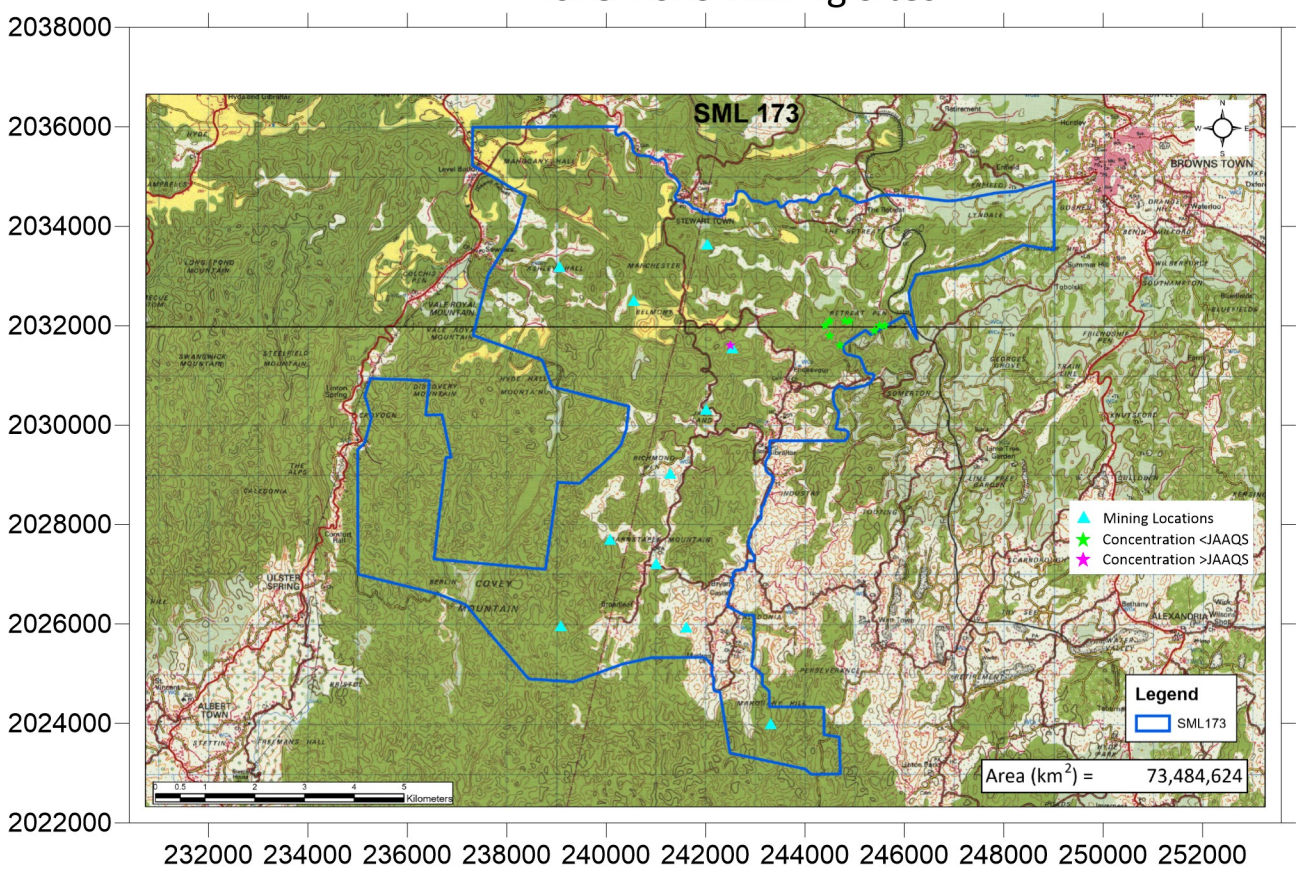


Table 2-6
2025-2029 CO 1-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	40,000.00 (1-hr)	2011	245600	2032000	11031103	803.24	0.00	803.24	No	No		11co1hr.inp
			245100	2032300	11031024	789.18		789.18	No	No		
			244800	2032100	11042022	723.05		723.05	No	No		
			246100	2033300	11020906	721.69		721.69	No	No		
			244500	2031500	11030123	717.48		717.48	No	No		
			246200	2033400	11051301	714.99		714.99	No	No		
			244400	2031500	11042004	686.47		686.47	No	No		
			246000	2033300	11110222	678.75		678.75	No	No		
			246000	2032300	11110823	678.10		678.10	No	No		
			244900	2032100	11042022	675.96		675.96	No	No		

Figure 2-6
CO
1-hr Averaging Period
2011
2025-2029 Mining Sites

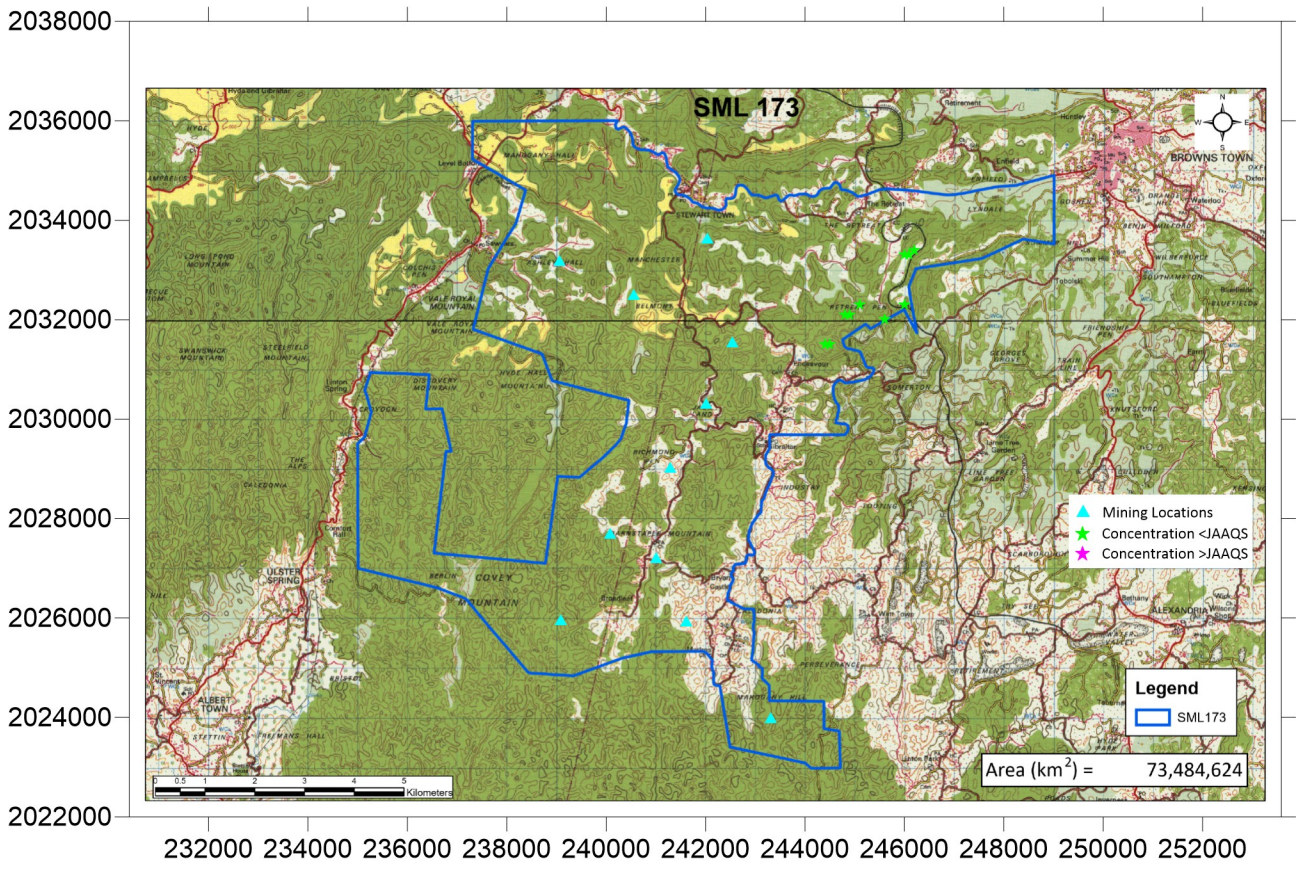


Table 2-7
2025-2029 CO 1-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	40,000.00 (1-hr)	2016	245600	2032000	16061523	838.50	0.00	838.50	No	No		16co1hr.inp
			246000	2032300	16111601	777.69		777.69	No	No		
			245100	2032300	16011206	765.48		765.48	No	No		
			244800	2032100	16101802	729.64		729.64	No	No		
			244500	2031500	16041324	726.57		726.57	No	No		
			246100	2033300	16090323	722.02		722.02	No	No		
			246000	2032400	16102104	721.88		721.88	No	No		
			244500	2031800	16041704	713.73		713.73	No	No		
			247100	2033400	16011320	708.46		708.46	No	No		
			246700	2033400	16011321	700.54		700.54	No	No		

Figure 2-7
CO
1-hr Averaging Period
2016
2025-2029 Mining Sites

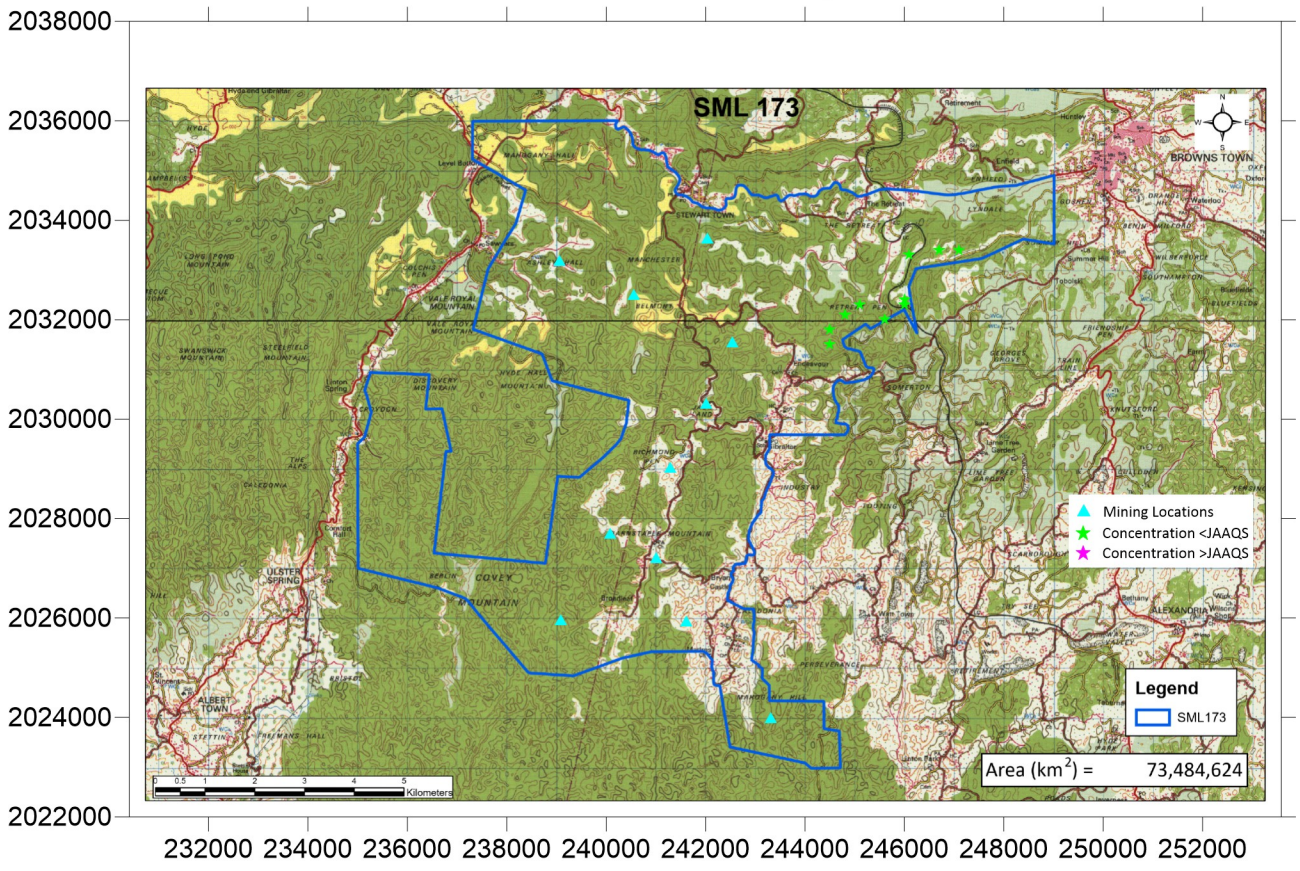


Table 2-8
2025-2029 CO 1-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	40,000.00 (1-hr)	2017	245600	2032000	17122804	840.20	0.00	840.20	No	No		17co1hr.inp
			246000	2032300	17031222	824.65		824.65	No	No		
			245100	2032300	17090603	775.36		775.36	No	No		
			246000	2032200	17031222	754.52		754.52	No	No		
			244800	2032100	17020421	728.63		728.63	No	No		
			246200	2033400	17101406	714.88		714.88	No	No		
			244500	2031500	17021803	713.85		713.85	No	No		
			244500	2031800	17123101	710.84		710.84	No	No		
			246000	2032400	17031222	708.16		708.16	No	No		
			246000	2033300	17041324	706.36		706.36	No	No		

Figure 2-8
CO
1-hr Averaging Period
2017
2025-2029 Mining Sites

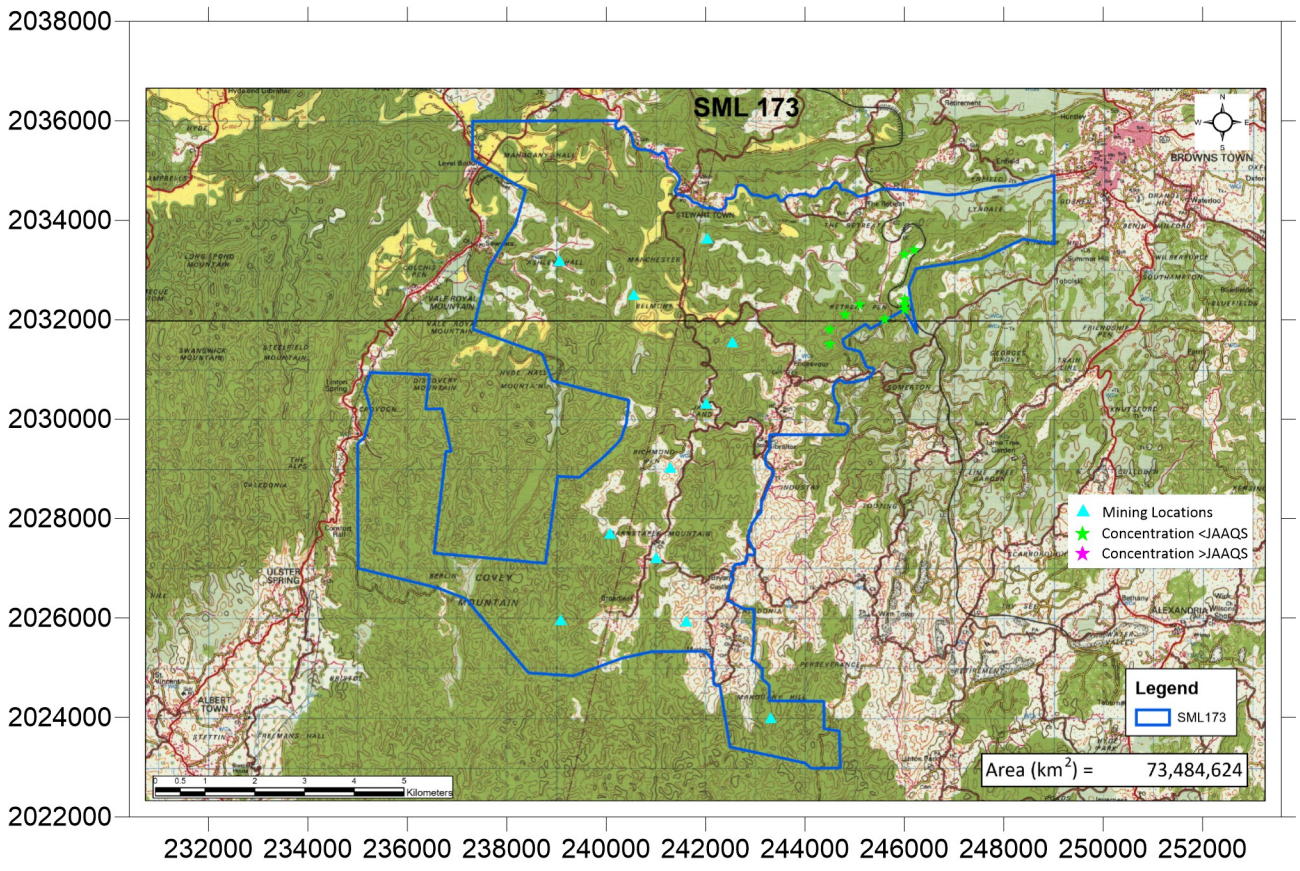


Table 2-9
2025-2029 CO 1-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	40,000.00 (1-hr)	2018	245600	2032000	18041022	872.80	0.00	872.80	No	No		18co1hr.inp
			245100	2032300	18061023	789.32		789.32	No	No		
			246000	2032300	18061324	766.02		766.02	No	No		
			244800	2032100	18051105	728.77		728.77	No	No		
			244500	2031500	18112504	727.49		727.49	No	No		
			246200	2033400	18120123	717.08		717.08	No	No		
			244700	2032100	18060204	706.65		706.65	No	No		
			244400	2031500	18120624	706.19		706.19	No	No		
			246100	2033300	18033023	701.96		701.96	No	No		
			244500	2031800	18110106	700.90		700.90	No	No		

Figure 2-9
CO
1-hr Averaging Period
2018
2025-2029 Mining Sites

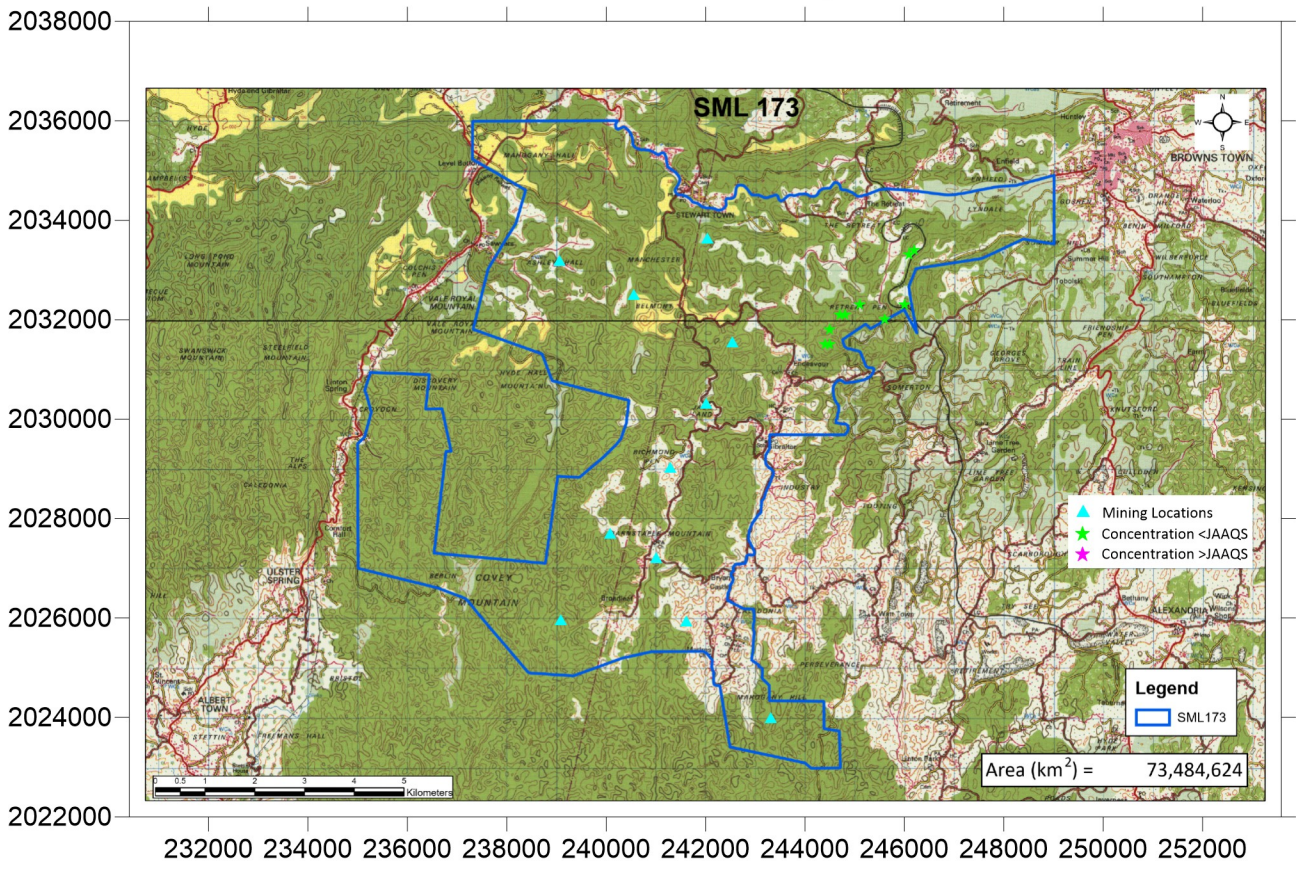


Table 2-10
2025-2029 CO 1-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	40,000.00 (1-hr)	2019	245600	2032000	19050123	847.87	0.00	847.87	No	No		19co1hr.inp
			246000	2032300	19120502	775.70		775.70	No	No		
			245100	2032300	19110922	773.31		773.31	No	No		
			246000	2032400	19120502	752.20		752.20	No	No		
			244500	2031500	19122720	732.91		732.91	No	No		
			244800	2032100	19111502	732.66		732.66	No	No		
			246100	2033300	19011520	721.89		721.89	No	No		
			244700	2032100	19111502	701.98		701.98	No	No		
			244900	2032100	19092224	699.58		699.58	No	No		
			244500	2031800	19071002	693.81		693.81	No	No		

Figure 2-10
CO
1-hr Averaging Period
2019
2025-2029 Mining Sites

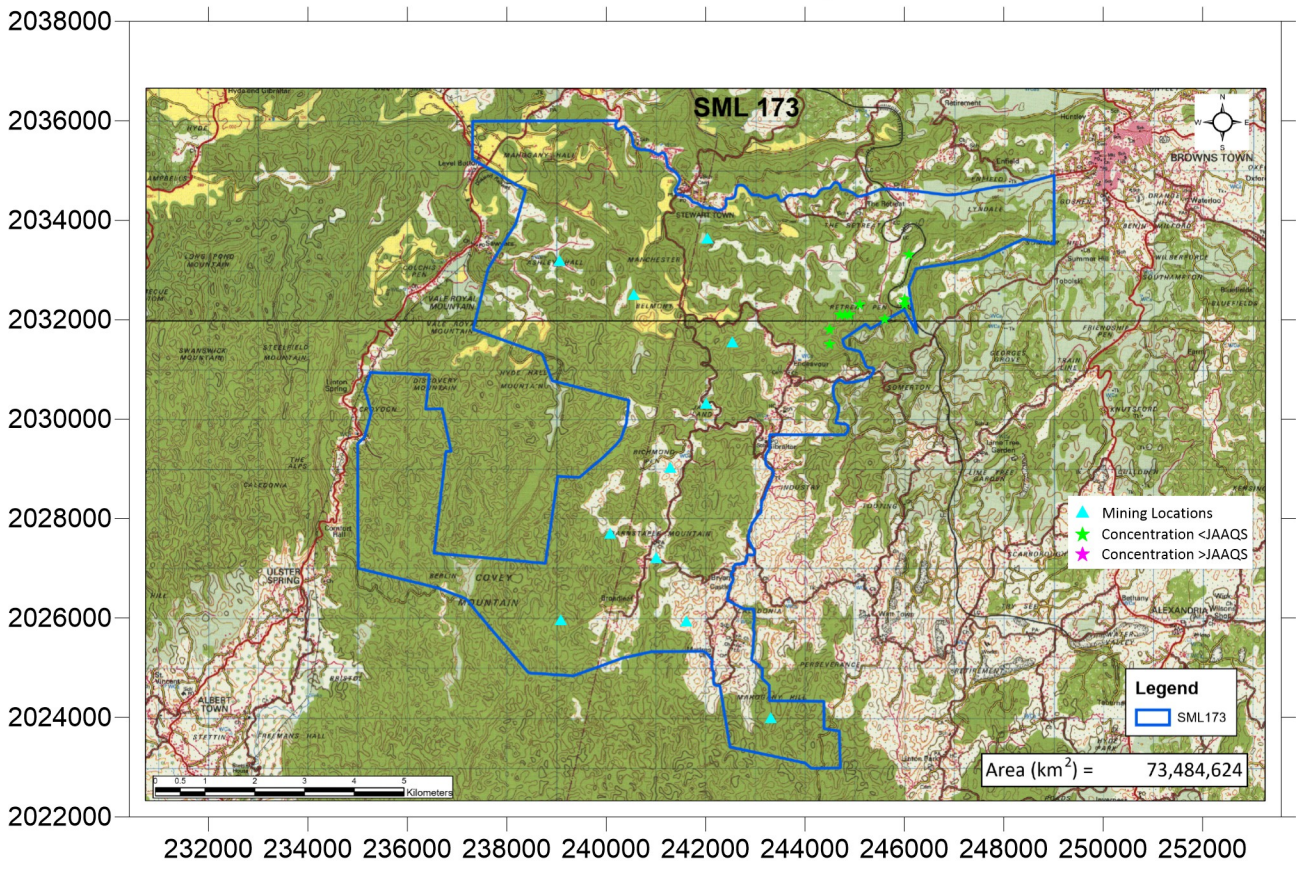


Table 2-11
2025-2029 CO 8-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2011	245100	2032300	11031024	277.00	0.00	277.00	No	No		11co8hr.inp
			245600	2032000	11111008	252.97		252.97	No	No		
			244800	2032100	11030608	196.89		196.89	No	No		
			244900	2032100	11030608	189.10		189.10	No	No		
			246000	2033100	11051024	187.78		187.78	No	No		
			245500	2032000	11111008	182.28		182.28	No	No		
			244500	2031500	11042008	182.25		182.25	No	No		
			246000	2033000	11051024	180.41		180.41	No	No		
			244400	2031500	11042008	178.72		178.72	No	No		
			244700	2032100	11030608	177.33		177.33	No	No		

Figure 2-11
CO
8-hr Averaging Period
2011
2025-2029 Mining Sites

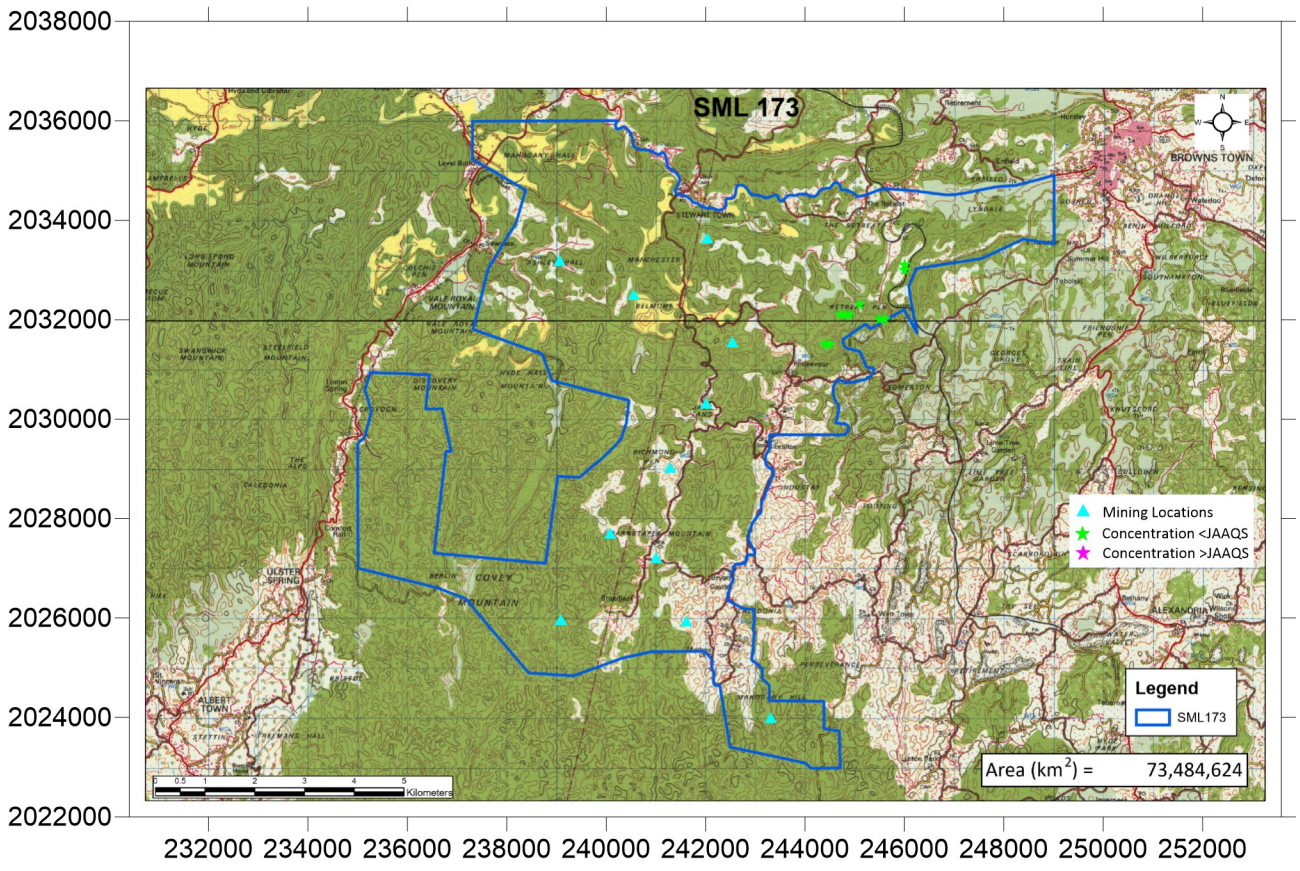


Table 2-12
2025-2029 CO 8-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
CO	10,000.00 (8-hr)	2016	244900	2032100	16011208	292.89	0.00	292.89	No	No		16co8hr.inp
			244500	2031500	16111608	271.65		271.65	No	No		
			245100	2032300	16011208	271.41		271.41	No	No		
			244000	2031800	16111608	262.32		262.32	No	No		
			244700	2031600	16111608	257.87		257.87	No	No		
			244800	2032100	16011208	257.33		257.33	No	No		
			244600	2031500	16111608	252.64		252.64	No	No		
			244400	2031500	16111608	241.98		241.98	No	No		
			243700	2031800	16111608	233.14		233.14	No	No		
			244500	2031800	16111608	225.91		225.91	No	No		

Figure 2-12
CO
8-hr Averaging Period
2016
2025-2029 Mining Sites

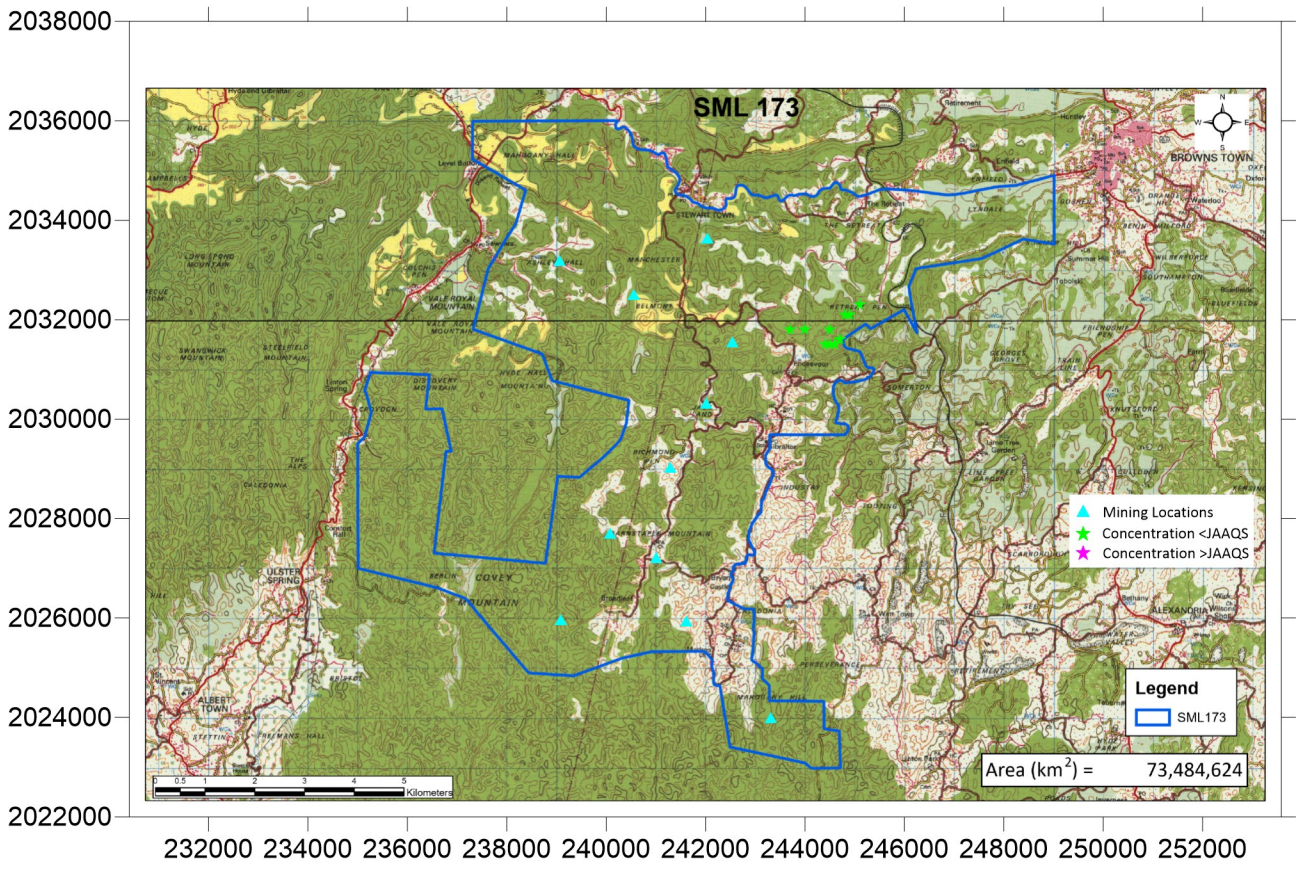


Table 2-13
2025-2029 CO 8-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2017	244500	2031500	17082908	274.90	0.00	274.90	No	No		17co8hr.inp
			244400	2031500	17082908	254.50		254.50	No	No		
			244600	2031500	17082908	250.67		250.67	No	No		
			244500	2031800	17022508	249.65		249.65	No	No		
			244300	2031400	17021308	242.98		242.98	No	No		
			244000	2031800	17082908	241.63		241.63	No	No		
			244700	2031600	17082908	239.63		239.63	No	No		
			244200	2031400	17021308	234.16		234.16	No	No		
			243800	2031300	17021308	231.82		231.82	No	No		
			242500	2031600	17012008	226.03		226.03	No	No		

Figure 2-13
CO
8-hr Averaging Period
2017
2025-2029 Mining Sites

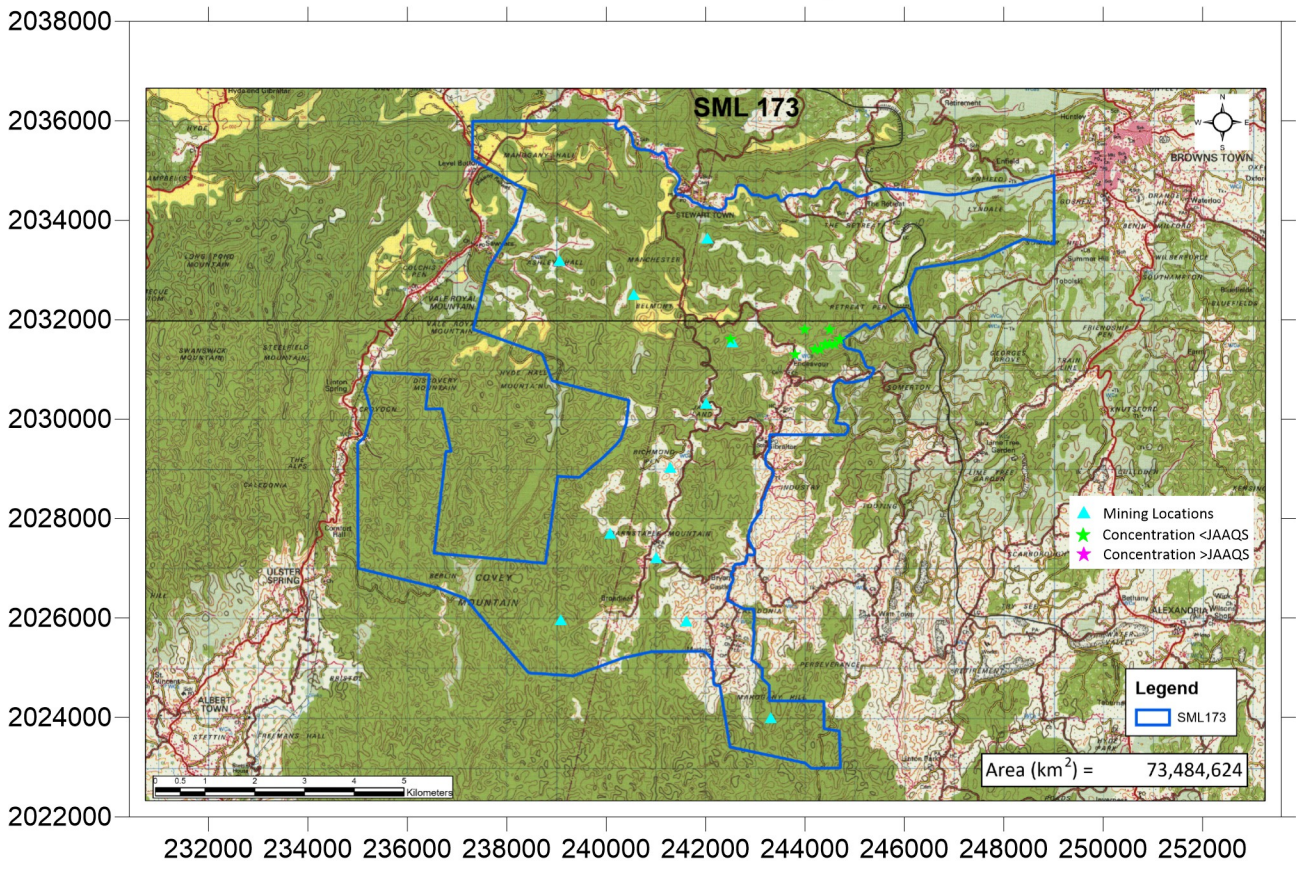


Table 2-14
2025-2029 CO 8-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2018	244400	2032000	18091208	316.64	0.00	316.64	No	No		18co8hr.inp
			244500	2031800	18091208	289.82		289.82	No	No		
			244500	2032100	18091208	253.15		253.15	No	No		
			245600	2032000	18060108	241.81		241.81	No	No		
			244900	2032100	18051108	234.33		234.33	No	No		
			244800	2032100	18042408	228.33		228.33	No	No		
			244700	2032100	18050208	218.62		218.62	No	No		
			244700	2031600	18061608	214.16		214.16	No	No		
			243800	2032200	18091208	203.56		203.56	No	No		
			244600	2032200	18042408	192.75		192.75	No	No		

Figure 2-14
CO
8-hr Averaging Period
2018
2025-2029 Mining Sites

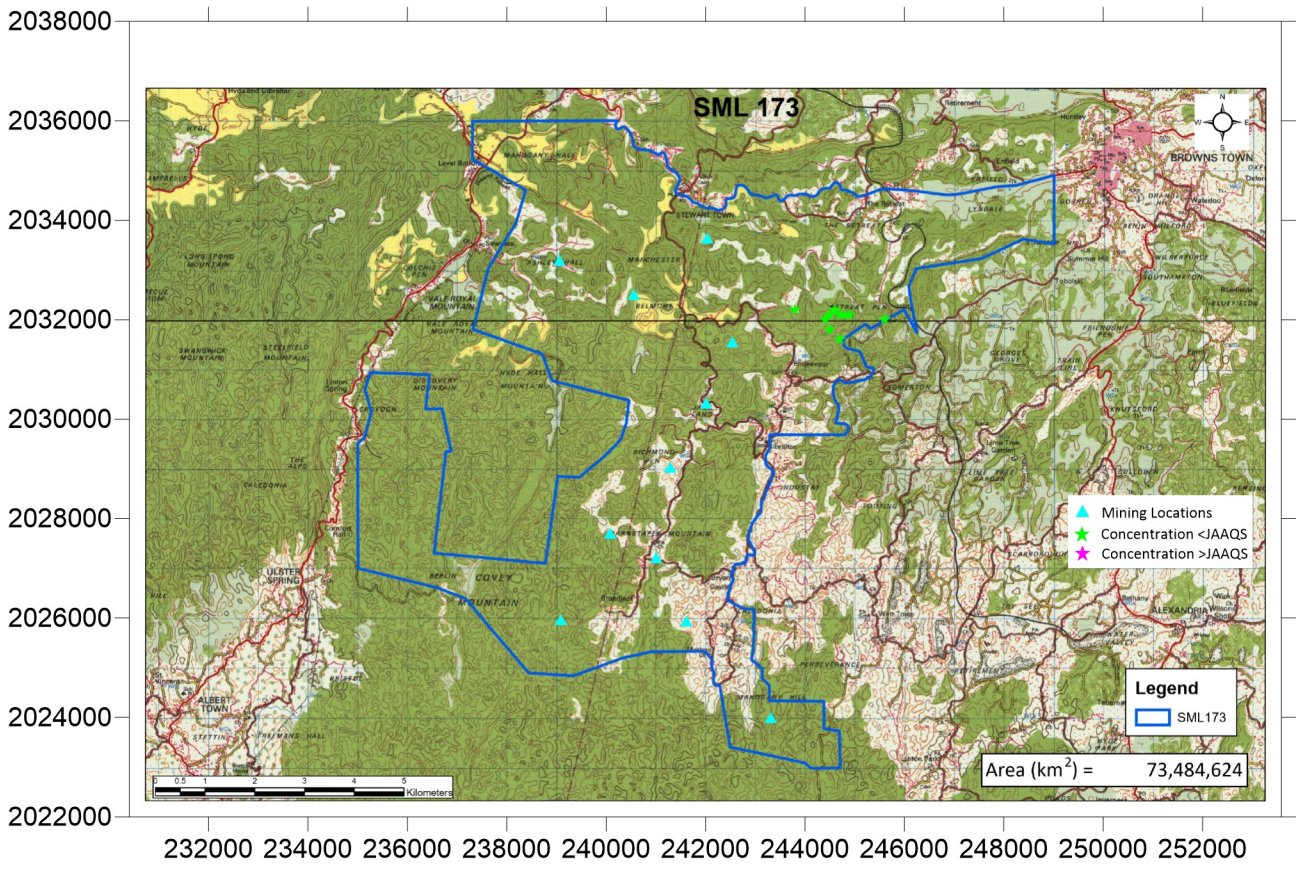


Table 2-15
2025-2029 CO 8-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2019	244800	2032100	19042508	258.28	0.00	258.28	No	No		19co8hr.inp
			245600	2032000	19062924	255.42		255.42	No	No		
			244500	2032100	19112908	246.55		246.55	No	No		
			244700	2031600	19082124	243.44		243.44	No	No		
			244500	2031500	19082124	243.47		243.47	No	No		
			244900	2032100	19042508	243.17		243.17	No	No		
			244400	2032000	19111508	236.36		236.36	No	No		
			244600	2031500	19082124	232.12		232.12	No	No		
			244700	2032100	19030308	229.38		229.38	No	No		
			244000	2031800	19082124	228.28		228.28	No	No		

Figure 2-15
CO
8-hr Averaging Period
2019
2025-2029 Mining Sites

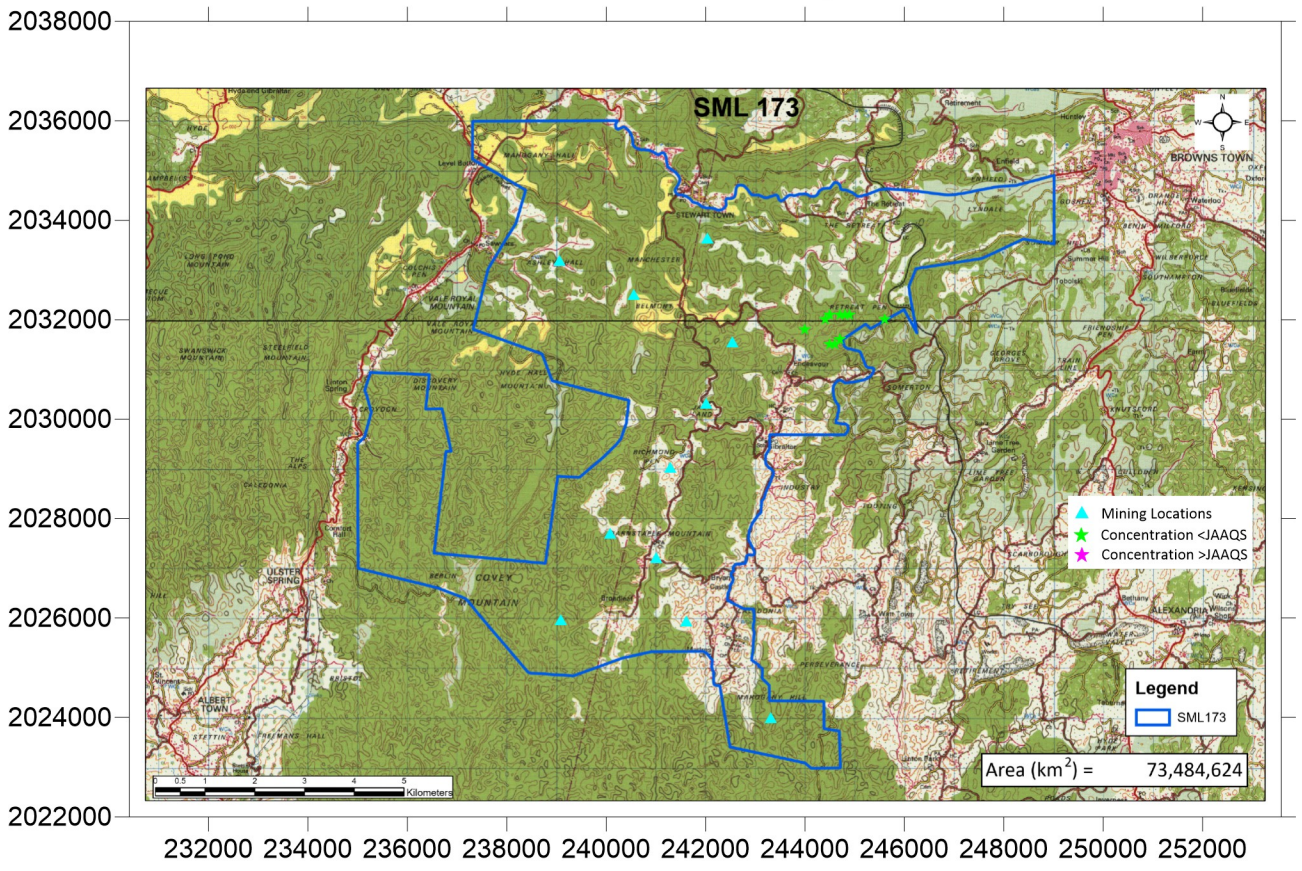


Table 2-16
2025-2029 SO2 Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2011	242500	2031600	-	18.35	0.00	18.35	No	No	Located in ore body mine site	11so2ann.inp
			244800	2031700	-	12.51		12.51	No	No		
			244700	2031600	-	12.38		12.38	No	No		
			244600	2031700	-	12.12		12.12	No	No		
			244700	2031800	-	11.66		11.66	No	No		
			244700	2031700	-	11.63		11.63	No	No		
			244600	2031600	-	11.44		11.44	No	No		
			244600	2031500	-	11.41		11.41	No	No		
			245600	2032000	-	11.23		11.23	No	No		
			244500	2031800	-	11.02		11.02	No	No		

Figure 2-16
SO_2
Annual Averaging Period
2011
2025-2029 Mining Sites

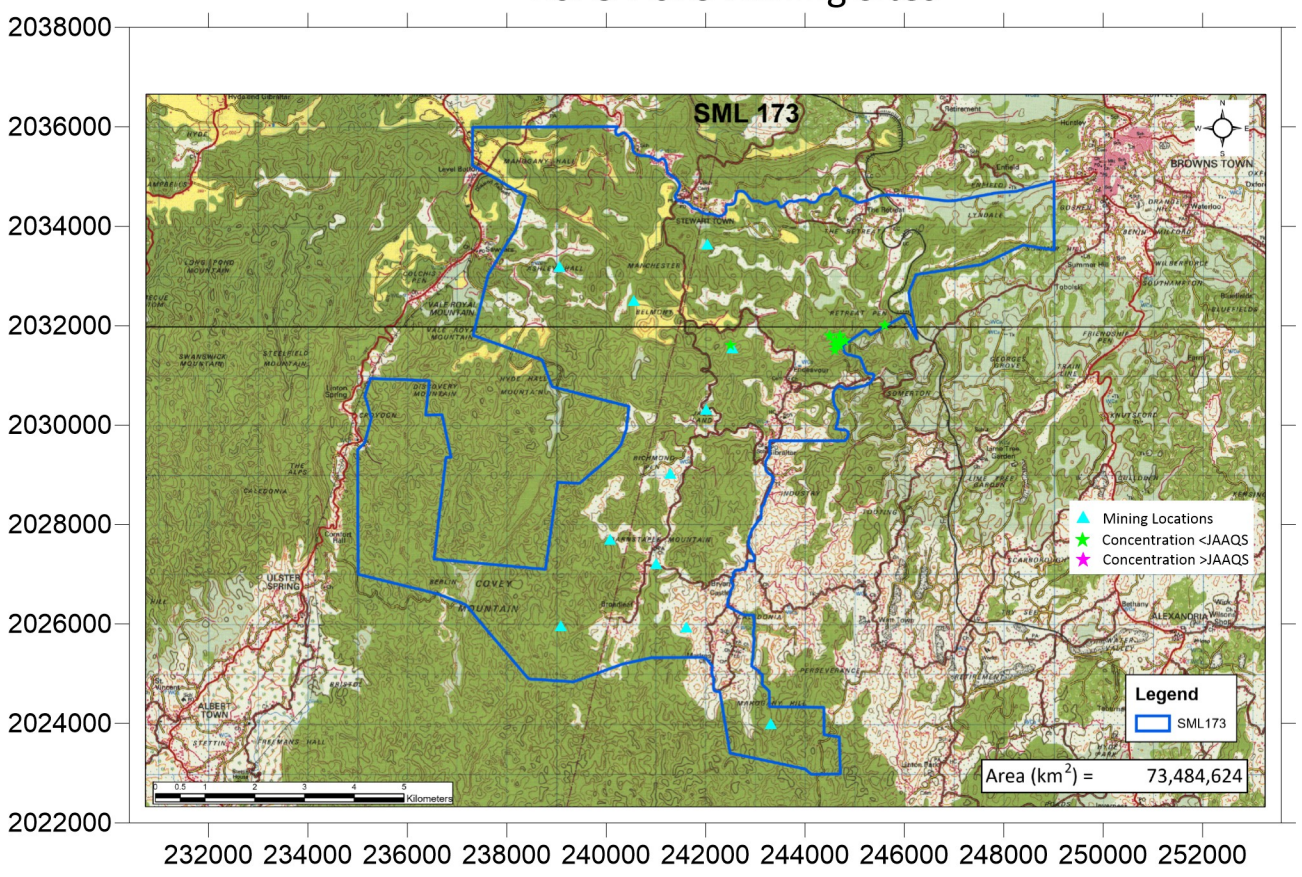


Table 2-17
2025-2029 SO2 Annual Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2016	242500	2031600	-	19.92	0.00	19.92	No	No	Located in ore body mine site	16so2ann.inp
			245400	2031900	-	12.42		12.42	No	No		
			244700	2031600	-	12.12		12.12	No	No		
			245600	2032000	-	11.96		11.96	No	No		
			244800	2032100	-	11.77		11.77	No	No		
			244900	2032100	-	11.78		11.78	No	No		
			244500	2031800	-	11.72		11.72	No	No		
			245500	2032000	-	11.08		11.08	No	No		
			244500	2032100	-	10.95		10.95	No	No		
			244600	2031500	-	10.93		10.93	No	No		

Figure 2-17
SO_2
Annual Averaging Period
2016
2025-2029 Mining Sites

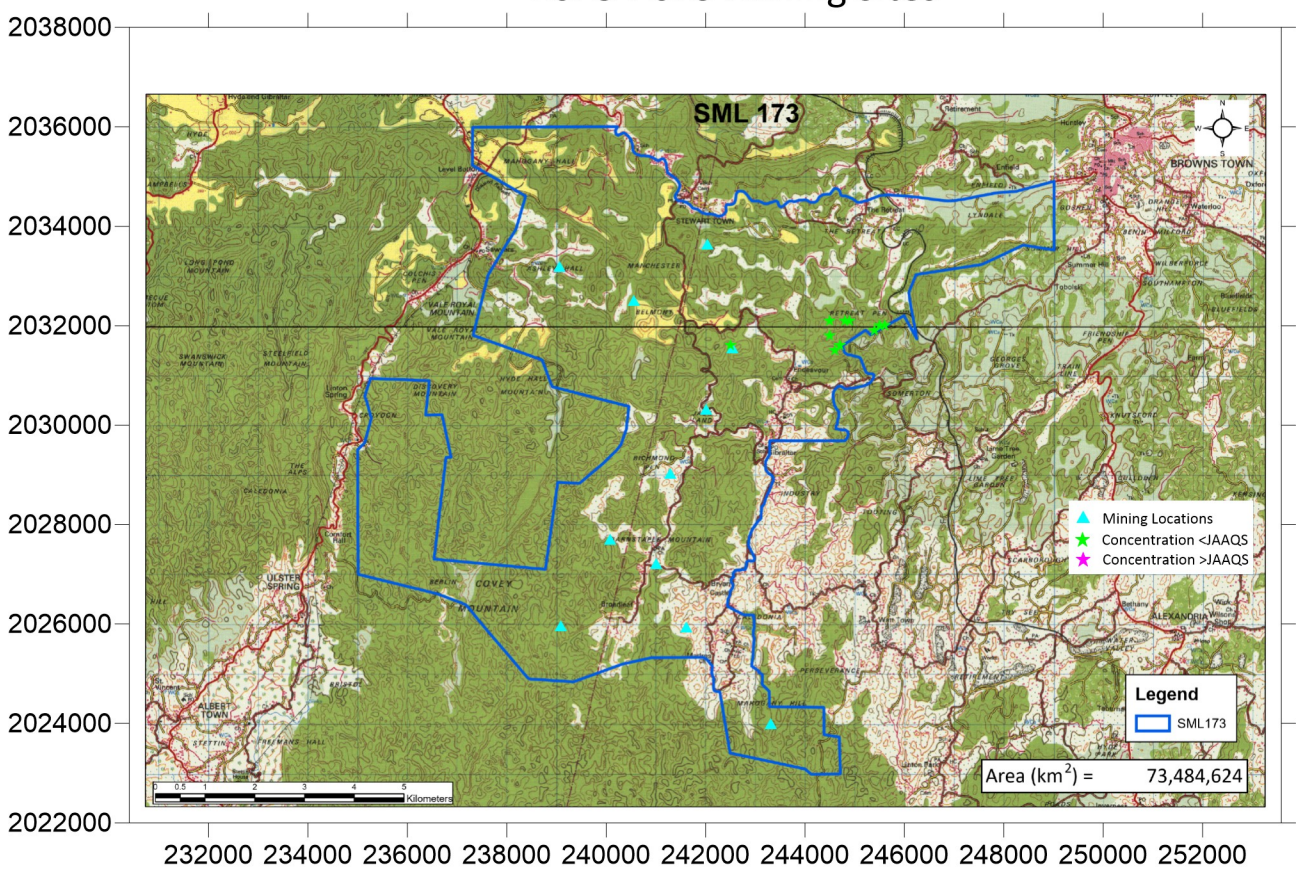


Table 2-18
2025-2029 SO2 Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2017	242500	2031600	-	21.06	0.00	21.06	No	No	Located in ore body mine site	17so2ann.inp
			244700	2031600	-	12.49		12.49	No	No		
			245400	2031900	-	12.10		12.10	No	No		
			244500	2031800	-	12.09		12.09	No	No		
			244800	2031700	-	11.81		11.81	No	No		
			244800	2032100	-	11.66		11.66	No	No		
			245600	2032000	-	11.61		11.61	No	No		
			244900	2032100	-	11.60		11.60	No	No		
			244600	2031500	-	11.55		11.55	No	No		
			244700	2031800	-	11.41		11.41	No	No		

Figure 2-18
SO_2
Annual Averaging Period
2017
2025-2029 Mining Sites

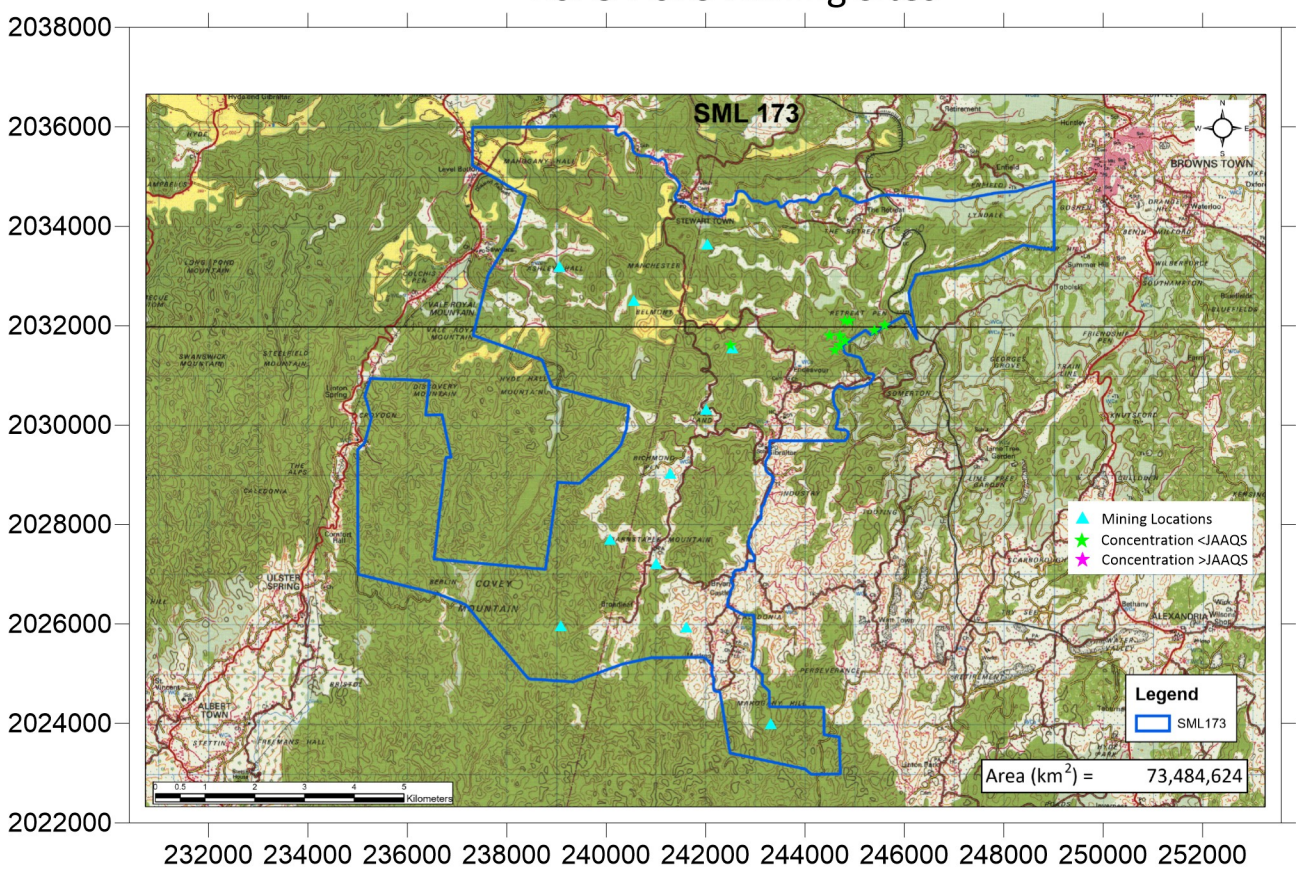


Table 2-19
2025-2029 SO2 Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2018	242500	2031600	-	23.10	0.00	23.10	No	No	Located in ore body mine site	18so2ann.inp
			245600	2032000	-	13.34		13.34	No	No		
			245400	2031900	-	13.33		13.33	No	No		
			244800	2032100	-	13.19		13.19	No	No		
			244900	2032100	-	13.11		13.11	No	No		
			244700	2031600	-	12.84		12.84	No	No		
			244500	2031800	-	12.59		12.59	No	No		
			244700	2032100	-	12.20		12.20	No	No		
			244500	2032100	-	12.17		12.17	No	No		
			245500	2032000	-	12.01		12.01	No	No		

Figure 2-19
SO_2
Annual Averaging Period
2018
2025-2029 Mining Sites

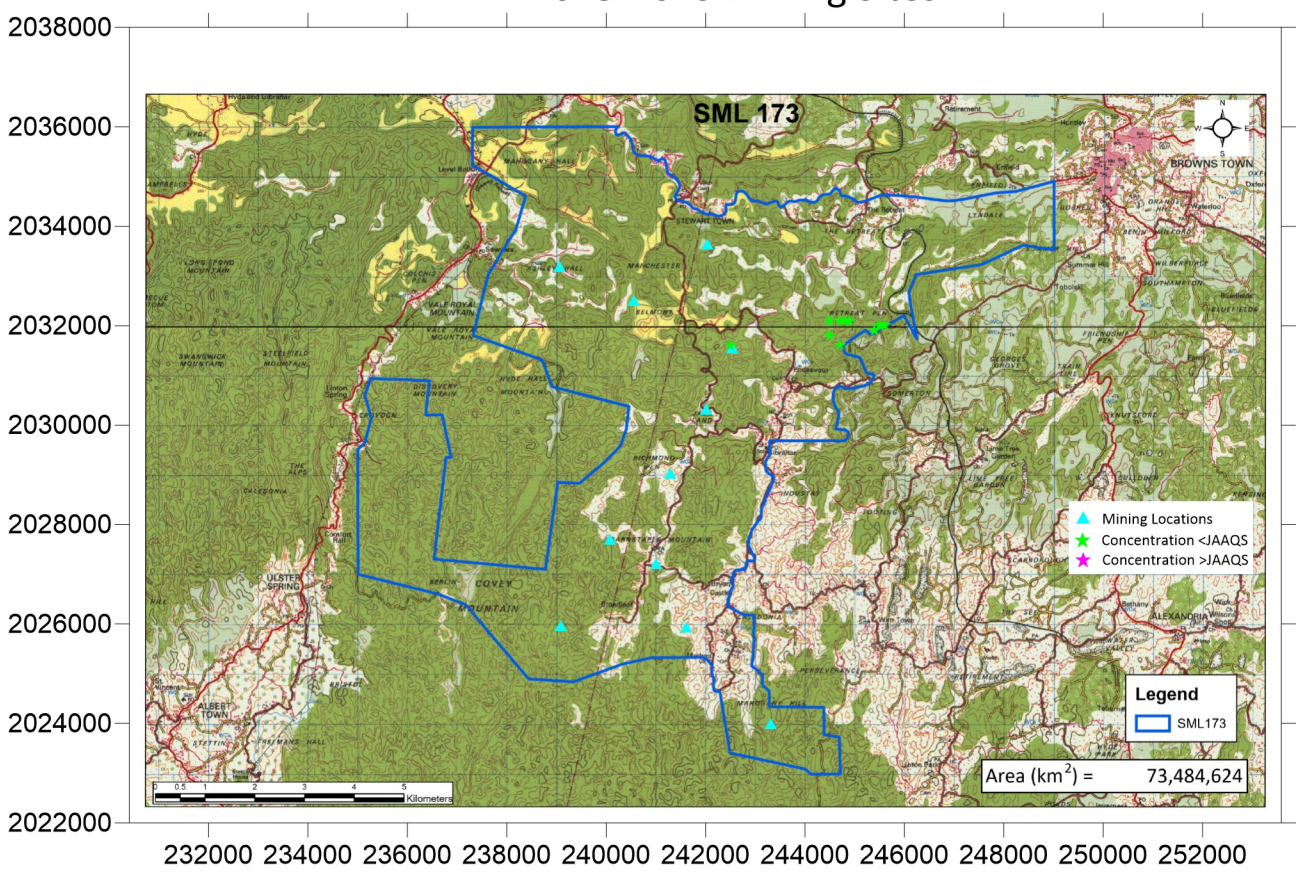


Table 2-20
2025-2029 SO2 Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2019	242500	2031600	-	27.86	0.00	27.86	No	No	Located in ore body mine site	19so2ann.inp
			245600	2032000	-	16.95		16.95	No	No		
			245400	2031900	-	16.23		16.23	No	No		
			244700	2031600	-	15.89		15.89	No	No		
			244800	2032100	-	15.84		15.84	No	No		
			244500	2031800	-	15.74		15.74	No	No		
			244900	2032100	-	15.66		15.66	No	No		
			245500	2032000	-	15.33		15.33	No	No		
			244500	2032100	-	14.78		14.78	No	No		
			244400	2032000	-	14.73		14.73	No	No		

Figure 2-20
SO_2
Annual Averaging Period
2019
2025-2029 Mining Sites

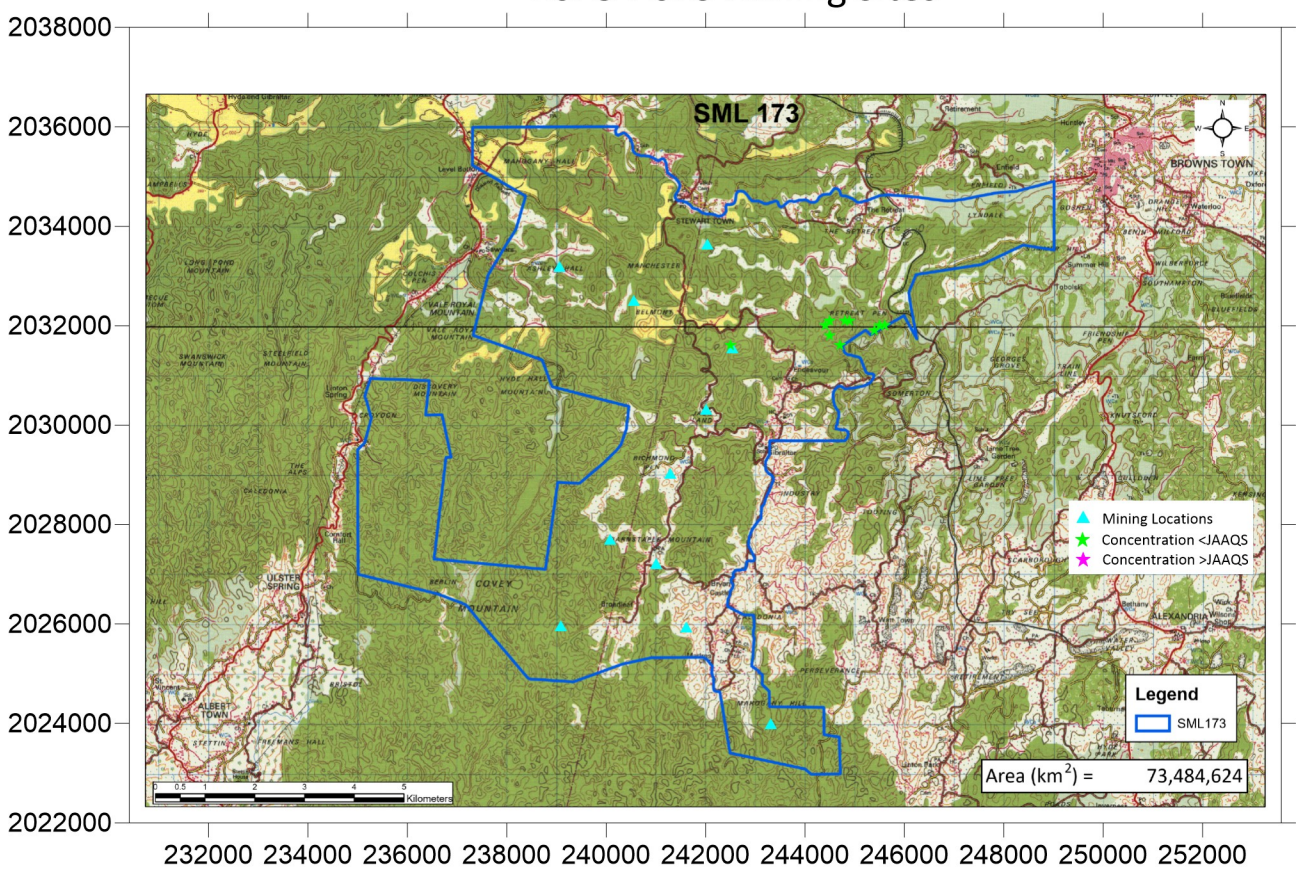


Table 2-21
2025-2029 SO2 24-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2011	245100	2032300	11031024	71.19	0.00	14.96	No	No		11so224h.inp
			244500	2032100	11110124	66.91		66.91	No	No		
			244700	2032100	11110124	66.29		66.29	No	No		
			244800	2032100	11110124	64.93		64.93	No	No		
			246000	2032300	11110824	63.44		63.44	No	No		
			245600	2032000	11111024	62.61		62.61	No	No		
			244600	2032200	11110124	59.33		59.33	No	No		
			244400	2032000	11110124	57.08		57.08	No	No		
			244600	2031600	11072624	56.22		56.22	No	No		
			244700	2031600	11092924	55.67		55.67	No	No		

Figure 2-21
SO_2
24-hr Averaging Period
2011
2025-2029 Mining Sites

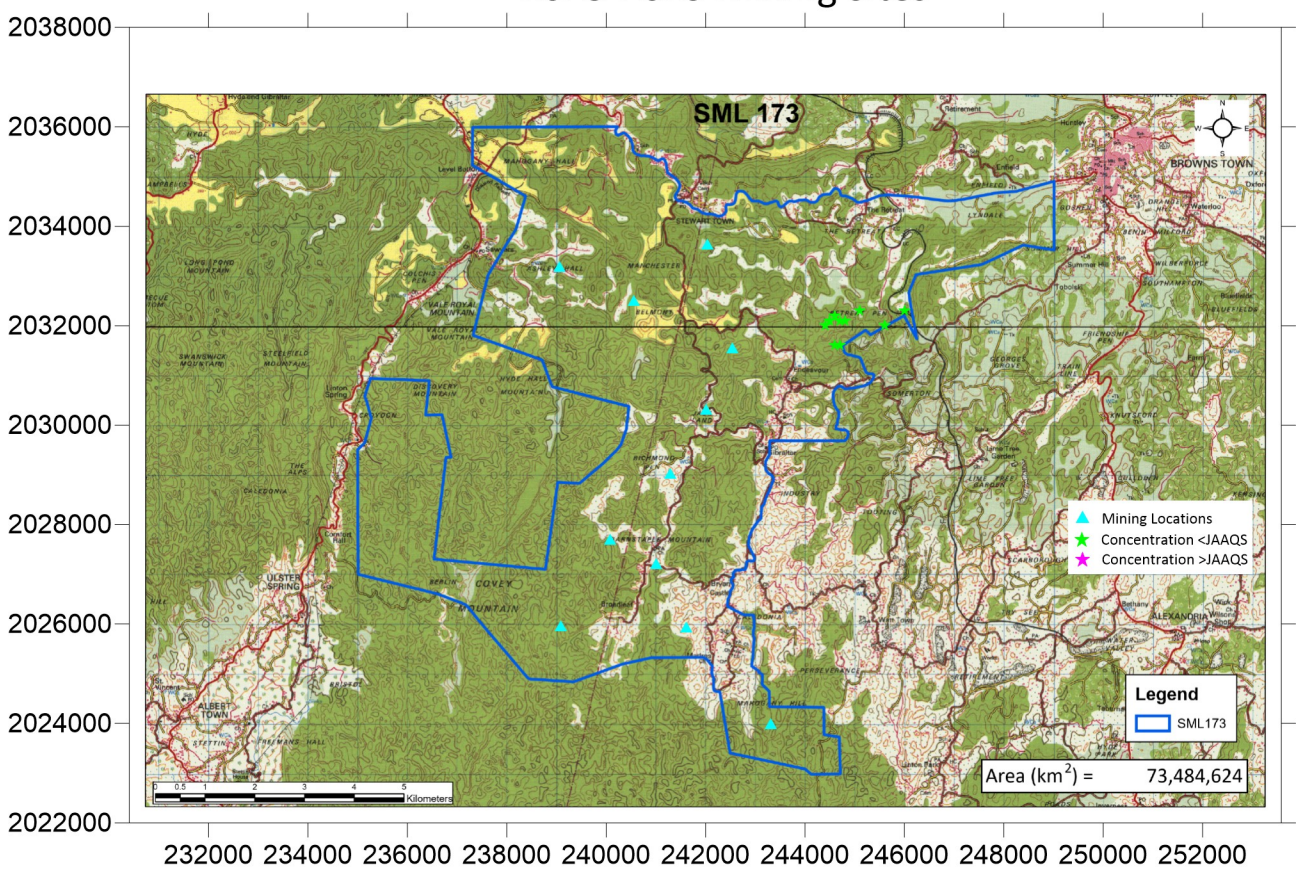


Table 2-22
2025-2029 SO2 24-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2016	244900	2032100	16011224	107.33	0.00	14.96	No	No		16so224h.inp
			244800	2032100	16011224	96.59		96.59	No	No		
			245100	2032300	16011224	95.15		95.15	No	No		
			245400	2031900	16011224	85.79		85.79	No	No		
			244600	2032200	16011224	75.84		75.84	No	No		
			244500	2031500	16111624	73.57		73.57	No	No		
			244700	2032100	16011224	73.47		73.47	No	No		
			245600	2032000	16011224	71.26		71.26	No	No		
			244000	2031800	16111624	71.19		71.19	No	No		
			244400	2032000	16091424	69.87		69.87	No	No		

Figure 2-22
SO_2
24-hr Averaging Period
2016
2025-2029 Mining Sites

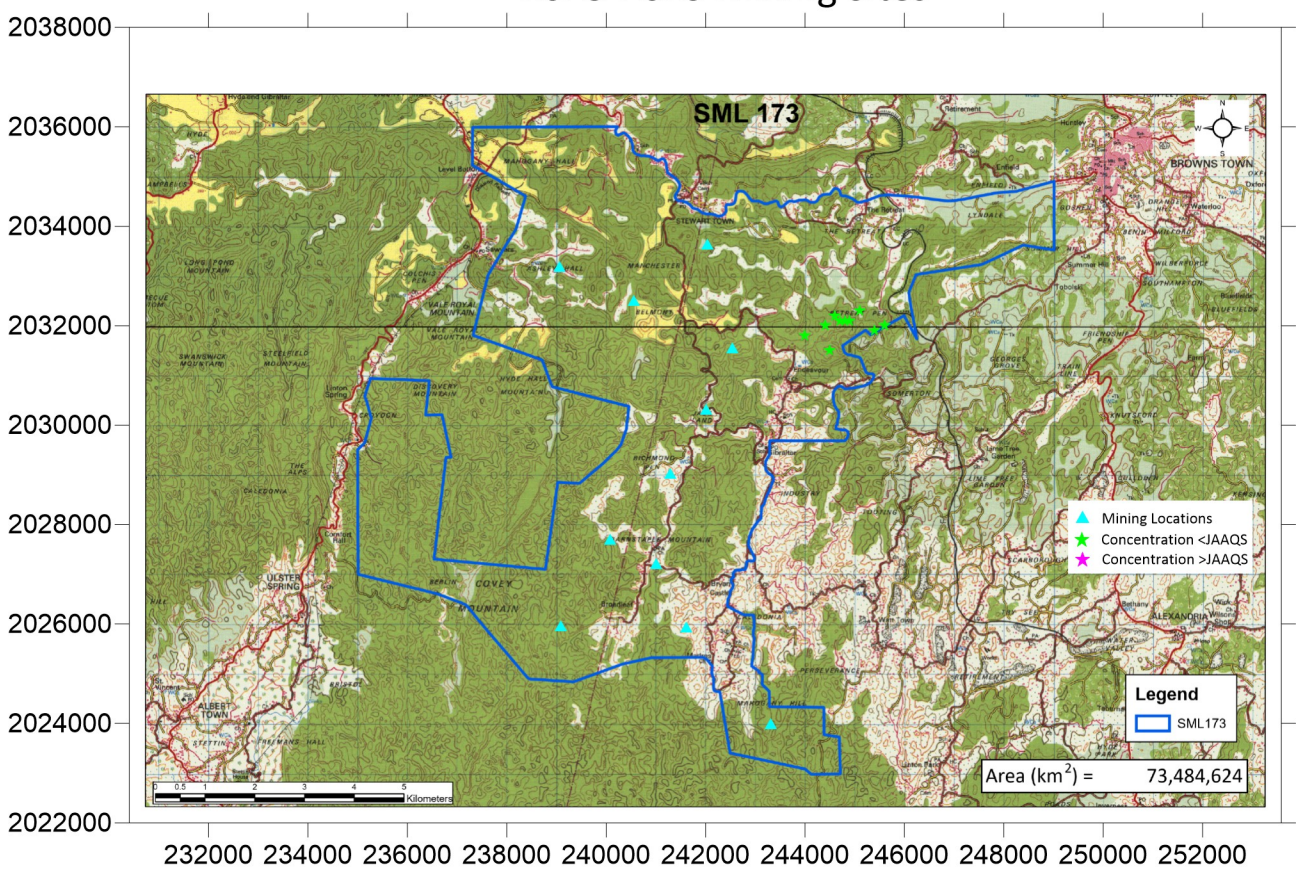


Table 2-23
2025-2029 SO2 24-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2017	244500	2031800	17022524	103.78	0.00	14.96	No	No		17so224h.inp
			245600	2032000	17012024	94.47		94.47	No	No		
			242500	2031600	17012024	91.77		91.77	No	No	Located in ore body mine site	
			244400	2032000	17022524	87.88		87.88	No	No		
			244700	2031600	17082924	85.97		85.97	No	No		
			244500	2031500	17082924	83.22		83.22	No	No		
			244000	2031800	17082924	81.66		81.66	No	No		
			244600	2031500	17082924	78.41		78.41	No	No		
			244400	2031500	17082924	75.48		75.48	No	No		
			243800	2032000	17022524	74.85		74.85	No	No		

Figure 2-23
SO_2
24-hr Averaging Period
2017
2025-2029 Mining Sites

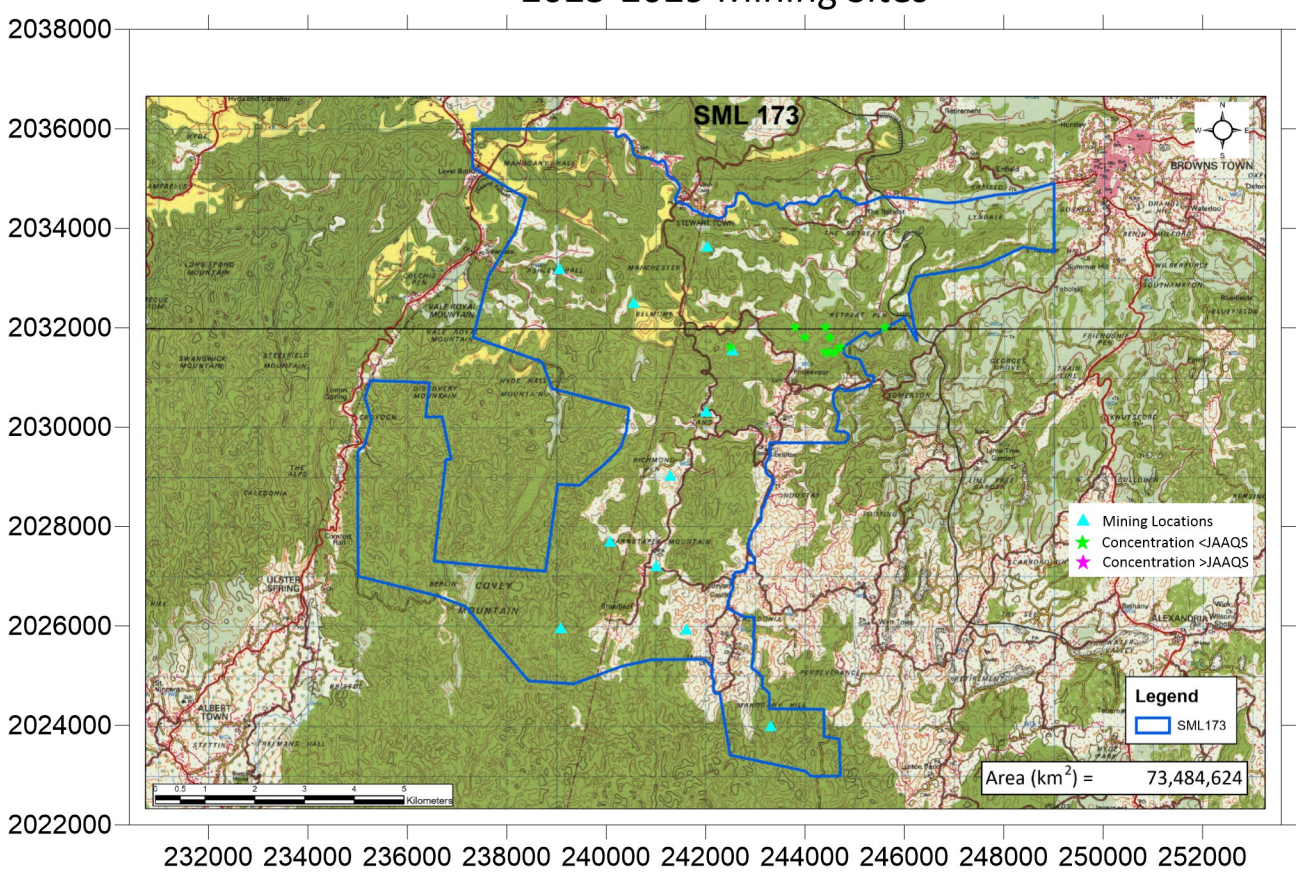


Table 2-24
2025-2029 SO2 24-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2018	244500	2031800	18041124	90.13	0.00	14.96	No	No		18so224h.inp
			245600	2032000	18060124	84.38		84.38	No	No		
			244700	2031600	18041124	79.05		79.05	No	No		
			244800	2032100	18051124	78.16		78.16	No	No		
			244900	2032100	18051124	77.62		77.62	No	No		
			242500	2031600	18060124	73.93		73.93	No	No	Located in ore body mine site	
			244400	2032000	18112524	72.72		72.72	No	No		
			244500	2032100	18112524	72.69		72.69	No	No		
			244700	2032100	18051124	68.08		68.08	No	No		
			244600	2032200	18051124	67.65		67.65	No	No		

Figure 2-24
SO_2
24-hr Averaging Period
2018
2025-2029 Mining Sites

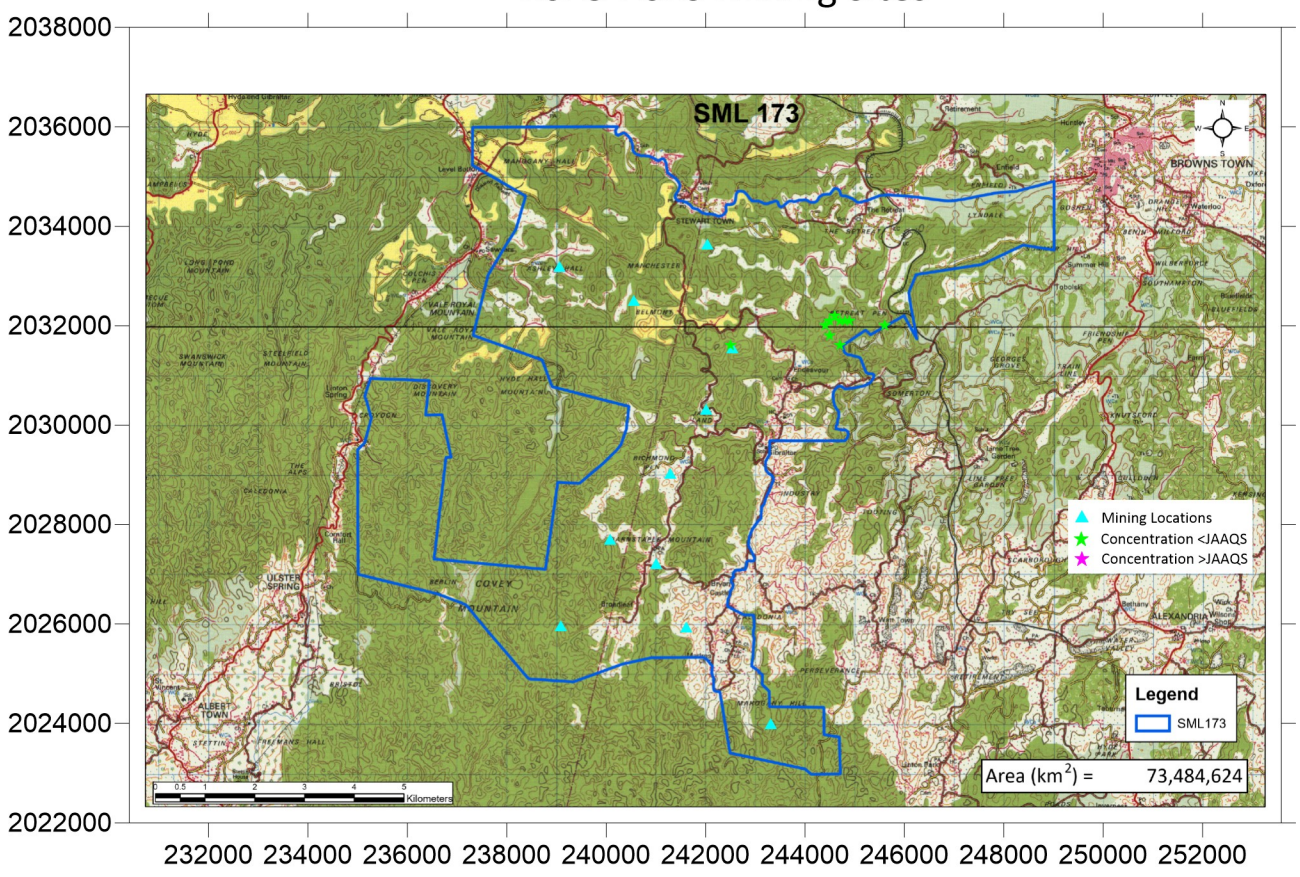


Table 2-25
2025-2029 SO2 24-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2019	244800	2032100	19070324	89.71	0.00	14.96	No	No		19so224h.inp
			244900	2032100	19070324	85.48		85.48	No	No		
			245600	2032000	19070224	82.25		82.25	No	No		
			244700	2032100	19070324	81.95		81.95	No	No		
			244700	2031600	19080624	78.51		78.51	No	No		
			244600	2032200	19070324	78.24		78.24	No	No		
			244500	2032100	19070324	74.37		74.37	No	No		
			242500	2031600	19121924	70.70		70.70	No	No	Located in ore body mine site	
			244500	2031800	19090224	70.13		70.13	No	No		
			245100	2032300	19061324	64.50		64.50	No	No		

Figure 2-25
SO_2
24-hr Averaging Period
2019
2025-2029 Mining Sites

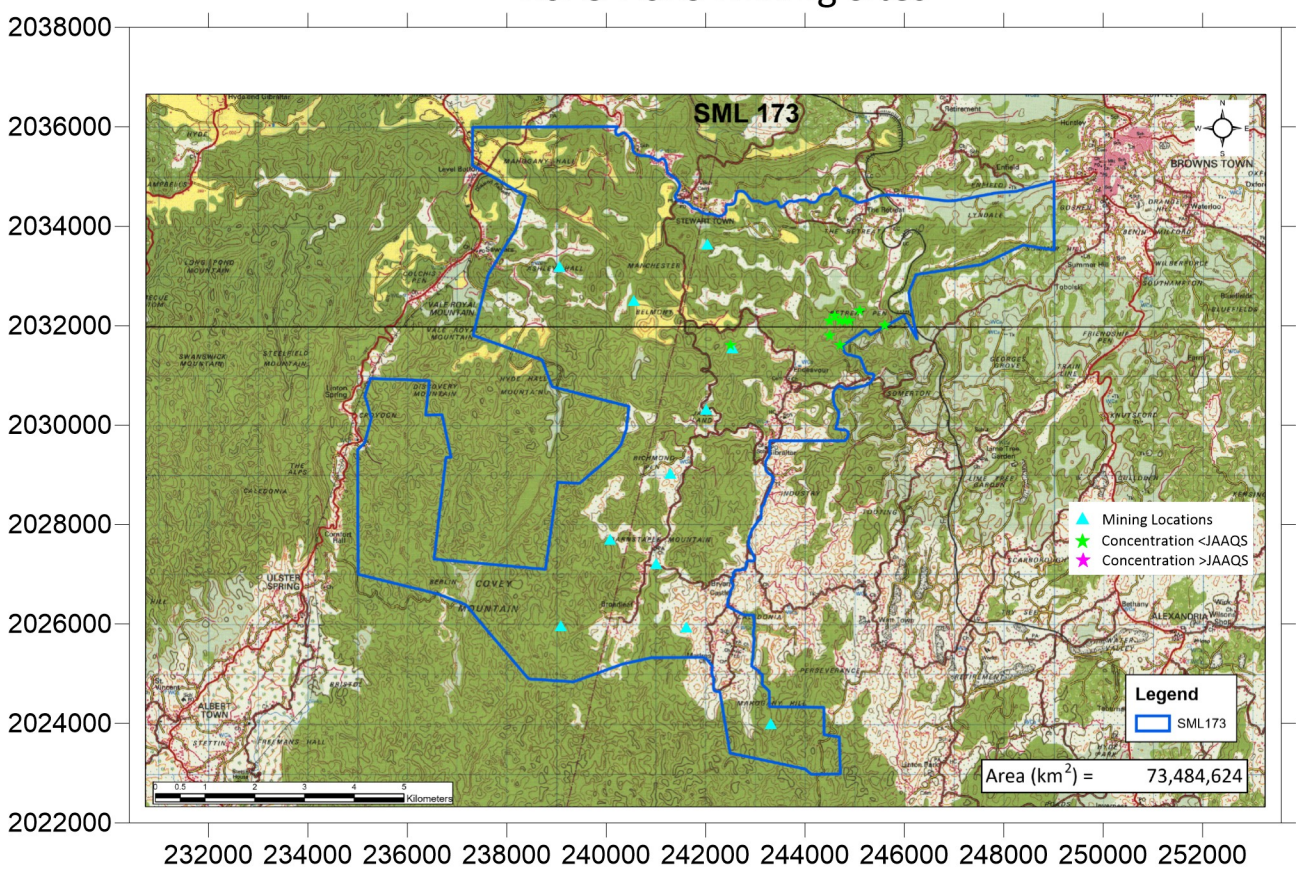


Table 2-26
2025-2029 SO2 1-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2011	245600	2032000	11031103	590.74	0.00	590.74	No	Yes		11so21hr.inp
			245100	2032300	11031024	580.40		580.40	No	Yes		
			244800	2032100	11042022	531.77		531.77	No	Yes		
			246100	2033300	11020906	530.65		530.65	No	Yes		
			244500	2031500	11030123	527.67		527.67	No	Yes		
			246200	2033400	11051301	525.67		525.67	No	Yes		
			244400	2031500	11042004	504.86		504.86	No	No		
			246000	2033300	11110222	499.15		499.15	No	No		
			246000	2032300	11110823	498.71		498.71	No	No		
			244900	2032100	11042022	497.14		497.14	No	No		

Figure 2-26
SO_2
1-hr Averaging Period
2011
2025-2029 Mining Sites

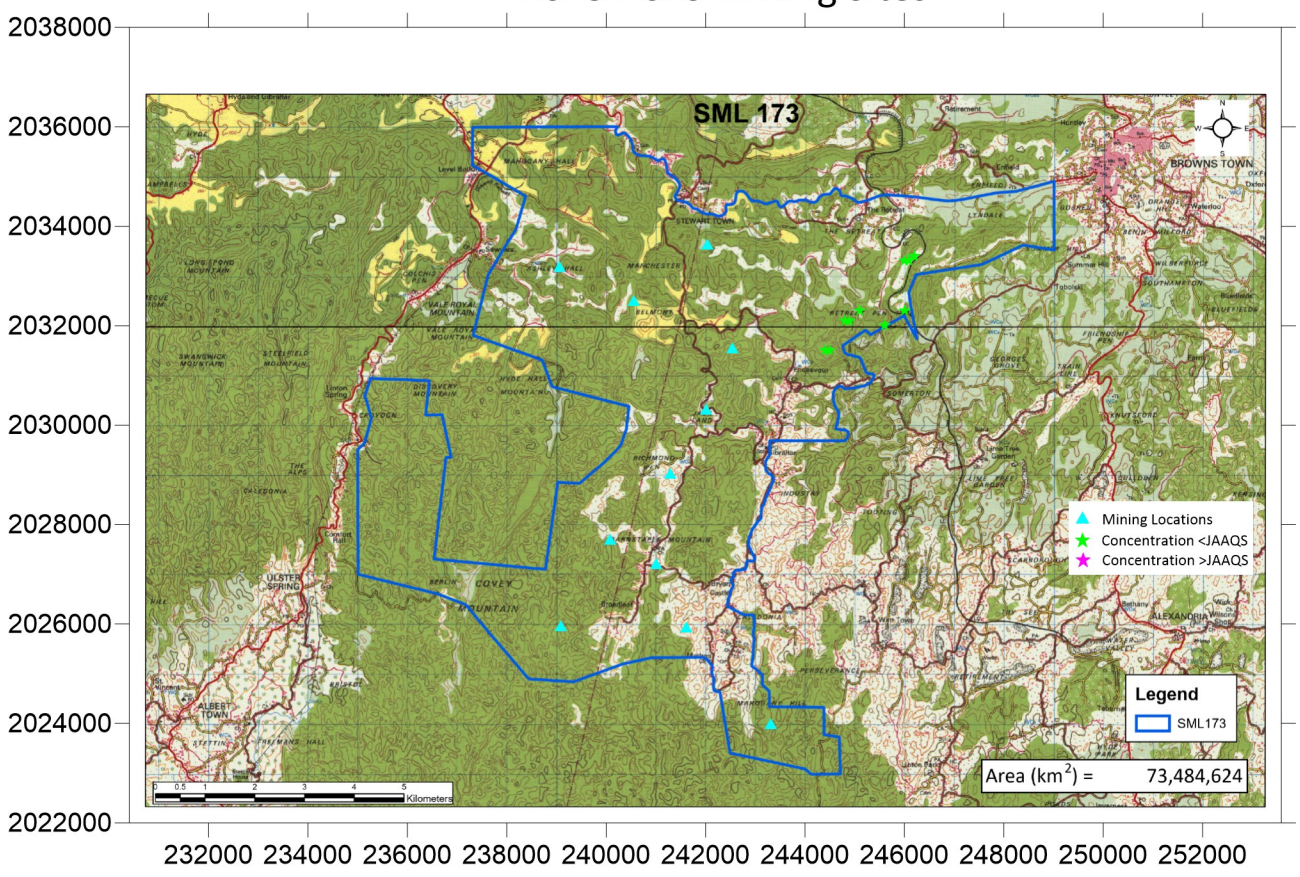


Table 2-27
2025-2029 SO2 1-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2016	245600	2032000	16061523	616.68	0.00	616.68	No	Yes		16so21hr.inp
			246000	2032300	16111601	571.96		571.96	No	Yes		
			245100	2032300	16011206	562.97		562.97	No	Yes		
			244800	2032100	16101802	536.61		536.61	No	Yes		
			244500	2031500	16041324	534.36		534.36	No	Yes		
			246100	2033300	16090323	530.88		530.88	No	Yes		
			246000	2032400	16102104	530.91		530.91	No	Yes		
			244500	2031800	16041704	524.91		524.91	No	No		
			247100	2033400	16011320	521.03		521.03	No	No		
			246700	2033400	16011321	515.11		515.11	No	No		

Figure 2-27
SO_2
1-hr Averaging Period
2016
2025-2029 Mining Sites

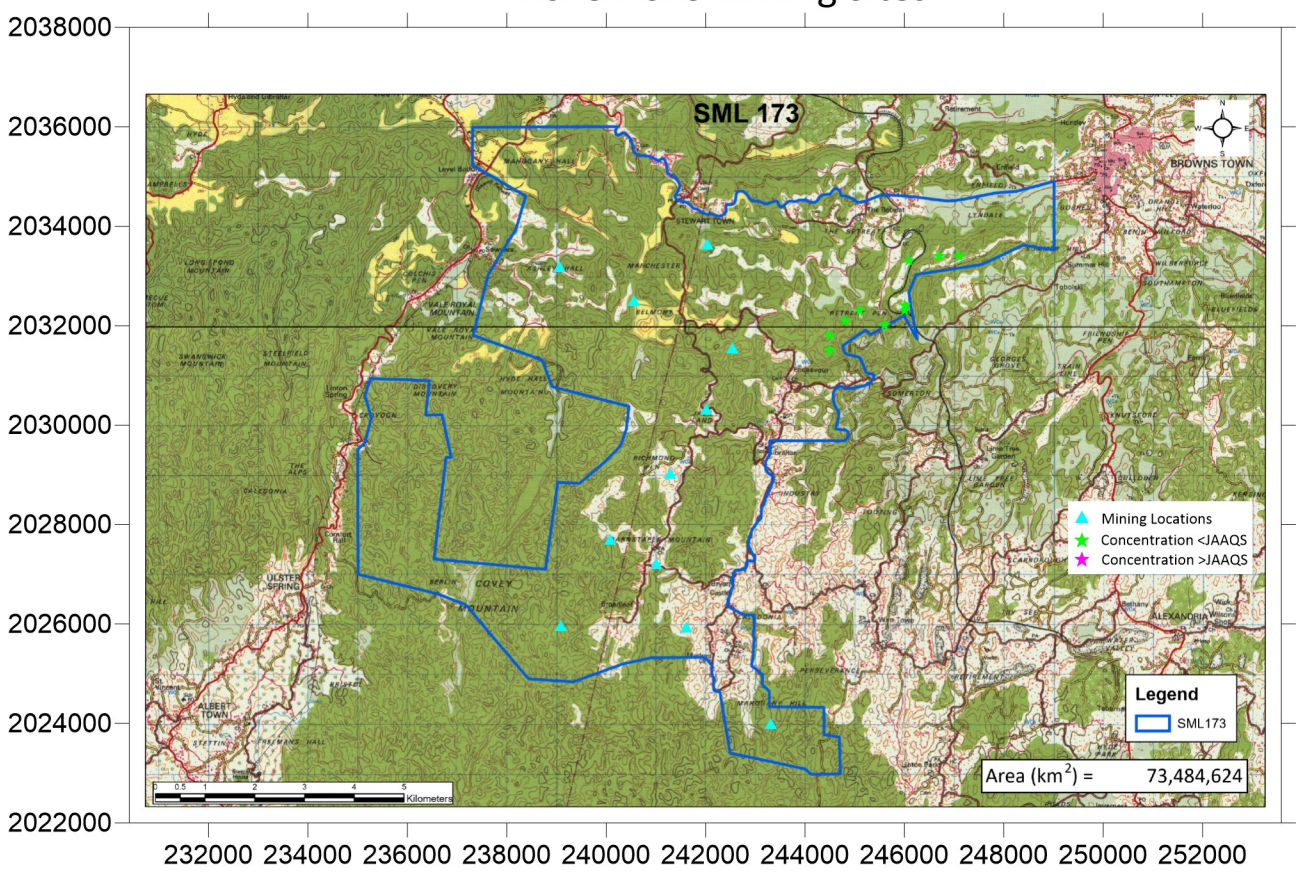


Table 2-28
2025-2029 SO2 1-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2017	245600	2032000	17122804	617.93	0.00	617.93	No	Yes		17so21hr.inp
			246000	2032300	17031222	606.49		606.49	No	Yes		
			245100	2032300	17090603	570.24		570.24	No	Yes		
			246000	2032200	17031222	554.91		554.91	No	Yes		
			244800	2032100	17020421	535.88		535.88	No	Yes		
			246200	2033400	17101406	525.61		525.61	No	Yes		
			244500	2031500	17021803	525.00		525.00	No	No		
			244500	2031800	17123101	522.79		522.79	No	No		
			246000	2032400	17031222	520.82		520.82	No	No		
			246000	2033300	17041324	519.43		519.43	No	No		

Figure 2-28
SO_2
1-hr Averaging Period
2017
2025-2029 Mining Sites

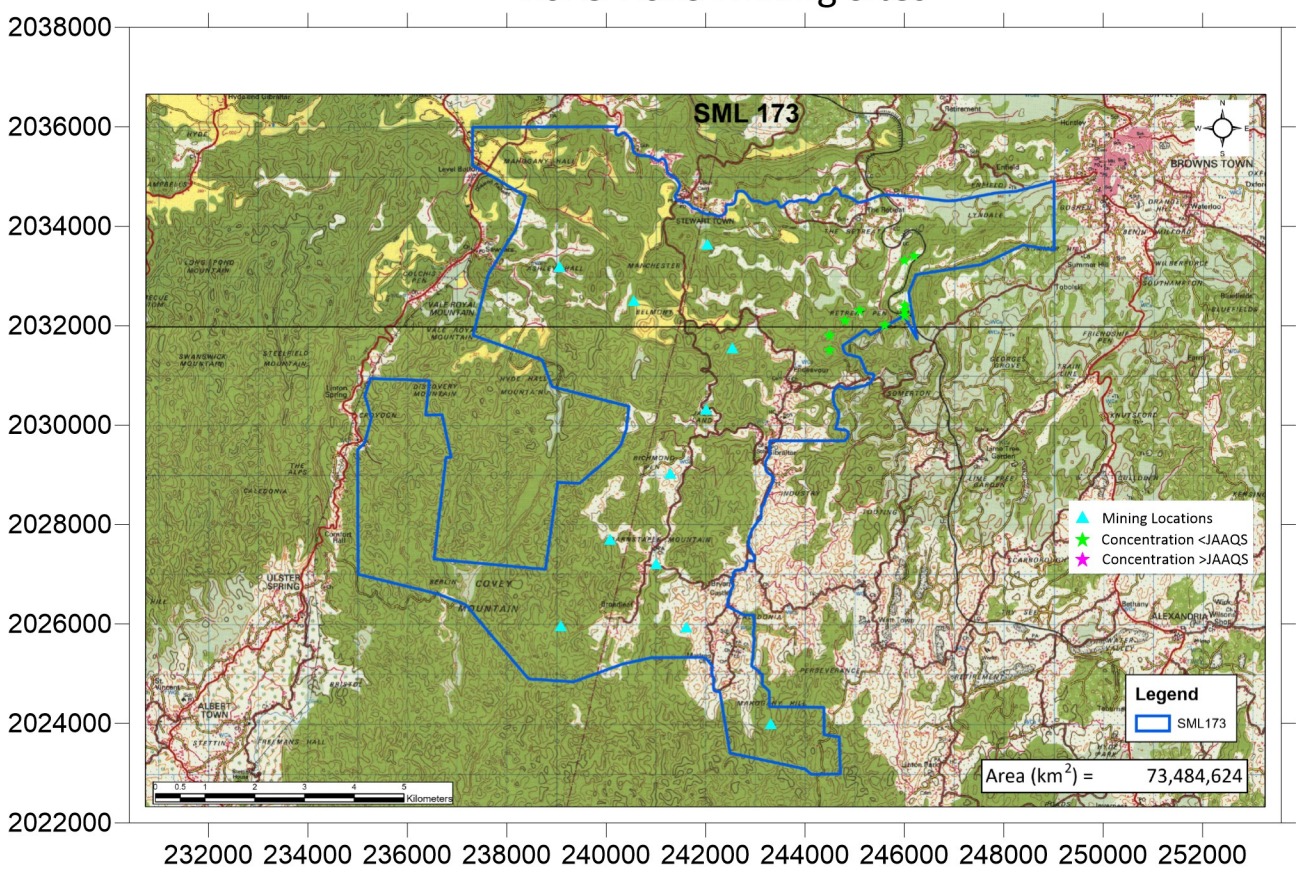


Table 2-29
2025-2029 SO2 1-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2018	245600	2032000	18041022	641.90	0.00	641.90	No	Yes		18so21hr.inp
			245100	2032300	18061023	580.51		580.51	No	Yes		
			246000	2032300	18061324	563.37		563.37	No	Yes		
			244800	2032100	18051105	535.98		535.98	No	Yes		
			244500	2031500	18112504	535.03		535.03	No	Yes		
			246200	2033400	18120123	527.23		527.23	No	Yes		
			244700	2032100	18060204	519.71		519.71	No	No		
			244400	2031500	18120624	519.37		519.37	No	No		
			246100	2033300	18033023	516.08		516.08	No	No		
			244500	2031800	18110106	515.48		515.48	No	No		

Figure 2-29
SO_2
1-hr Averaging Period
2018
2025-2029 Mining Sites

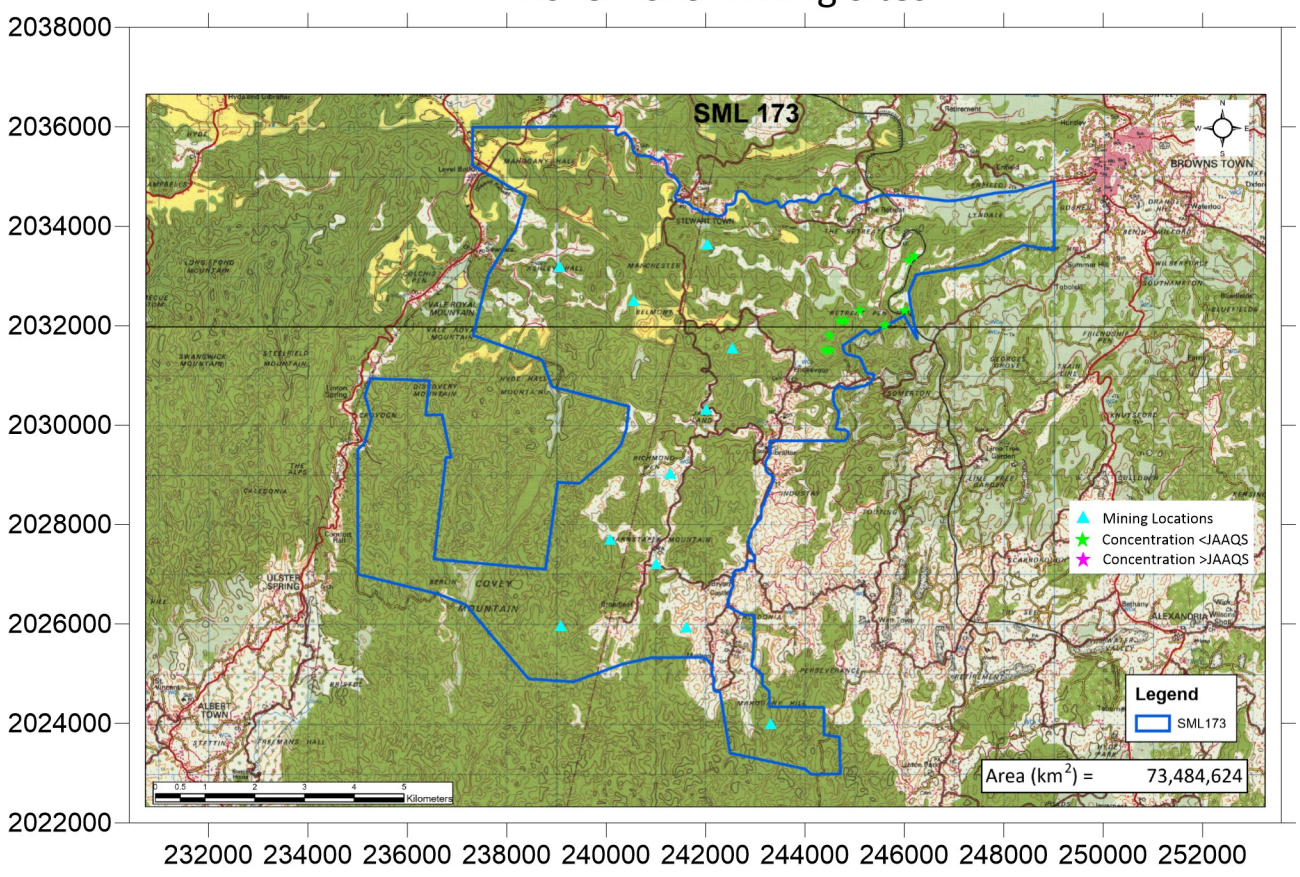


Table 2-30
2025-2029 SO2 1-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2019	245600	2032000	19050123	623.57	0.00	623.57	No	Yes		19so21hr.inp
			246000	2032300	19120502	570.49		570.49	No	Yes		
			245100	2032300	19110922	568.74		568.74	No	Yes		
			246000	2032400	19120502	553.21		553.21	No	Yes		
			244500	2031500	19122720	539.02		539.02	No	Yes		
			244800	2032100	19111502	538.84		538.84	No	Yes		
			246100	2033300	19011520	530.78		530.78	No	Yes		
			244700	2032100	19111502	516.27		516.27	No	No		
			244900	2032100	19092224	514.50		514.50	No	No		
			244500	2031800	19071002	510.27		510.27	No	No		

Figure 2-30
SO_2
1-hr Averaging Period
2019
2025-2029 Mining Sites

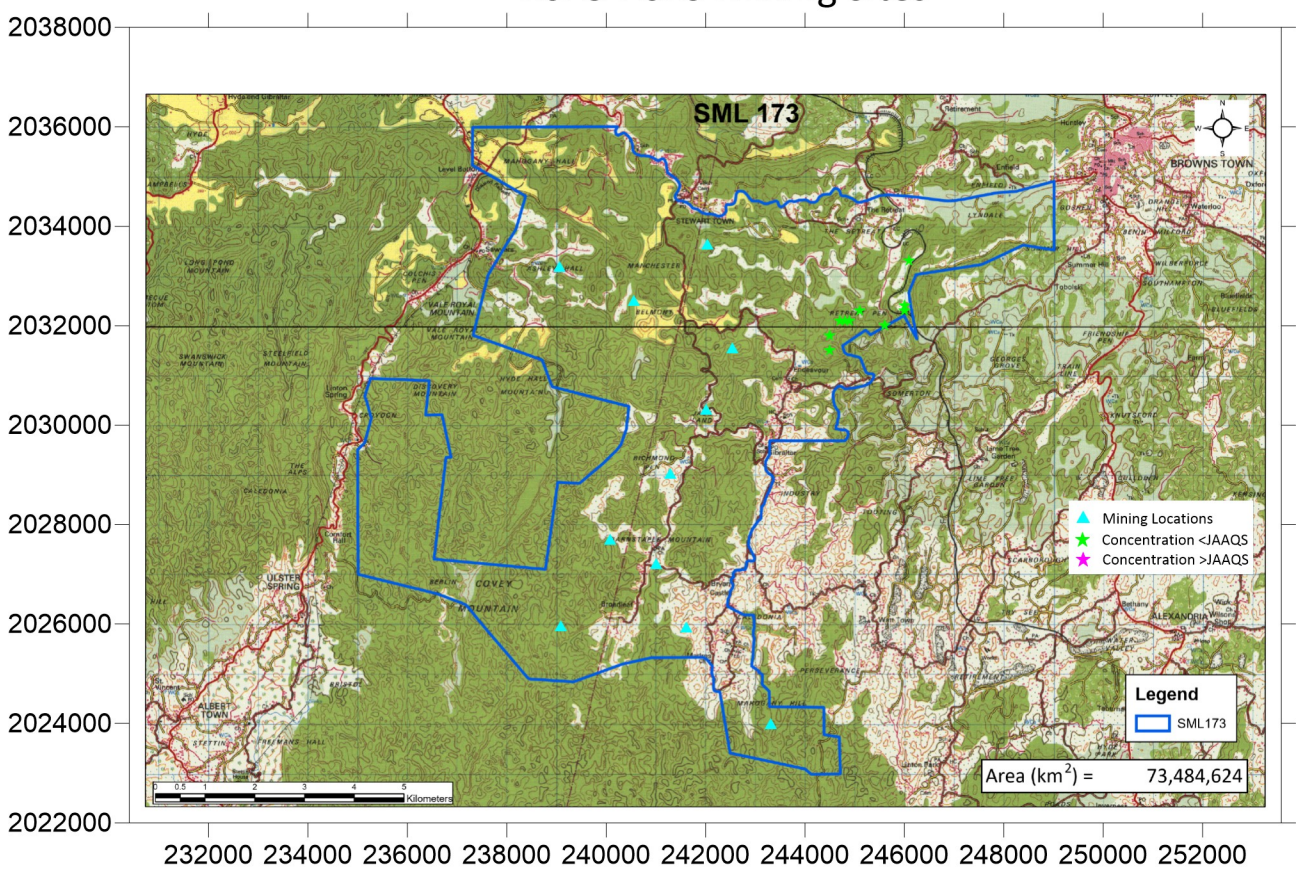


Table 2-31
2025-2029 PM-10 Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	50.00 (Annual)	2011	243300	2024000	-	112.10	20.00	132.10	Yes	Yes	Located in ore body mine site	11pm10an.inp
			241000	2027200	-	80.65		100.65	Yes	Yes	Located in ore body mine site	
			242000	2030300	-	30.11		50.11	Yes	Yes	Located in ore body mine site	
			240100	2027700	-	24.83		44.83	No	Yes	Located in ore body mine site	
			241300	2029000	-	13.33		33.33	No	No	Located in ore body mine site	
			241600	2025900	-	12.87		32.87	No	No	Located in ore body mine site	
			239000	2033200	-	12.02		32.02	No	No	Located in ore body mine site	
			240500	2032500	-	10.32		30.32	No	No	Located in ore body mine site	
			239100	2033200	-	9.36		29.36	No	No	Located in ore body mine site	
			240600	2032500	-	8.34		28.34	No	No	Located in ore body mine site	

Figure 2-31
PM-10
Annual Averaging Period
2011
2025-2029 Mining Sites

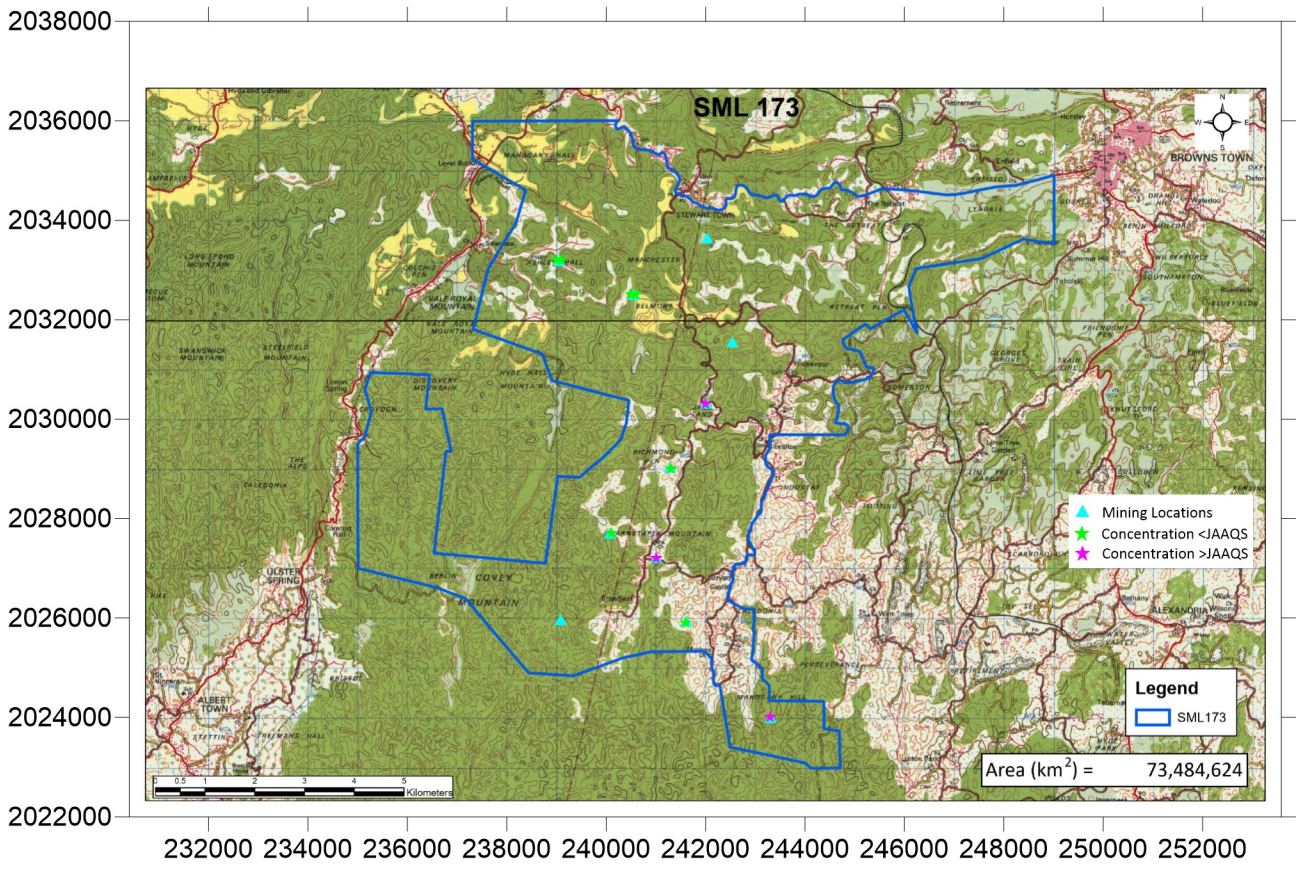


Table 2-32
2025-2029 PM-10 Annual Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.								
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	50.00 (Annual)	2016	243300	2024000	-	92.02	20.00	112.02	Yes	Yes	Located in ore body mine site	16pm10an.inp
			241000	2027200	-	85.98		105.98	Yes	Yes	Located in ore body mine site	
			242000	2030300	-	31.97		51.97	Yes	Yes	Located in ore body mine site	
			240100	2027700	-	24.79		44.79	No	Yes	Located in ore body mine site	
			241600	2025900	-	13.49		33.49	No	No	Located in ore body mine site	
			241300	2029000	-	13.26		33.26	No	No	Located in ore body mine site	
			240500	2032500	-	10.72		30.72	No	No	Located in ore body mine site	
			239000	2033200	-	10.29		30.29	No	No	Located in ore body mine site	
			239100	2033200	-	9.62		29.62	No	No	Located in ore body mine site	
			240600	2032500	-	8.89		28.89	No	No	Located in ore body mine site	

Figure 2-32
PM-10
Annual Averaging Period
2016
2025-2029 Mining Sites

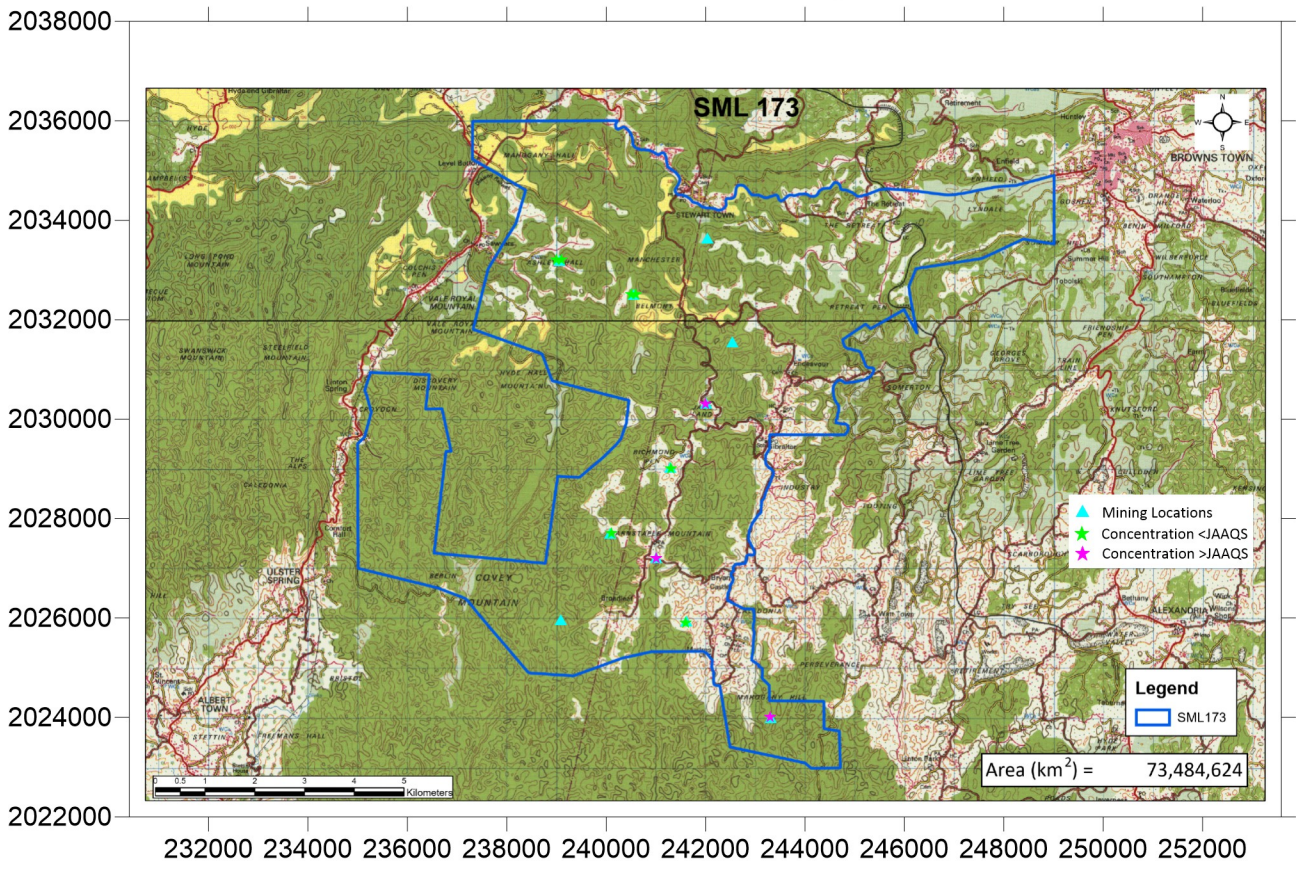


Table 2-33
2025-2029 PM-10 Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	50.00 (Annual)	2017	243300	2024000	-	97.75	20.00	117.75	Yes	Yes	Located in ore body mine site	17pm10an.inp
			241000	2027200	-	85.99		105.99	Yes	Yes	Located in ore body mine site	
			242000	2030300	-	32.29		52.29	Yes	Yes	Located in ore body mine site	
			240100	2027700	-	25.60		45.60	No	Yes	Located in ore body mine site	
			241600	2025900	-	13.69		33.69	No	No	Located in ore body mine site	
			241300	2029000	-	13.65		33.65	No	No	Located in ore body mine site	
			239000	2033200	-	11.15		31.15	No	No	Located in ore body mine site	
			240500	2032500	-	10.89		30.89	No	No	Located in ore body mine site	
			239100	2033200	-	9.91		29.91	No	No	Located in ore body mine site	
			240600	2032500	-	9.17		29.17	No	No	Located in ore body mine site	

Figure 2-33
PM-10
Annual Averaging Period
2017
2025-2029 Mining Sites

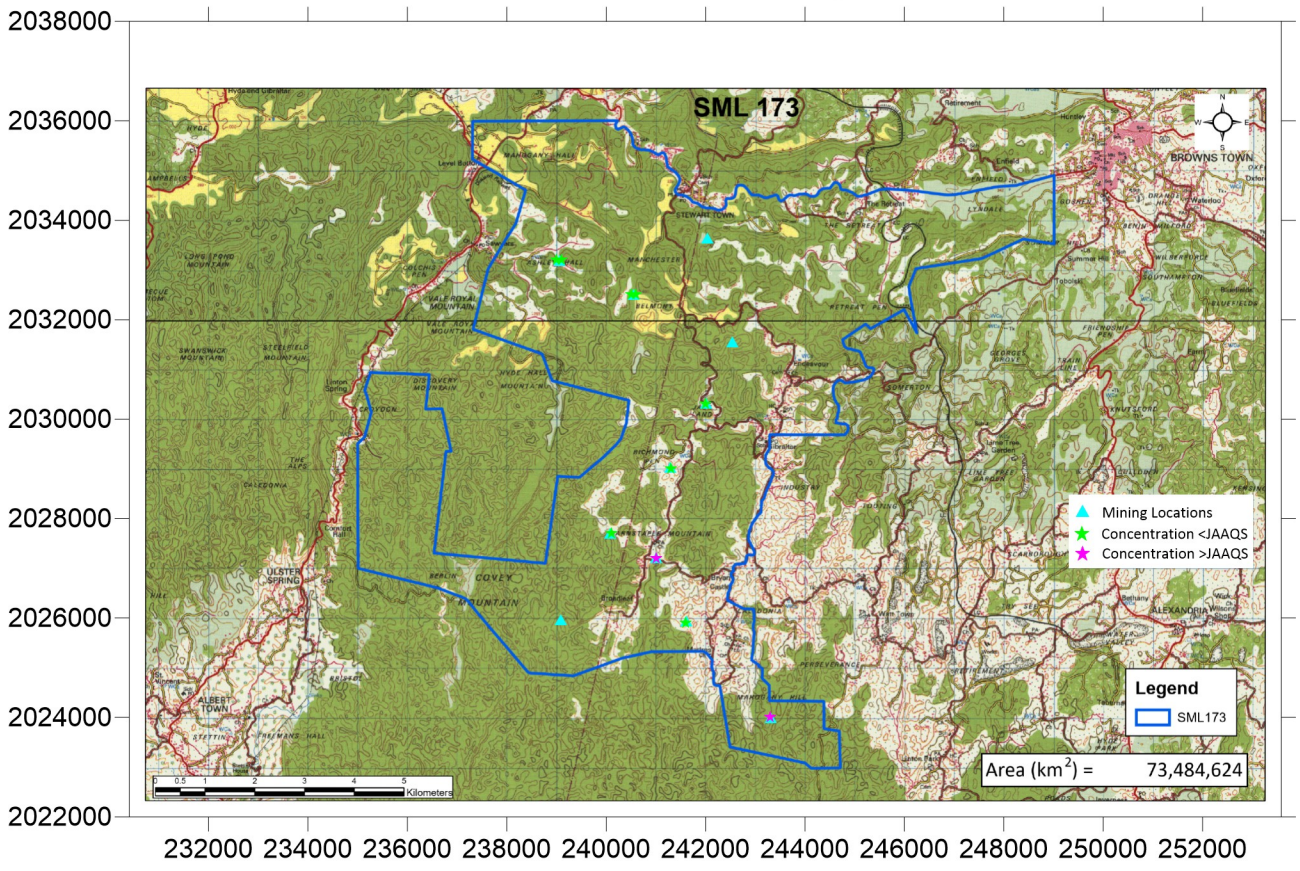


Table 2-34
2025-2029 PM-10 Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	50.00 (Annual)	2018	243300	2024000	-	86.81	20.00	106.81	Yes	Yes	Located in ore body mine site	18pm10an.inp
			241000	2027200	-	84.10		104.10	Yes	Yes	Located in ore body mine site	
			242000	2030300	-	32.87		52.87	Yes	Yes	Located in ore body mine site	
			240100	2027700	-	25.76		45.76	No	Yes	Located in ore body mine site	
			241600	2025900	-	13.82		33.82	No	No	Located in ore body mine site	
			241300	2029000	-	13.19		33.19	No	No	Located in ore body mine site	
			240500	2032500	-	10.63		30.63	No	No	Located in ore body mine site	
			239100	2033200	-	10.11		30.11	No	No	Located in ore body mine site	
			239000	2033200	-	9.93		29.93	No	No	Located in ore body mine site	
			240600	2032500	-	9.33		29.33	No	No	Located in ore body mine site	

Figure 2-34
PM-10
Annual Averaging Period
2018
2025-2029 Mining Sites

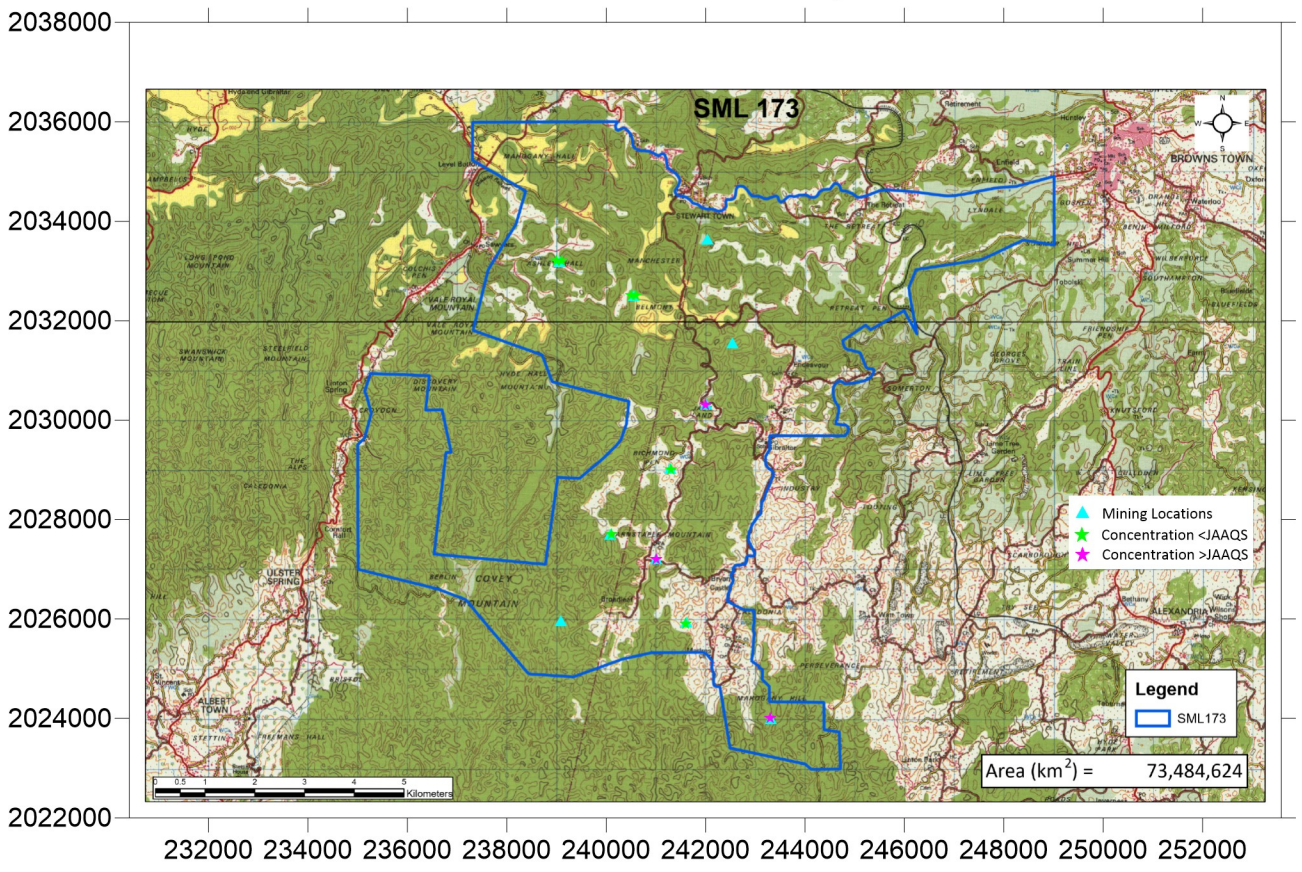
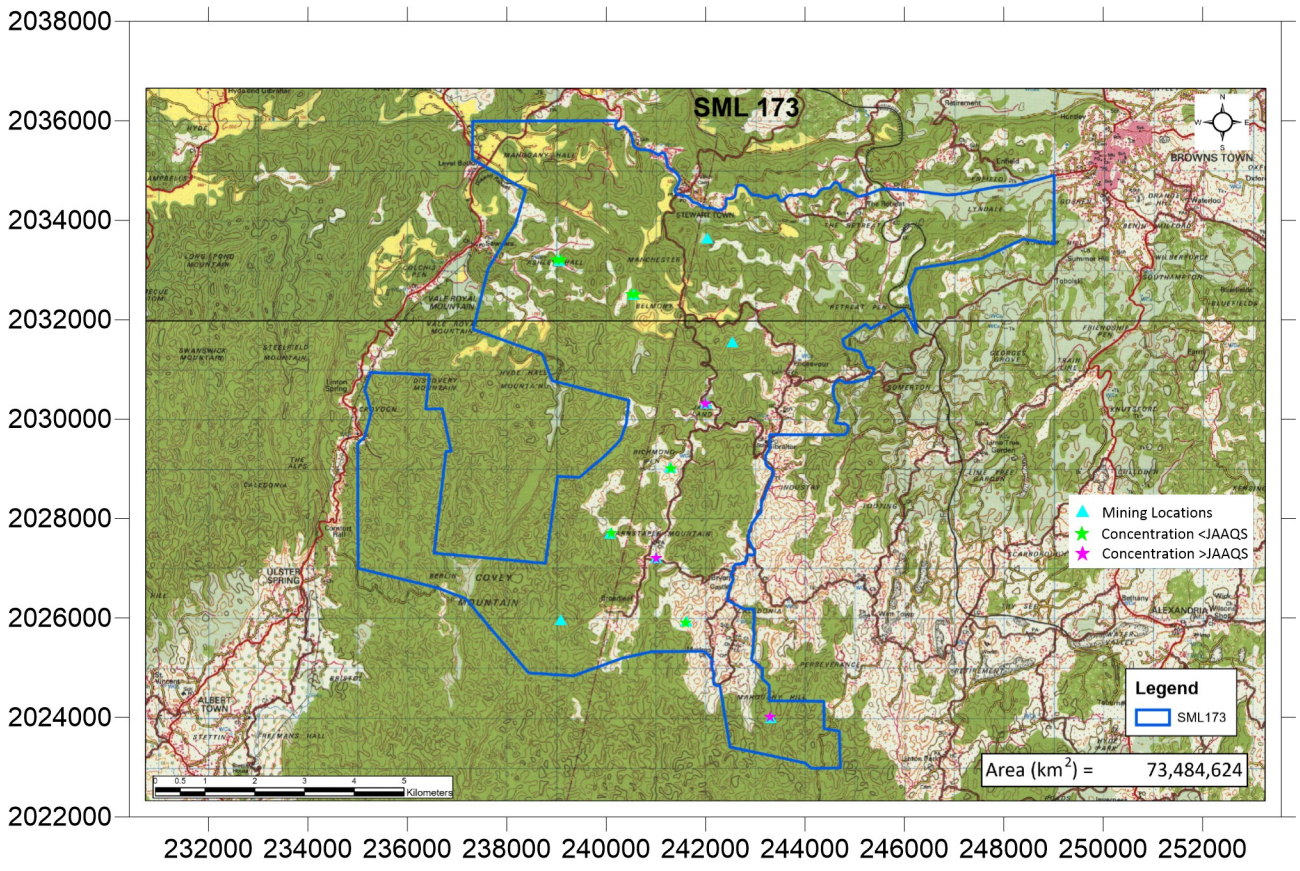


Table 2-35
2025-2029 PM-10 Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	50.00 (Annual)	2019	243300	2024000	-	90.59	20.00	110.59	Yes	Yes	Located in ore body mine site	19pm10an.inp
			241000	2027200	-	81.63		101.63	Yes	Yes	Located in ore body mine site	
			242000	2030300	-	35.51		55.51	Yes	Yes	Located in ore body mine site	
			240100	2027700	-	27.33		47.33	No	Yes	Located in ore body mine site	
			241600	2025900	-	15.10		35.10	No	No	Located in ore body mine site	
			241300	2029000	-	14.19		34.19	No	No	Located in ore body mine site	
			240500	2032500	-	11.05		31.05	No	No	Located in ore body mine site	
			239100	2033200	-	10.88		30.88	No	No	Located in ore body mine site	
			239000	2033200	-	10.78		30.78	No	No	Located in ore body mine site	
			240600	2032500	-	10.21		30.21	No	No	Located in ore body mine site	

Figure 2-35
PM-10
Annual Averaging Period
2019
2025-2029 Mining Sites



2025-2029 PM-10 24-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	150.00 (24-hr)	2011	243300	2024000	11101224	477.99	9.00	486.99	Yes	Yes	Located in ore body mine site	11pm1024.inp
			241000	2027200	11121224	375.53		384.53	Yes	Yes	Located in ore body mine site	
			242000	2030300	11031124	132.42		141.42	No	Yes	Located in ore body mine site	
			240100	2027700	11110224	83.03		92.03	No	No	Located in ore body mine site	
			239000	2033200	11072624	60.24		69.24	No	No	Located in ore body mine site	
			241600	2025900	11011424	51.97		60.97	No	No	Located in ore body mine site	
			244000	2023600	11080424	51.00		60.00	No	No		
			243700	2023500	11080424	50.92		59.92	No	No		
			243800	2023600	11080424	50.33		59.33	No	No		
			243800	2023500	11021224	50.22		59.22	No	No		

Figure 2-36
PM-10
24-hr Averaging Period
2011
2025-2029 Mining Sites

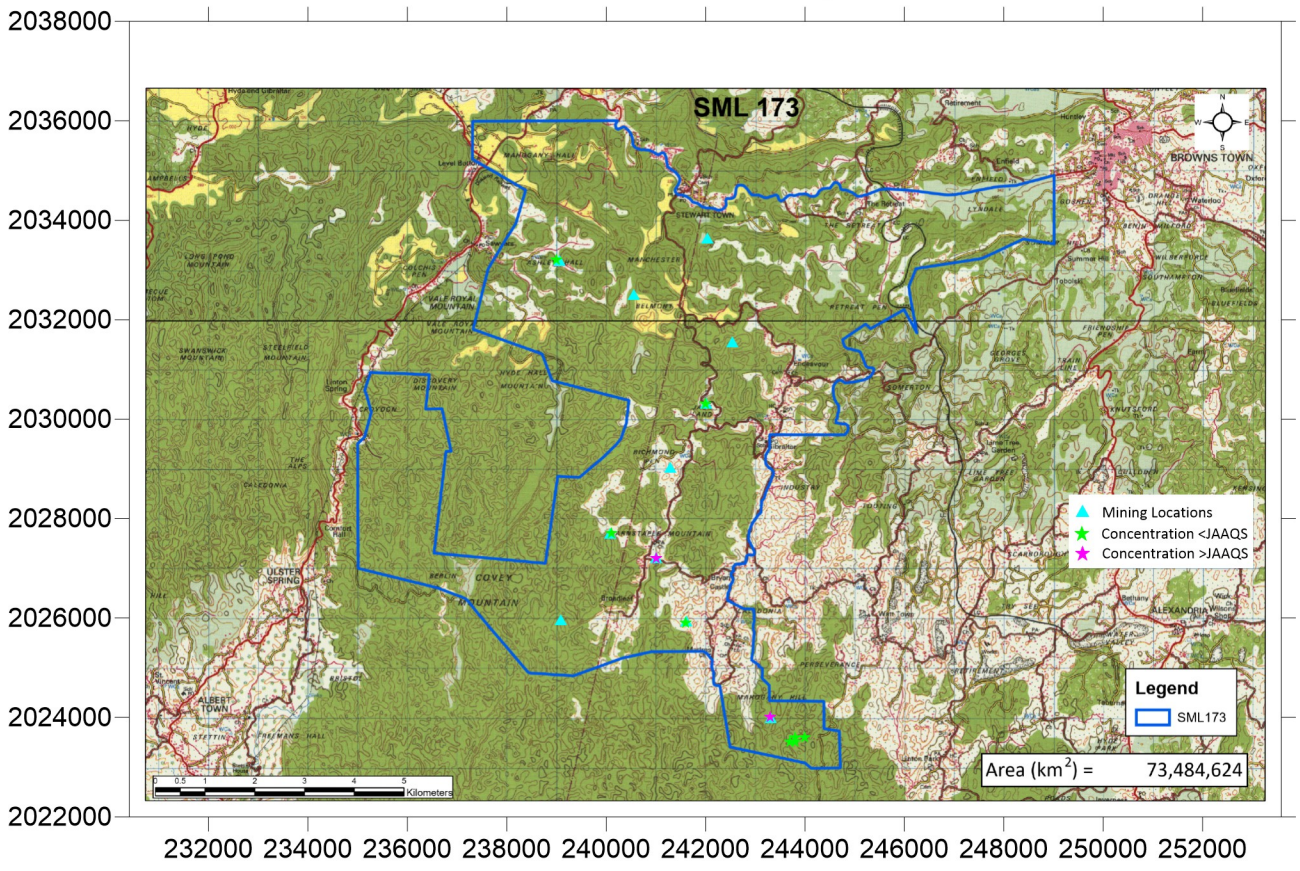


Table 2-37
2025-2029 PM-10 24-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	150.00 (24-hr)	2016	241000	2027200	16110924	424.30	9.00	433.30	Yes	Yes	Located in ore body mine site	16pm1024.inp
			243300	2024000	16010924	330.11		339.11	Yes	Yes	Located in ore body mine site	
			242000	2030300	16011224	111.32		120.32	No	Yes	Located in ore body mine site	
			240100	2027700	16111424	80.66		89.66	No	No	Located in ore body mine site	
			242900	2025100	16110724	54.92		63.92	No	No		
			241600	2025900	16022624	54.91		63.91	No	No	Located in ore body mine site	
			243100	2025000	16110924	51.27		60.27	No	No		
			242900	2025600	16042624	50.51		59.51	No	No		
			240500	2032500	16121724	48.54		57.54	No	No	Located in ore body mine site	
			244100	2024000	16121624	48.31		57.31	No	No		

Figure 2-37
PM-10
24-hr Averaging Period
2016
2025-2029 Mining Sites

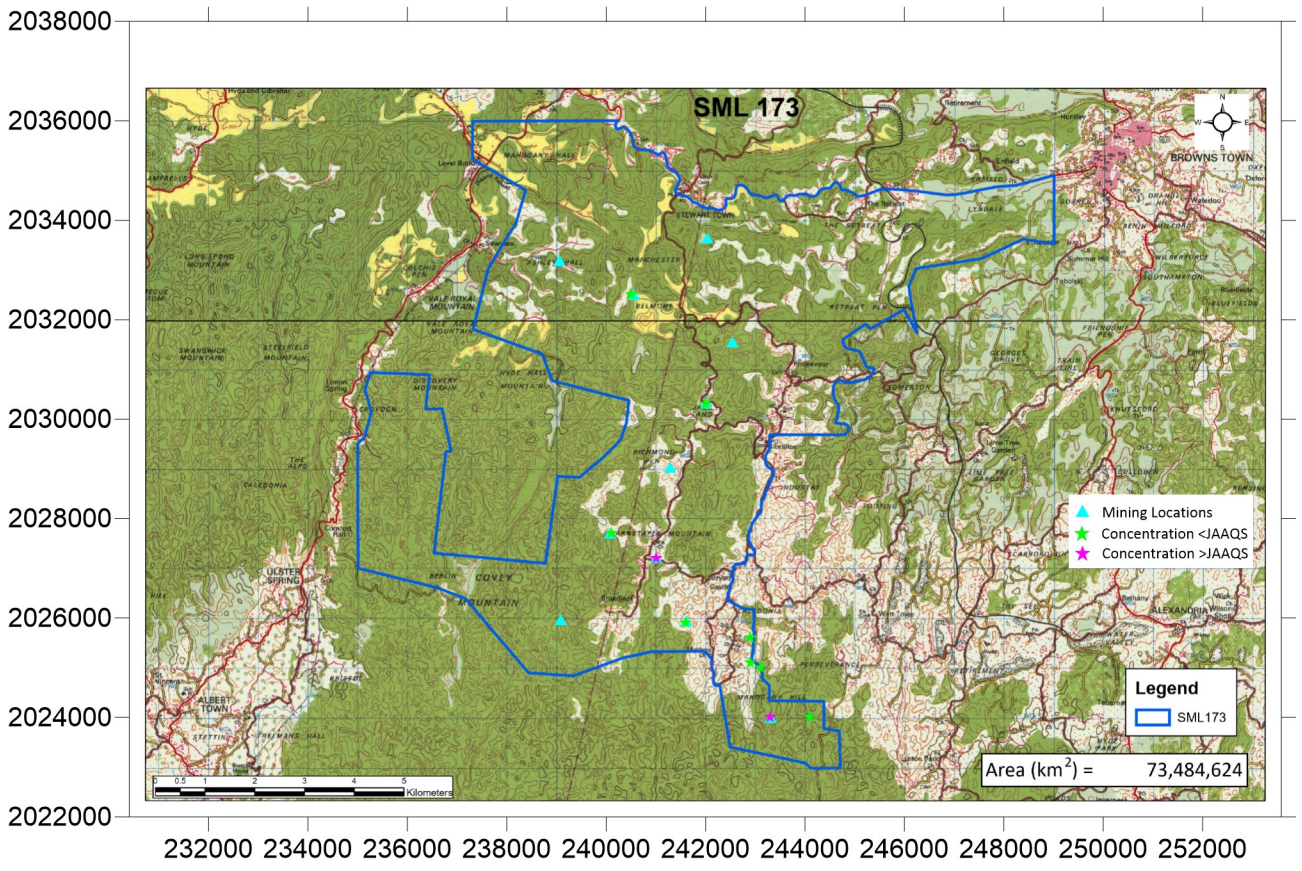


Table 2-38
2025-2029 PM-10 24-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	150.00 (24-hr)	2017	241000	2027200	17120324	558.45	9.00	567.45	Yes	Yes	Located in ore body mine site	17pm1024.inp
			243300	2024000	17120624	339.86		348.86	Yes	Yes	Located in ore body mine site	
			242000	2030300	17111624	138.98		147.98	No	Yes	Located in ore body mine site	
			240100	2027700	17121024	78.12		87.12	No	No	Located in ore body mine site	
			241300	2029000	17121324	68.84		77.84	No	No	Located in ore body mine site	
			240500	2032500	17122324	53.13		62.13	No	No	Located in ore body mine site	
			244100	2024000	17122724	52.69		61.69	No	No		
			242900	2024400	17020424	52.03		61.03	No	No		
			241600	2025900	17111624	51.70		60.70	No	No	Located in ore body mine site	
			243100	2024500	17020424	49.89		58.89	No	No		

Figure 2-38
PM-10
24-hr Averaging Period
2017
2025-2029 Mining Sites

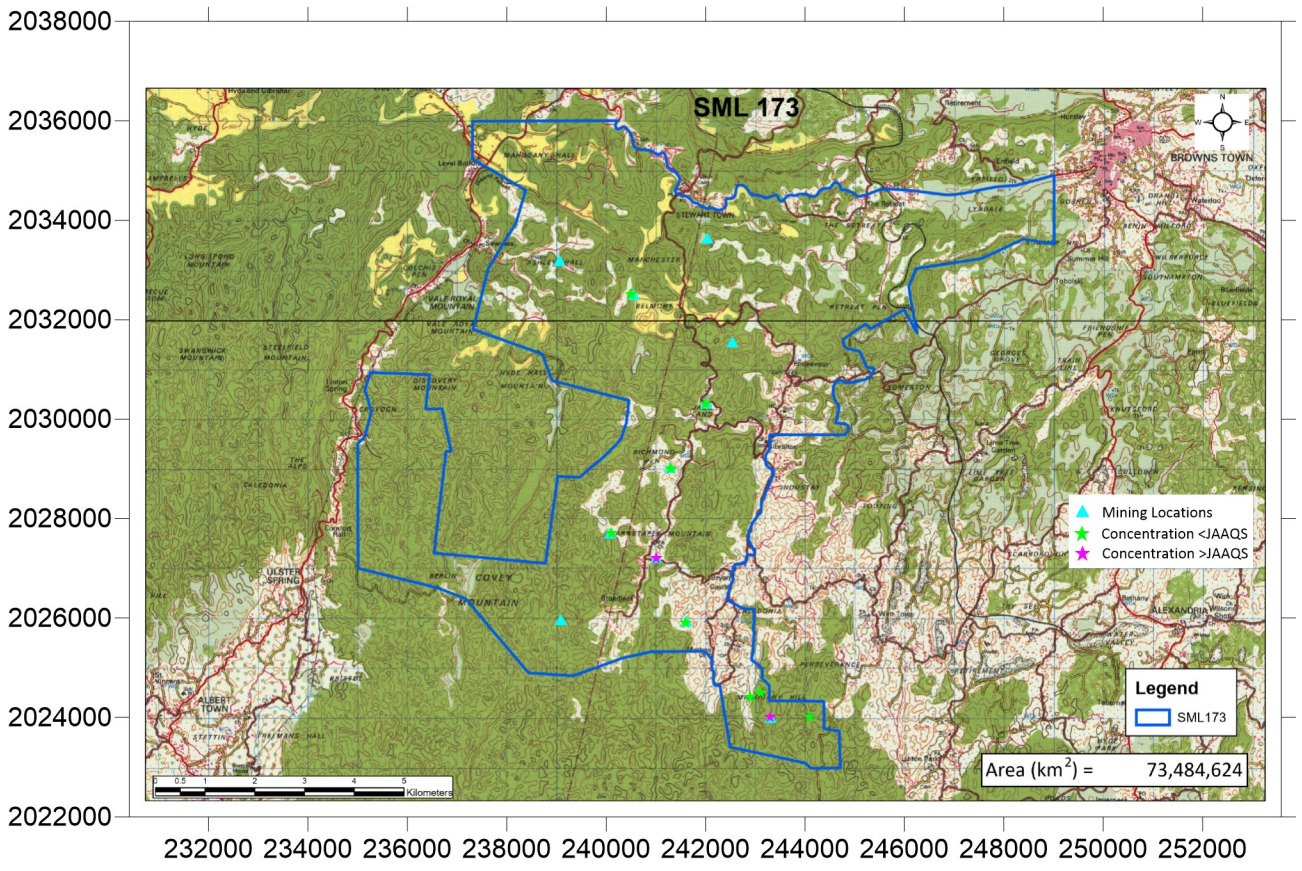


Table 2-39
2025-2029 PM-10 24-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	150.00 (24-hr)	2018	241000	2027200	18012524	357.08	9.00	366.08	Yes	Yes	Located in ore body mine site	18pm1024.inp
			243300	2024000	18122924	350.29		359.29	Yes	Yes	Located in ore body mine site	
			242000	2030300	18010224	119.63		128.63	No	Yes	Located in ore body mine site	
			240100	2027700	18011524	81.76		90.76	No	No	Located in ore body mine site	
			242900	2025500	18101724	60.27		69.27	No	No	Located in ore body mine site	
			243300	2024100	18102224	58.91		67.91	No	No		
			243200	2024000	18102224	57.88		66.88	No	No		
			243100	2024000	18102224	57.72		66.72	No	No		
			243200	2024100	18102224	56.37		65.37	No	No		
			244600	2023200	18011824	54.74		63.74	No	No		

Figure 2-39
PM-10
24-hr Averaging Period
2018
2025-2029 Mining Sites

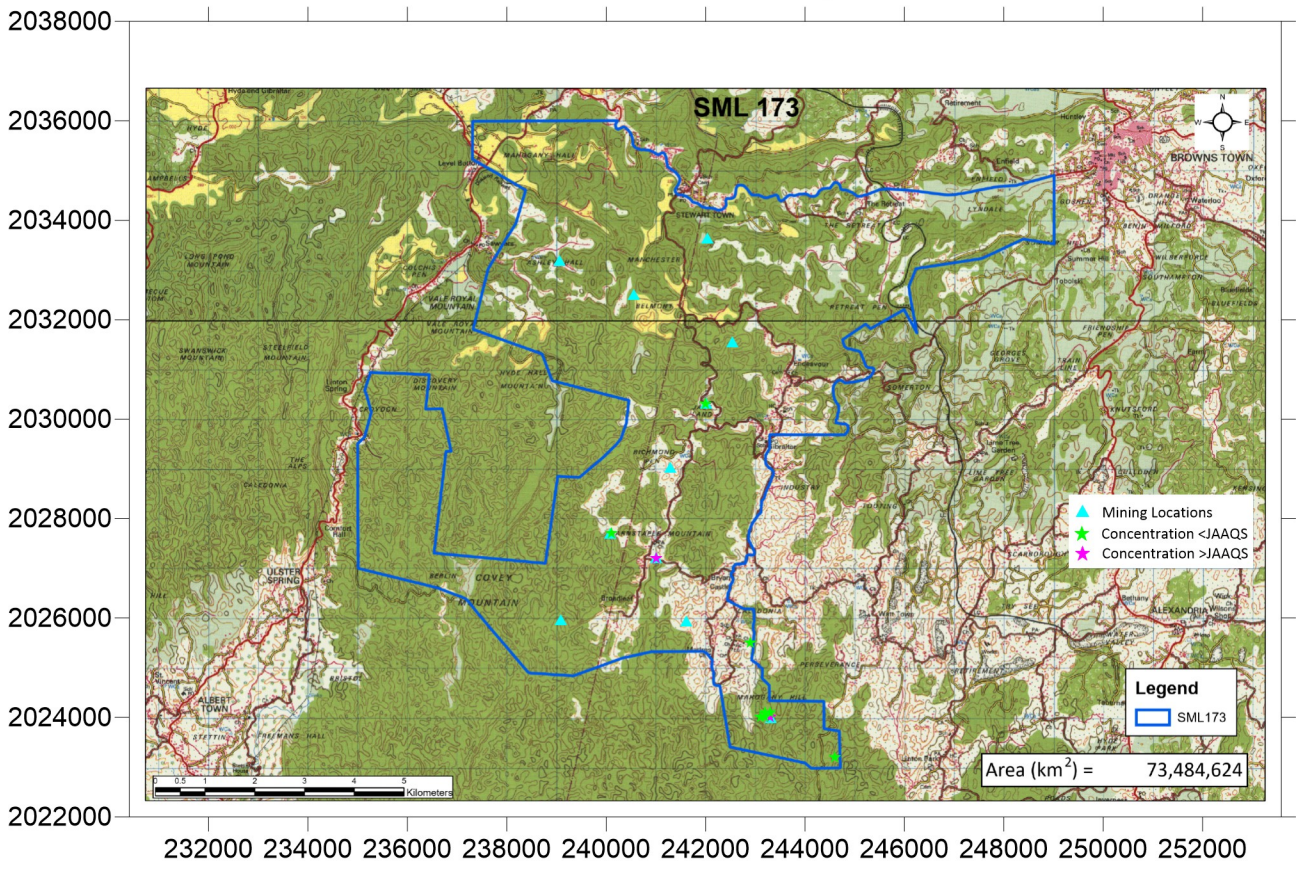


Table 2-40
2025-2029 PM-10 24-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	150.00 (24-hr)	2019	241000	2027200	19121224	594.19	9.00	603.19	Yes	Yes	Located in ore body mine site	19pm1024.inp
			243300	2024000	19121624	344.64		353.64	Yes	Yes	Located in ore body mine site	
			242000	2030300	19090824	158.79		167.79	Yes	Yes	Located in ore body mine site	
			240100	2027700	19121724	82.93		91.93	No	No	Located in ore body mine site	
			243100	2025000	19112724	72.32		81.32	No	No		
			241600	2025900	19090824	68.86		77.86	No	No	Located in ore body mine site	
			240500	2032500	19112724	63.96		72.96	No	No	Located in ore body mine site	
			242900	2025000	19112724	61.81		70.81	No	No		
			242900	2025100	19112724	58.66		67.66	No	No		
			244400	2029900	19081624	58.50		67.50	No	No		

Figure 2-40
PM-10
24-hr Averaging Period
2019
2025-2029 Mining Sites

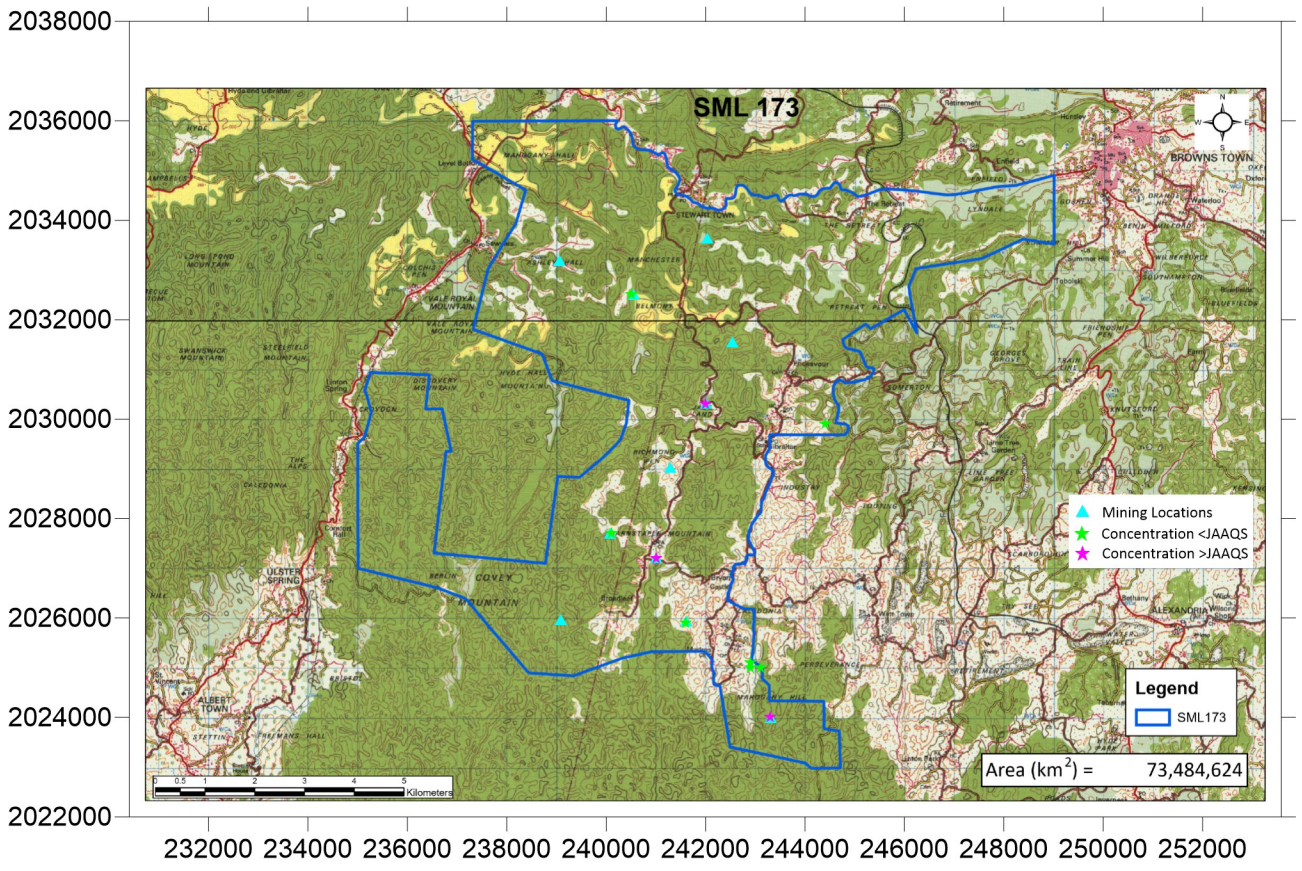


Table 2-41
2025-2029 TSP Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	60.00 (Annual)	2011	243300	2024000	-	278.45	20.00	298.45	Yes	Yes	Located in ore body mine site	11tspan2.inp
			241000	2027200	-	202.14		222.14	Yes	Yes	Located in ore body mine site	
			242000	2030300	-	76.06		96.06	Yes	Yes	Located in ore body mine site	
			240100	2027700	-	63.25		83.25	Yes	Yes	Located in ore body mine site	
			241300	2029000	-	35.83		55.83	No	Yes	Located in ore body mine site	
			241600	2025900	-	34.62		54.62	No	Yes	Located in ore body mine site	
			239000	2033200	-	29.31		49.31	No	Yes	Located in ore body mine site	
			240500	2032500	-	25.28		45.28	No	Yes	Located in ore body mine site	
			239100	2033200	-	23.38		43.38	No	No	Located in ore body mine site	
			240600	2032500	-	20.91		40.91	No	No	Located in ore body mine site	

Figure 2-41
TSP
Annual Averaging Period
2011
2025-2029 Mining Sites

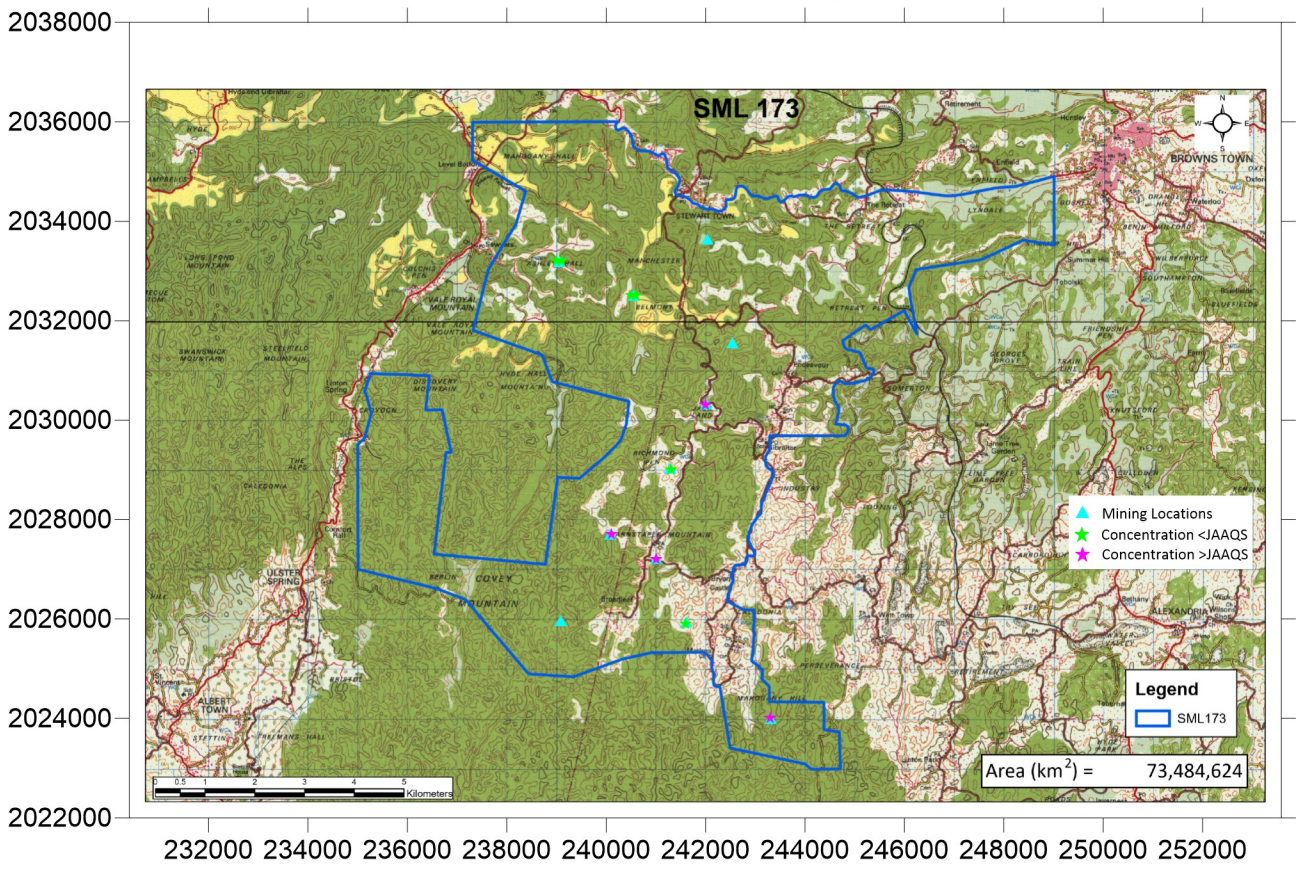


Table 2-42
2025-2029 TSP Annual Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	60.00 (Annual)	2016	243300	2024000	-	229.41	20.00	249.41	Yes	Yes	Located in ore body mine site	16tspan2.inp
			241000	2027200	-	214.53		234.53	Yes	Yes	Located in ore body mine site	
			242000	2030300	-	80.47		100.47	Yes	Yes	Located in ore body mine site	
			240100	2027700	-	62.38		82.38	Yes	Yes	Located in ore body mine site	
			241600	2025900	-	36.11		56.11	No	Yes	Located in ore body mine site	
			241300	2029000	-	34.63		54.63	No	Yes	Located in ore body mine site	
			240500	2032500	-	26.50		46.50	No	Yes	Located in ore body mine site	
			239000	2033200	-	25.17		45.17	No	Yes	Located in ore body mine site	
			239100	2033200	-	24.08		44.08	No	No	Located in ore body mine site	
			240600	2032500	-	22.35		42.35	No	No	Located in ore body mine site	

Figure 2-42
TSP
Annual Averaging Period
2016
2025-2029 Mining Sites

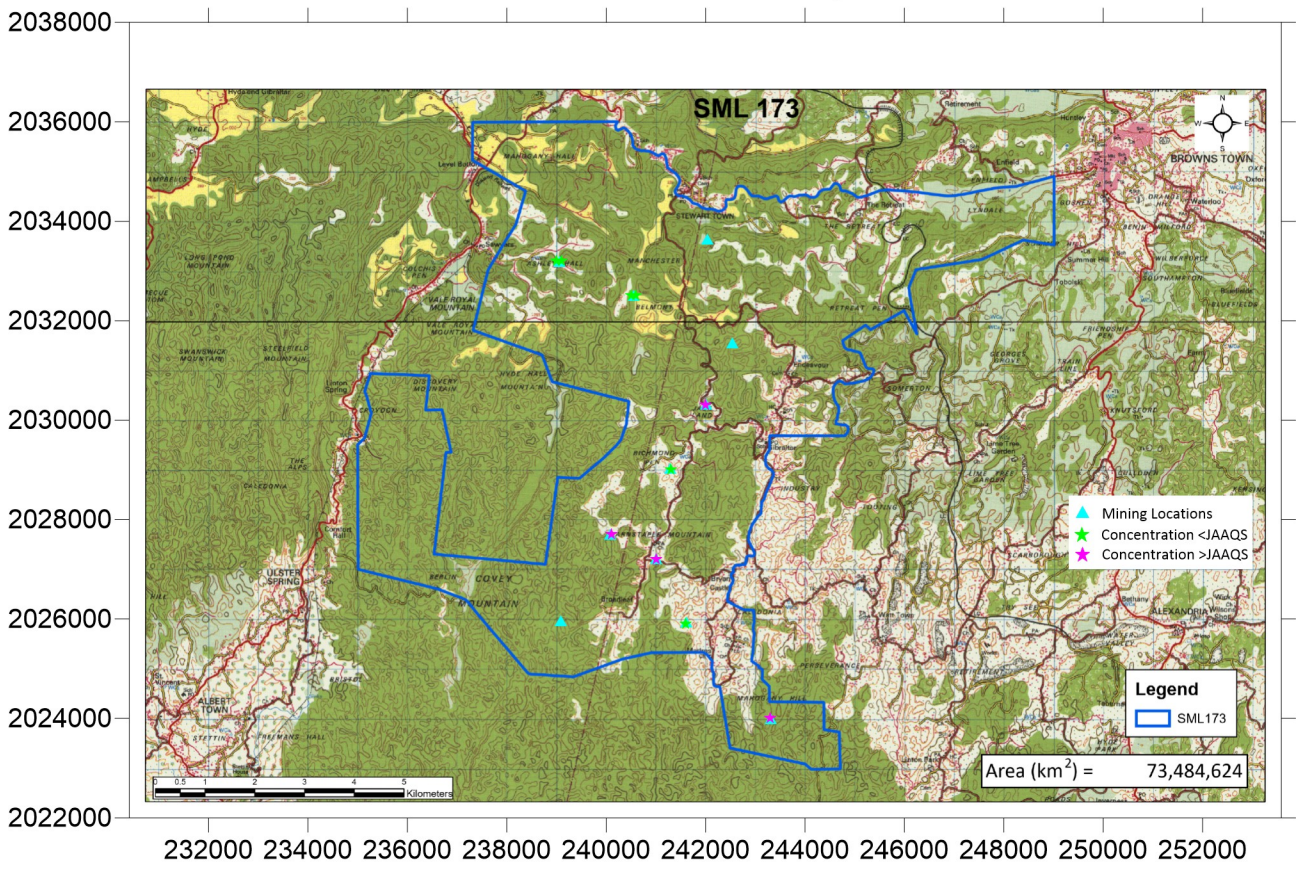


Table 2-43
2025-2029 TSP Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	60.00 (Annual)	2017	243300	2024000	-	243.59	20.00	263.59	Yes	Yes	Located in ore body mine site	17tspan2.inp
			241000	2027200	-	214.73		234.73	Yes	Yes	Located in ore body mine site	
			242000	2030300	-	81.52		101.52	Yes	Yes	Located in ore body mine site	
			240100	2027700	-	64.60		84.60	Yes	Yes	Located in ore body mine site	
			241600	2025900	-	36.95		56.95	No	Yes	Located in ore body mine site	
			241300	2029000	-	35.99		55.99	No	Yes	Located in ore body mine site	
			239000	2033200	-	27.44		47.44	No	Yes	Located in ore body mine site	
			240500	2032500	-	27.00		47.00	No	Yes	Located in ore body mine site	
			239100	2033200	-	24.81		44.81	No	No	Located in ore body mine site	
			240600	2032500	-	23.06		43.06	No	No	Located in ore body mine site	

Figure 2-43
TSP
Annual Averaging Period
2017
2025-2029 Mining Sites

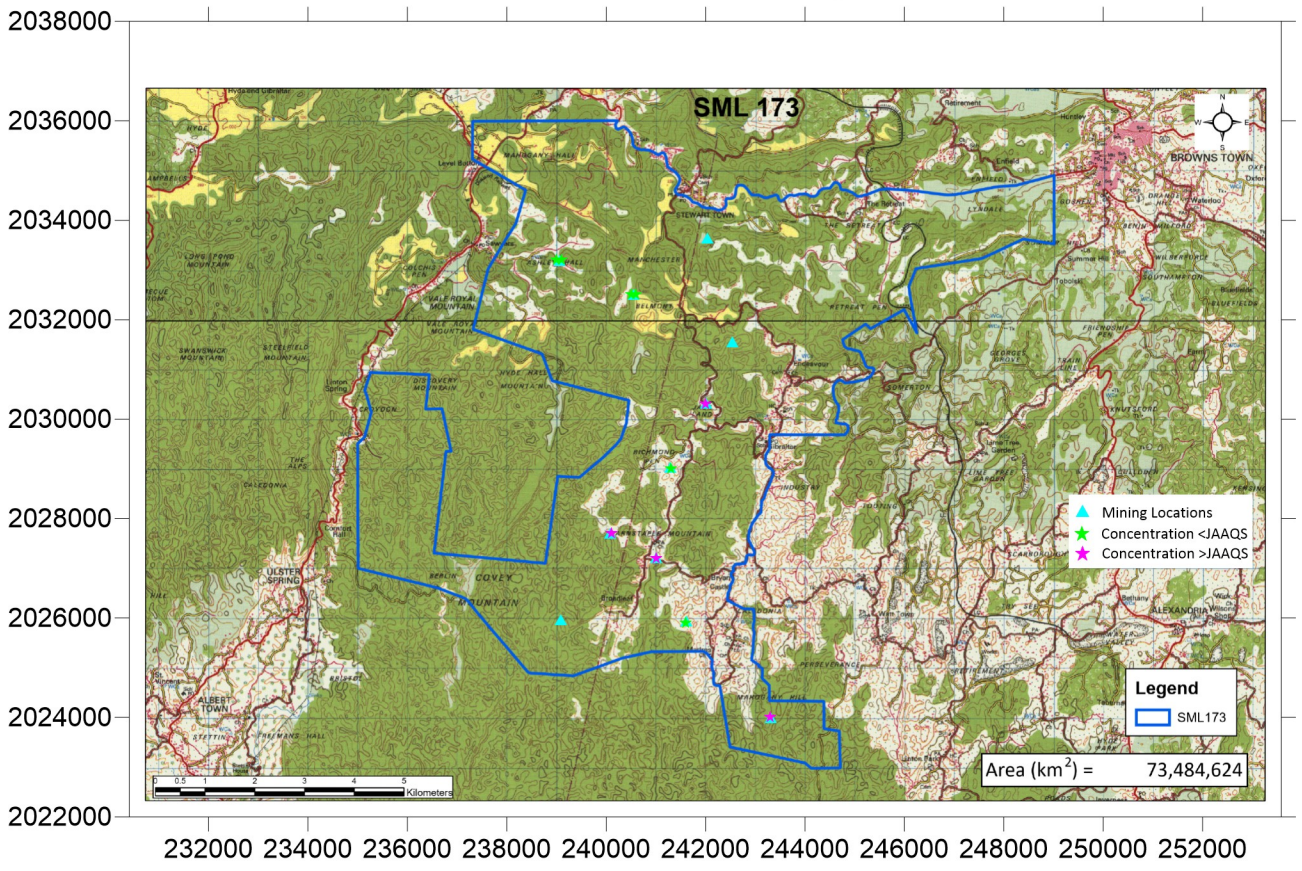


Table 2-44
2025-2029 TSP Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	60.00 (Annual)	2018	243300	2024000	-	215.82	20.00	235.82	Yes	Yes	Located in ore body mine site	18tspan2.inp
			241000	2027200	-	209.46		229.46	Yes	Yes	Located in ore body mine site	
			242000	2030300	-	82.41		102.41	Yes	Yes	Located in ore body mine site	
			240100	2027700	-	64.49		84.49	Yes	Yes	Located in ore body mine site	
			241600	2025900	-	36.95		56.95	No	Yes	Located in ore body mine site	
			241300	2029000	-	33.91		53.91	No	Yes	Located in ore body mine site	
			240500	2032500	-	26.28		46.28	No	Yes	Located in ore body mine site	
			239100	2033200	-	25.18		45.18	No	Yes	Located in ore body mine site	
			239000	2033200	-	24.25		44.25	No	No	Located in ore body mine site	
			240600	2032500	-	23.32		43.32	No	No	Located in ore body mine site	

Figure 2-44
TSP
Annual Averaging Period
2018
2025-2029 Mining Sites

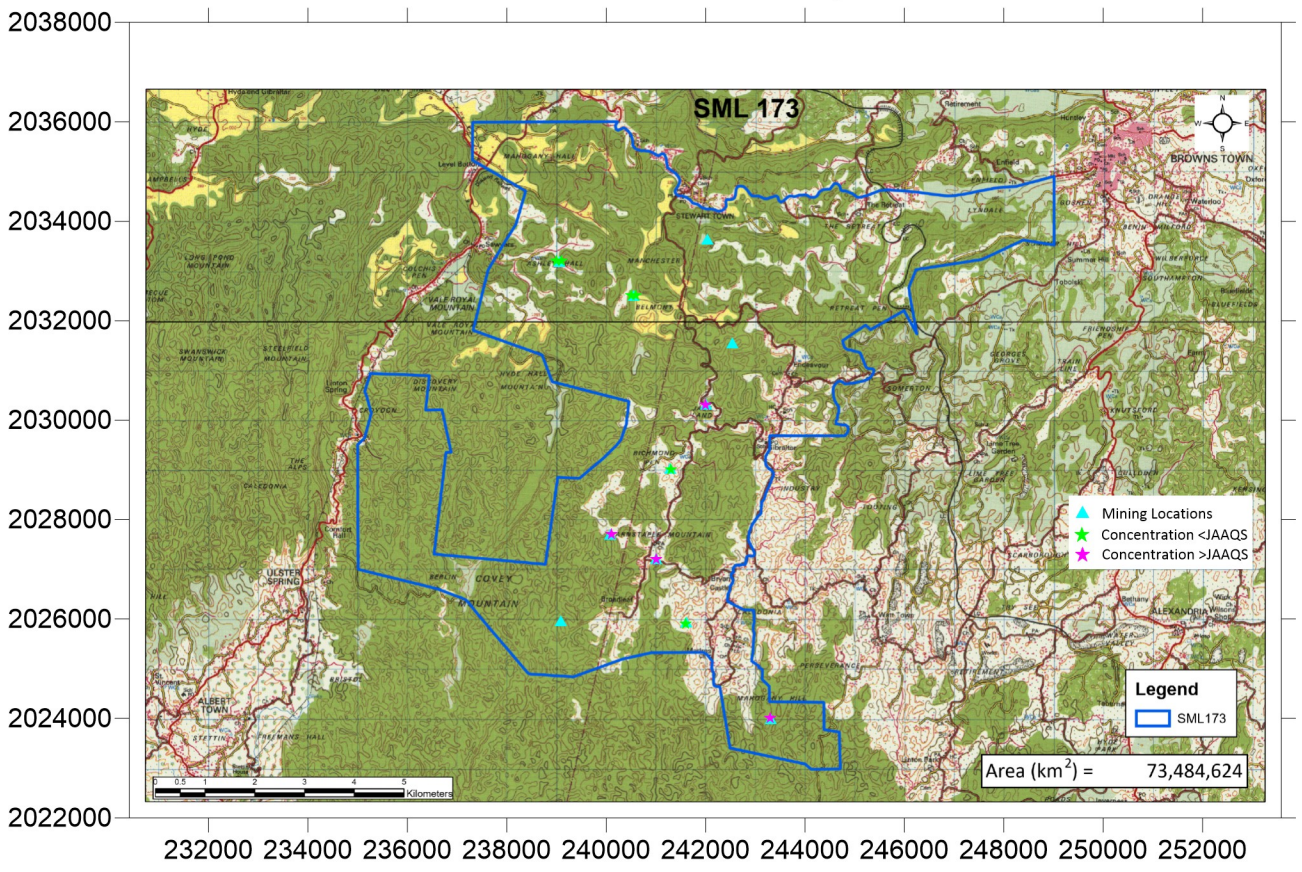


Table 2-45
2025-2029 TSP Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	60.00 (Annual)	2019	243300	2024000	-	224.86	20.00	244.86	Yes	Yes	Located in ore body mine site	19tspan2.inp
			241000	2027200	-	203.15		223.15	Yes	Yes	Located in ore body mine site	
			242000	2030300	-	88.84		108.84	Yes	Yes	Located in ore body mine site	
			240100	2027700	-	68.39		88.39	Yes	Yes	Located in ore body mine site	
			241600	2025900	-	40.49		60.49	Yes	Yes	Located in ore body mine site	
			241300	2029000	-	36.86		56.86	No	Yes	Located in ore body mine site	
			242400	2029800	-	28.12		48.12	No	Yes		
			240500	2032500	-	27.31		47.31	No	Yes	Located in ore body mine site	
			239100	2033200	-	26.94		46.94	No	Yes	Located in ore body mine site	
			242200	2029800	-	26.87		46.87	No	Yes		

Figure 2-45
TSP
Annual Averaging Period
2019
2025-2029 Mining Sites

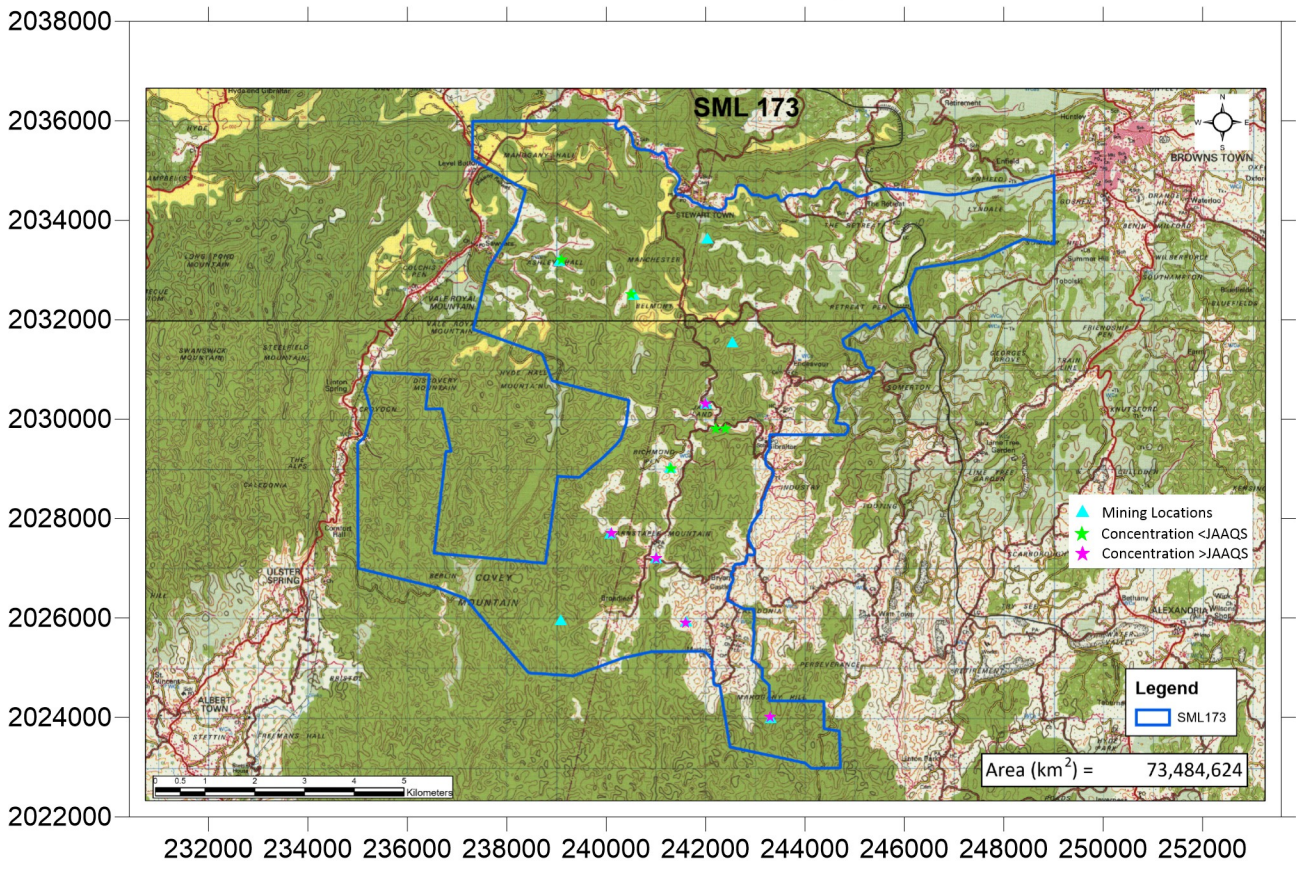


Table 2-46
2025-2029 TSP 24-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	150.00 (24-hr)	2011	243300	2024000	11101224	905.13	14.00	919.13	Yes	Yes	Located in ore body mine site	11tsp24.inp
			241000	2027200	11121224	711.43		725.43	Yes	Yes	Located in ore body mine site	
			242000	2030300	11031124	248.01		262.01	Yes	Yes	Located in ore body mine site	
			240100	2027700	11110224	154.11		168.11	Yes	Yes	Located in ore body mine site	
			239000	2033200	11072624	111.73		125.73	No	Yes	Located in ore body mine site	
			241600	2025900	11011424	97.16		111.16	No	No	Located in ore body mine site	
			241300	2029000	11120124	93.53		107.53	No	No	Located in ore body mine site	
			240500	2032500	11102624	84.41		98.41	No	No	Located in ore body mine site	
			239100	2033200	11110224	65.78		79.78	No	No	Located in ore body mine site	
			242000	2033600	11021424	63.11		77.11	No	No	Located in ore body mine site	

Figure 2-46
TSP
24-hr Averaging Period
2011
2025-2029 Mining Sites

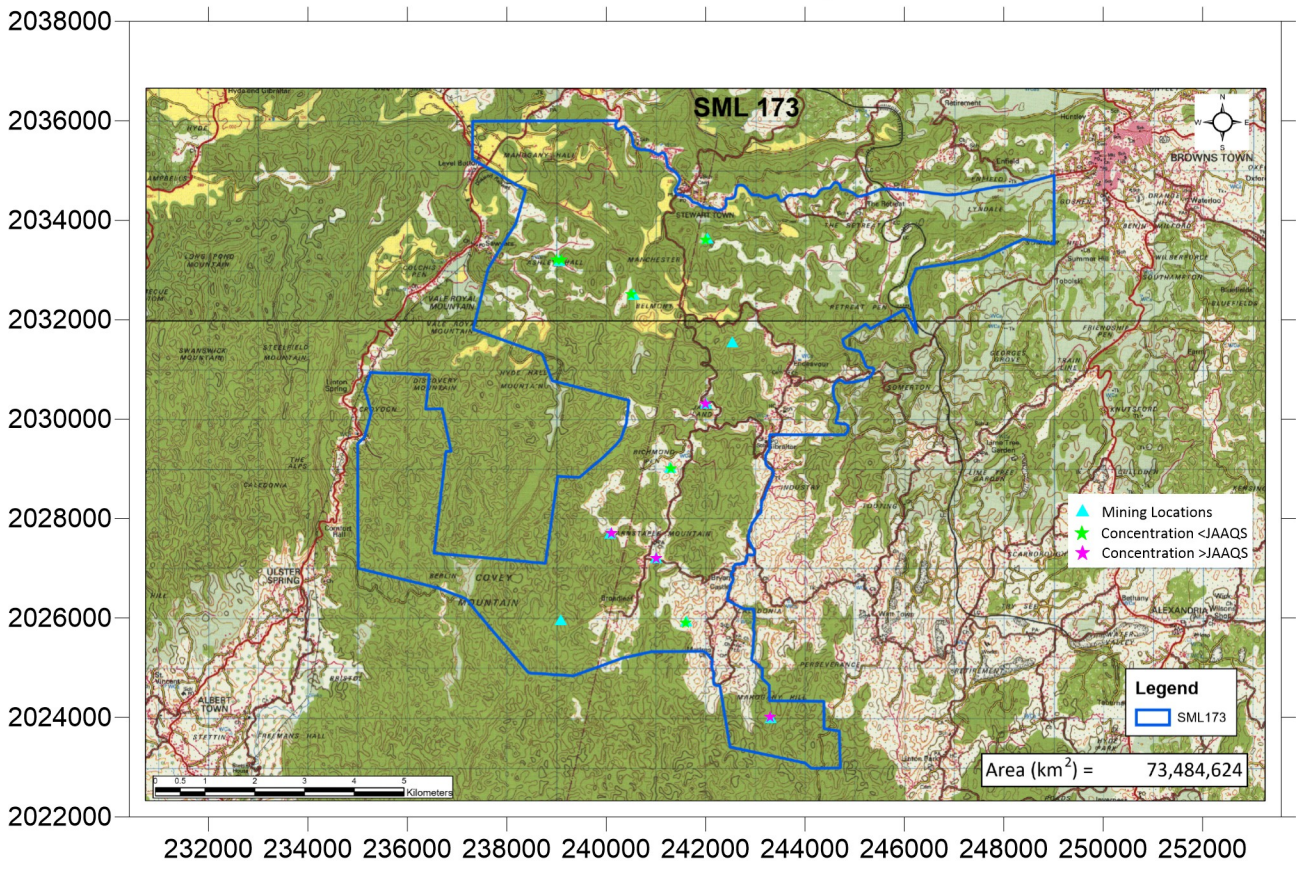


Table 2-47
2025-2029 TSP 24-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	150.00 (24-hr)	2016	241000	2027200	16110924	803.05	14.00	817.05	Yes	Yes	Located in ore body mine site	16tsp24.inp
			243300	2024000	16010924	624.15		638.15	Yes	Yes	Located in ore body mine site	
			242000	2030300	16011224	205.50		219.50	Yes	Yes	Located in ore body mine site	
			240100	2027700	16111424	148.39		162.39	Yes	Yes	Located in ore body mine site	
			241600	2025900	16022624	101.55		115.55	No	Yes	Located in ore body mine site	
			240500	2032500	16110824	91.02		105.02	No	No	Located in ore body mine site	
			241300	2029000	16012424	86.97		100.97	No	No	Located in ore body mine site	
			239000	2033200	16010924	76.87		90.87	No	No	Located in ore body mine site	
			242000	2033600	16111924	69.34		83.34	No	No	Located in ore body mine site	
			239100	2033200	16011224	60.74		74.74	No	No	Located in ore body mine site	

Figure 2-47
TSP
24-hr Averaging Period
2016
2025-2029 Mining Sites

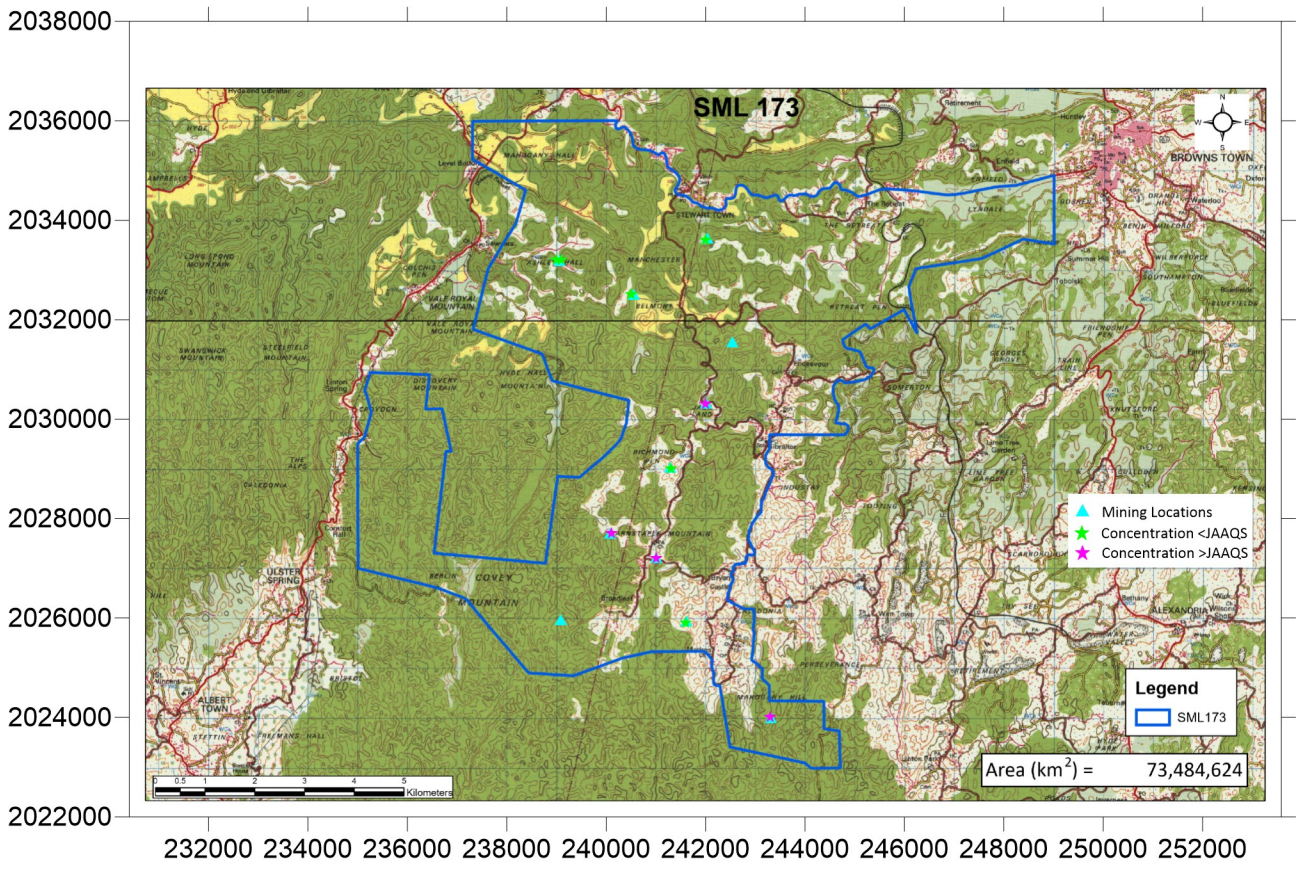


Table 2-48
2025-2029 TSP 24-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	150.00 (24-hr)	2017	241000	2027200	17120324	1058.15	14.00	1072.15	Yes	Yes	Located in ore body mine site	17tsp24.inp
			243300	2024000	17120624	642.10		656.10	Yes	Yes	Located in ore body mine site	
			242000	2030300	17111624	261.55		275.55	Yes	Yes	Located in ore body mine site	
			240100	2027700	17121024	146.28		160.28	Yes	Yes	Located in ore body mine site	
			241300	2029000	17121324	129.16		143.16	No	Yes	Located in ore body mine site	
			240500	2032500	17122324	99.97		113.97	No	Yes	Located in ore body mine site	
			241600	2025900	17111624	95.83		109.83	No	No	Located in ore body mine site	
			239000	2033200	17120624	81.88		95.88	No	No	Located in ore body mine site	
			242000	2033600	17013124	78.28		92.28	No	No	Located in ore body mine site	
			239100	2033200	17090224	67.49		81.49	No	No	Located in ore body mine site	

Figure 2-48
TSP
24-hr Averaging Period
2017
2025-2029 Mining Sites

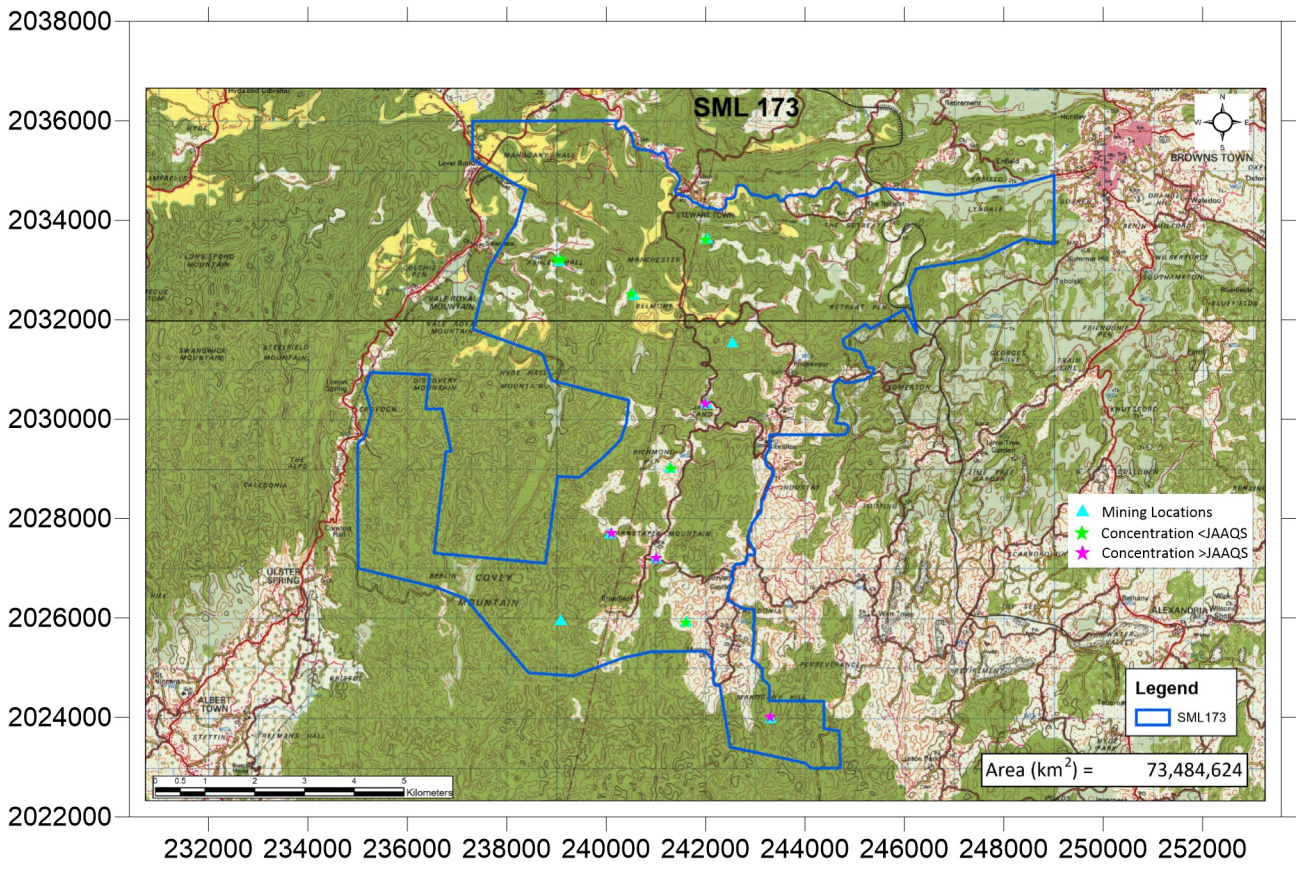


Table 2-49
2025-2029 TSP 24-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	150.00 (24-hr)	2018	241000	2027200	18012524	675.88	14.00	689.88	Yes	Yes	Located in ore body mine site	18tsp24.inp
			243300	2024000	18122924	660.96		674.96	Yes	Yes	Located in ore body mine site	
			242000	2030300	18010224	223.24		237.24	Yes	Yes	Located in ore body mine site	
			240100	2027700	18011524	153.25		167.25	Yes	Yes	Located in ore body mine site	
			240500	2032500	18022024	95.49		109.49	No	No	Located in ore body mine site	
			241600	2025900	18011424	90.71		104.71	No	No	Located in ore body mine site	
			241300	2029000	18010424	88.34		102.34	No	No	Located in ore body mine site	
			239000	2033200	18012124	83.24		97.24	No	No	Located in ore body mine site	
			239100	2033200	18040424	73.11		87.11	No	No	Located in ore body mine site	
			242000	2033600	18011924	72.45		86.45	No	No	Located in ore body mine site	

Figure 2-49
TSP
24-hr Averaging Period
2018
2025-2029 Mining Sites

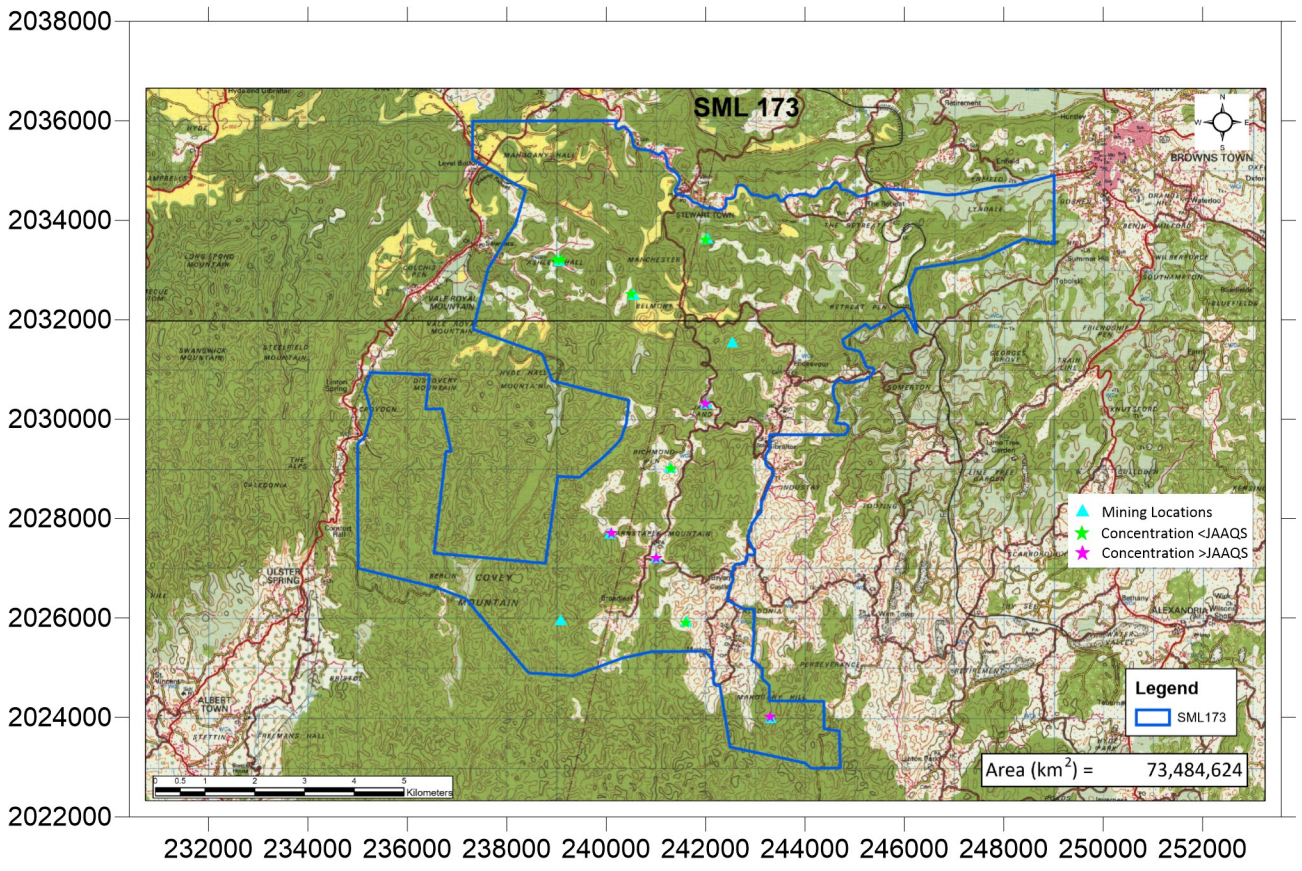
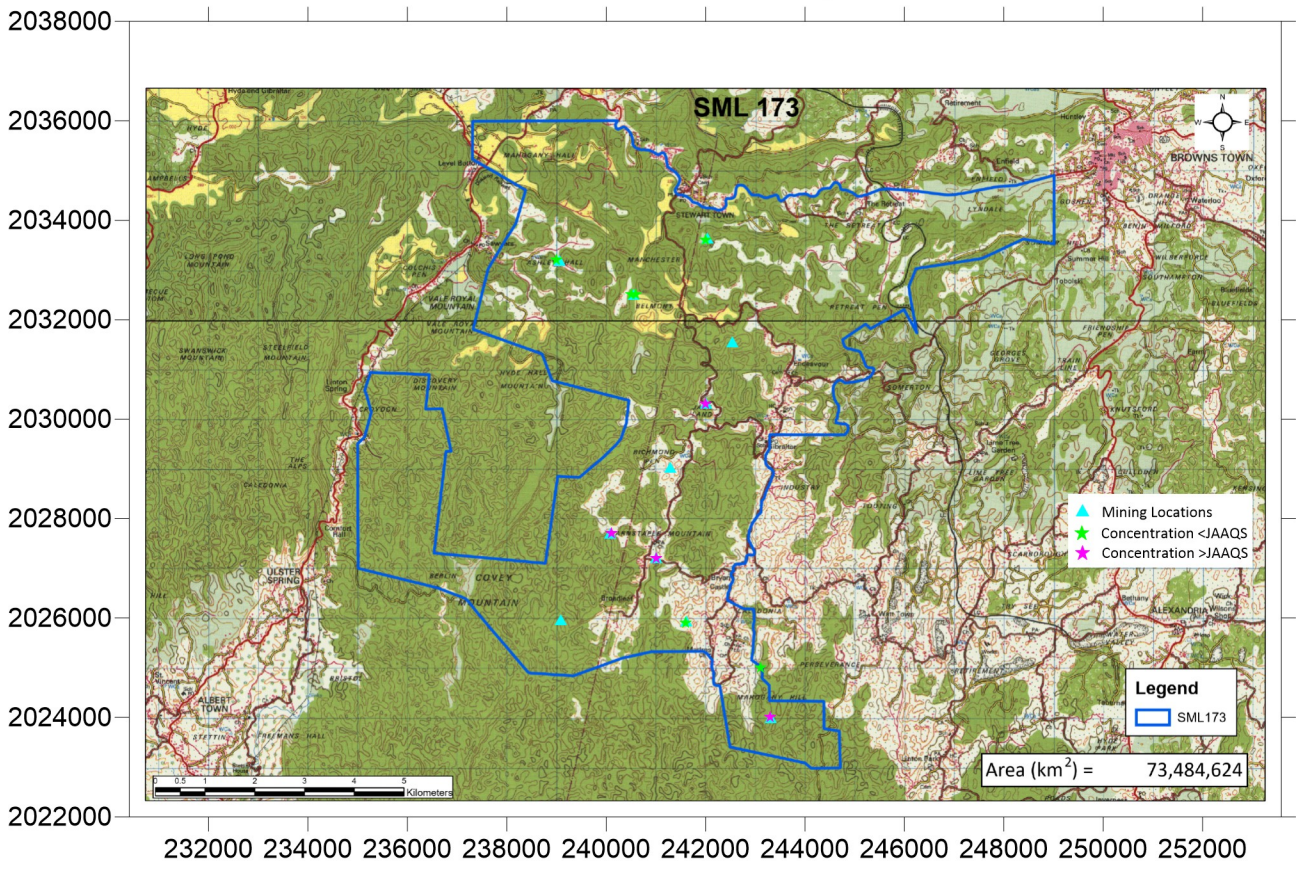


Table 2-50
2025-2029 TSP 24-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	150.00 (24-hr)	2019	241000	2027200	19121224	1125.57	14.00	1139.57	Yes	Yes	Located in ore body mine site	19tsp24.inp
			243300	2024000	19121624	651.73		665.73	Yes	Yes	Located in ore body mine site	
			242000	2030300	19090824	294.86		308.86	Yes	Yes	Located in ore body mine site	
			240100	2027700	19121724	152.67		166.67	Yes	Yes	Located in ore body mine site	
			241600	2025900	19090824	128.47		142.47	No	Yes	Located in ore body mine site	
			240500	2032500	19112724	120.70		134.70	No	Yes	Located in ore body mine site	
			239000	2033200	19072024	85.49		99.49	No	No	Located in ore body mine site	
			242000	2033600	19012624	79.04		93.04	No	No	Located in ore body mine site	
			243100	2025000	19112724	72.34		86.34	No	No		
			240600	2032500	19102824	69.27		83.27	No	No	Located in ore body mine site	

Figure 2-50
TSP
24-hr Averaging Period
2019
2025-2029 Mining Sites



Appendix 3
2030-2033 Mining Locations

Table 3-0
2030-2033 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Drying Plant Point Sources											
DE-01	Diesel Generator #641	244444.9	2042691.5		5.1816		0.305		23.010	449	722
DE-03	Diesel Generator #643	244434.8	2042695.6		5.1816		0.305		23.010	449	722
DE-06	Diesel Generator #6	244457.2	2042711		7.9248		0.305		70.570	343	616
DE-07	Diesel Generator #7	244452.5	2042699.4		7.9248		0.305		70.570	343	616
DE-08	Emergency Diesel Generator	244430.2	2042722.1		7.6200		0.152		25.060	399	672
DE-10	Tunnel 1 Bulldozer	243927.6	2042930.5		18.2880		0.203		12.981	474	747
DE-11	Tunnel 2 Bulldozer	243982.3	2042927.6		18.2880		0.203		12.981	474	747
DE-12	Diesel Generator #8	244462.2	2042710	27	8.2296	3	0.914	25.73	7.841	343	616
DE-13	Diesel Generator #9	244461.5	2042697.4	27	8.2296	3	0.914	25.73	7.841	343	616
D-01a	5010 Dryer	243962.3	2043068.3	73.63	22.4409	9.03	2.751	16.65	5.073	149	422
D-01b	5020 Dryer	243977.7	2043062.4	73.88	22.5171	9.03	2.751	31.89	9.719	149	422
D-01c	5030 Dryer	243994.5	2043056	75.83	23.1140	6.77	2.064	29.59	9.020	149	422
D-01d	5040 Dryer	244096.1	2043014.7	72.63	22.1361	12.77	3.891	16.65	5.073	149	422
C-12	Dryer #1/2/3 Belt to Dryer Belt Transfer	243957.3	2043031.8		6.0960	1.31644	0.401	146.94	44.787	60	333
C-13	Dryer #4 Belt to Dryer Belt Transfer	244059.2	2043001.3		5.4864	1	0.305	254.65	77.617	60	333
C-14a	Dryer Belt to Dome Storage Dust Collector	245134.6	2042600.6		1.0000	1.50451	0.459	234.38	71.438	60	333
C-14b	Dryer Belt to Dome Storage Dust Collector	245146.2	2042678		1.0000	1.50451	0.459	281.25	85.725	60	333
C-14c	Dryer Belt to Dome Storage Dust Collector	245028.2	2042677.7	36	10.9728	1.50451	0.459	337.50	102.870	60	333
C-15	Dome Dust Collecter	245124	2042735.5	8	2.4384	1.50451	0.459	178.13	54.293	60	333
C-17	Dedust Addition Dust Collector	245120.2	2042787.6		6.4008	1.12838	0.344	166.67	50.800	38	311
C-16	Dock Belt Dust Collector	245101.8	2042772.8		4.8768		0.688		24.130	38	311
C-18	Gantry Dust Collector	245370.7	2042929.9		18.2880		0.457		54.620	38	311
C-28A	Excavator Engine No. 1	243969.9	2043093.9	10	3.0480		0.203		12.981	474	747
C-28C	Screener Engine No. 1	243969.9	2043093.9	8	2.4384	0.58	0.178	153.50	46.787	500	773
C-28F	Excavator Engine No. 2	243969.9	2043093.9	10	3.0480		0.203		12.981	474	747
C-28H	Screener Engine No. 1	243969.9	2043093.9	8	2.4384	0.58	0.178	153.50	46.787	500	773
C-29A	Crusher System Excavator Engine	244343	2043026	10	3.0480	0.67	0.203		12.981		747
C-29C	Crusher System Generator	244239	2043030	10	3.0480	0.67	0.203		12.981		747

Table 3-0
2030-2033 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s (-m^2)	PM g/s	PM g/s (-m^2)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s (-m^2)	PM-10 g/s	PM-10 g/s (-m^2)
Drying Plant Po													
DE-01						5.475	0.17313546	0.17313546	-	5.475	0.17313546	0.17313546	-
DE-03						5.475	0.17313546	0.17313546	-	5.475	0.17313546	0.17313546	-
DE-06						7.112	0.22490852	0.22490852	-	7.112	0.22490852	0.22490852	-
DE-07						7.112	0.22490852	0.22490852	-	7.112	0.22490852	0.22490852	-
DE-08						0.200	0.00631143	0.11087927	-	0.200	0.00631143	0.11087927	-
DE-10						1.844	0.05829982	0.05829982	-	1.844	0.05829982	0.05829982	-
DE-11						1.844	0.05829982	0.05829982	-	1.844	0.05829982	0.05829982	-
DE-12						10.041	0.31751792	0.31751792	-	10.041	0.31751792	0.31751792	-
DE-13						8.925	0.28223815	0.28223815	-	8.925	0.28223815	0.28223815	-
D-01a						73.762	2.33257232	3.77001080	-	44.512	1.40759509	2.27501080	-
D-01b						73.762	2.33257232	7.53998395	-	44.512	1.40759509	4.54998395	-
D-01c						73.762	2.33257232	3.77001080	-	44.512	1.40759509	2.27510870	-
D-01d						73.762	2.33257232	6.22868894	-	44.512	1.40759509	3.75868894	-
C-12						1.023	0.03235409	0.05824104	-	0.171	0.00541459	0.00974688	-
C-13						2.031	0.06423080	0.07952142	-	0.171	0.00541459	0.01330824	-
C-14a						0.336	0.01062557	0.02426710	-	0.056	0.00177823	0.00406120	-
C-14b						0.336	0.01062557	0.02426710	-	0.056	0.00177823	0.00406120	-
C-14c						0.336	0.01062557	0.02426710	-	0.056	0.00177823	0.00406120	-
C-15						1.008	0.03187671	0.07280130	-	0.169	0.00533470	0.01218360	-
C-17						2.508	0.07929730	0.18110235	-	0.310	0.00979594	0.02237235	-
C-16						1.008	0.03187671	0.07280130	-	0.169	0.00533470	0.01218360	-
C-18						2.508	0.07929730	0.18110235	-	0.310	0.00979594	0.02237235	-
C-28A						0.830	0.02625557	0.02625557	-	0.830	0.02625557	0.02625557	-
C-28C						0.135	0.00426653	0.00426653	-	0.135	0.00426653	0.00426653	-
C-28F						0.830	0.02625557	0.02625557	-	0.830	0.02625557	0.02625557	-
C-28H						0.135	0.00426653	0.00426653	-	0.135	0.00426653	0.00426653	-
C-29A						1.403	0.04435171	0.04435171	-	1.403	0.04435171	0.04435171	-
C-29C						0.050	0.00159393	0.00159393	-	0.050	0.00159393	0.00159393	-

Table 3-0
2030-2033 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Po												
DE-01	31.637	1.00047565	1.00047565	-	140.785	4.45205479		-	43.018	1.36035008	1.36035008	-
DE-03	31.637	1.00047565	1.00047565	-	140.785	4.45205479		-	43.018	1.36035008	1.36035008	-
DE-06	41.098	1.29964997	1.29964997	-	182.884	5.78336206		-	55.881	1.76713841	1.76713841	-
DE-07	41.098	1.29964997	1.29964997	-	182.884	5.78336206		-	55.881	1.76713841	1.76713841	-
DE-08	0.186	0.00588111	0.10331932	-	2.109	0.06670038		-	0.617	0.01950807	0.34271775	-
DE-10	10.653	0.33688966	0.33688966	-	47.406	1.49913817		-	14.485	0.45807000	0.45807000	-
DE-11	10.653	0.33688966	0.33688966	-	47.406	1.49913817		-	14.485	0.45807000	0.45807000	-
DE-12	58.021	1.83479996	1.83479996	-	258.189	8.16474644		-	78.891	2.49478363	2.49478363	-
DE-13	51.574	1.63093330	1.63093330	-	229.501	7.25755239		-	70.125	2.21758545	2.21758545	-
D-01a	37.975	1.20089740	1.94095760	-	66.534	2.10400707		-	8.075	0.25537102	0.41249633	-
D-01b	37.975	1.20089740	3.88191514	-	66.534	2.10400707		-	8.075	0.25537102	0.82458922	-
D-01c	37.975	1.20089740	1.94095774	-	66.534	2.10400707		-	8.075	0.25537102	0.41354524	-
D-01d	37.975	1.20089740	3.20679947	-	66.534	2.10400707		-	8.075	0.25537102	0.68125256	-
C-12												
C-13												
C-14a												
C-14b												
C-14c												
C-15												
C-17												
C-16												
C-18												
C-28A	0.774	0.02446541	0.08265546	-	8.774	0.27747359		-	2.521	0.07972144	0.26933583	-
C-28C	0.126	0.00397563	0.01343151	-	1.426	0.04508946		-	0.410	0.01295473	0.04376707	-
C-28F	0.774	0.02446541	0.08265546	-	8.774	0.27747359		-	2.521	0.07972144	0.26933583	-
C-28H	0.126	0.00397563	0.01343151	-	1.426	0.04508946		-	0.410	0.01295473	0.04376707	-
C-29A	1.307	0.04132773	0.08265546	-	14.822	0.46871693		-	4.259	0.13466792	0.26933583	-
C-29C	2.095	0.06625352	0.13250703	-	0.844	0.02669838		-	5.880	0.18595889	0.37191778	-

Table 3-0
2030-2033 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Mine Point Sources											
DE-01	Emergency Diesel Generator 6411	248142.5	2026050		3.6576		0.102		12.530	474	747
DE-02	Emergency Diesel Generator 6412	248142.4	2026048.9		3.6576		0.102		12.530	474	747
DE-03	Emergency Diesel Generator 6414	247292.3	2025523.2		3.6576		0.102		12.530	474	747
DE-04	Water Valley Dozer/Loader Engines	248177.8	2026073.4	8	2.4384		0.203		12.981	474	747
DE-05	Tobolskil Dozer/Loader Engines	246824	2030833	8	2.4384		0.203		12.981	474	747
DE-06a	Excavator Engines A	238448.7	2034331.1	8	2.4384		0.203		12.981	474	747
DE-06b	Excavator Engines B	237733.4	2032659.2	8	2.4384		0.203		12.981	474	747
DE-06c	Excavator Engines C	239460.4	2031383.5	8	2.4384		0.203		12.981	474	747
DE-06d	Excavator Engines D	235629.9	2030310.1	8	2.4384		0.203		12.981	474	747
DE-06e	Excavator Engines E	235101.4	2029029	8	2.4384		0.203		12.981	474	747
DE-06f	Excavator Engines F	235822.7	2027235.1	8	2.4384		0.203		12.981	474	747
DE-06g	Excavator Engines G	240671.4	2030267.7	8	2.4384		0.203		12.981	474	747
DE-06h	Excavator Engines H	239880.1	2028885.7	8	2.4384		0.203		12.981	474	747
DE-06i	Excavator Engines I	239064.9	2027534.1	8	2.4384		0.203		12.981	474	747
DE-06j	Excavator Engines J	237461.6	2026659.1	8	2.4384		0.203		12.981	474	747
DE-06k	Excavator Engines K	238556.3	2025298.7	8	2.4384		0.203		12.981	474	747
DE-07	Rejects Excavator/Loader Engine	247682.2	2025991.1	8	2.4384		0.203		12.981	474	747
DE-08	Rejects Dozer Engine	247682.2	2025991.1	8	2.4384		0.203		12.981	474	747

Table 3-0
2030-2033 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s (-m^2)	PM g/s	PM g/s (-m^2)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s (-m^2)	PM-10 g/s	PM-10 g/s (-m^2)
Mine Point Sou													
DE-01						0.095	0.00301228	0.05291965	-	0.095	0.00301228	0.05291965	-
DE-02						0.095	0.00301228	0.05291965	-	0.095	0.00301228	0.05291965	-
DE-03						0.095	0.00301228	0.05291965	-	0.095	0.00301228	0.05291965	-
DE-04						27.654	0.87449726	0.87449726	-	27.654	0.87449726	0.87449726	-
DE-05						27.654	0.87449726	0.87449726	-	27.654	0.87449726	0.87449726	-
DE-06a						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06b						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06c						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06d						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06e						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06f						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06g						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06h						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06i						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06j						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-06k						1.006	0.03179990	0.03179990	-	1.006	0.03179990	0.03179990	-
DE-07						0.560	0.01772251	0.01772251	-	0.560	0.01772251	0.01772251	-
DE-08						0.623	0.01969167	0.01969167	-	0.623	0.01969167	0.01969167	-

Table 3-0
2030-2033 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Mine Point Sou												
DE-01	0.550	0.01740665	0.30579999	-	2.449	0.07745851		-	0.748	0.02366788	0.41579727	-
DE-02	0.550	0.01740665	0.30579999	-	2.449	0.07745851		-	0.748	0.02366788	0.41579727	-
DE-03	0.550	0.01740665	0.30579999	-	2.449	0.07745851		-	0.748	0.02366788	0.41579727	-
DE-04	159.799	5.05334490	5.05334490	-	711.095	22.48707248		-	217.279	6.87104993	6.87104993	-
DE-05	159.799	5.05334490	5.05334490	-	711.095	22.48707248		-	217.279	6.87104993	6.87104993	-
DE-06a	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	-
DE-06b	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06c	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06d	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06e	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06f	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06g	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06h	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06i	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06j	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-06k	5.811	0.18375800	0.18375800	-	25.858	0.81771173		-	7.901	0.24985636	0.24985636	
DE-07	0.522	0.01651415	0.01651415	-	5.923	0.18729467		-	1.702	0.05381197	0.05381197	-
DE-08	0.580	0.01834906	0.01834906	-	6.581	0.20810519		-	1.891	0.05979108	0.05979108	-

Table 3-0
2030-2033 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Drying Plant Pseudo-point Sources											
DE-09	Diesel Starter Engine	244421.5	2042704.4		0.7620		1.000		0.001	177	450
B-01	Boiler No. 1	244108.3	2043000.6		10.3632		1.000		0.001	170	443
B-02	Boiler No. 2	244110.3	2043005.4		10.3632		1.000		0.001	170	443
C-04	Stockpile Feeder Belt Transfer	243896.6	2042880.4		13.7160		1.000		0.001	25	298
C-05	Stockpile Spreading Belt Transfer	243910.8	2042924.9		24.3840		1.000		0.001	25	298
C-06	Stockpile Transfer (Tunnel 1 Belts)	243932.7	2042957.9		3.0480		1.000		0.001	25	298
C-07	Stockpile Transfer (Tunnel 2 Belts)	243999.3	2042915.5		2.1336		1.000		0.001	25	298
C-08	Dryer #1 Feeder Belt Transfer	243939.8	2043013.2		9.4488		1.000		0.001	25	298
C-09	Dryer #2 Feeder Belt Transfer	243955.2	2043002.5		10.0584		1.000		0.001	25	298
C-10	Dryer #3 Feeder Belt Transfer	243974.7	2042999.8		8.2296		1.000		0.001	25	298
C-11	Dryer #4 Feeder Belt Transfer	244078.2	2042968		6.0960		1.000		0.001	25	298
C-14F	Dryer Belt to Dome Storage Fugitives	245062	2042609.4		2.1336		1.000		0.001	60	333
C-21	Bauxite Recovery - Dry Products Building Rejects Transfer	243856.7	2043084.1		3.0480		1.000		0.001	60	333
C-23	Bauxite Recovery - Dryer #4 Rejects and Stockpile	244107.9	2043032.5		9.1440		1.000		0.001	60	333
C-27	Bauxite Recovery - Transfer from Dome to Main Stockpile	244087.6	2042942.3		1.0000		1.000		0.001	25	298
C-28B	Raw Material Stockpile Transfer Fugitives-Screener 1	243969.9	2043093.9	10	3.0480		1.000		0.001	25	298
C-28D	Screener No. 1 Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-28E	Product Conveyor No. 1 Transfer Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-28G	Raw Material Stockpile Transfer Fugitives-Screener 2	243969.9	2043093.9	10	3.0480		1.000		0.001	25	298
C-28I	Screener No. 2 Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-28J	Product Conveyor No. 2 Transfer Fugitives	243969.9	2043093.9	6	1.8288		1.000		0.001	25	298
C-29B	Raw Material Stockpile Transfer Fugitives	244317	2042997	10	3.0480		1.000		0.001	25	298
C-29D	Primary Crusher Fugitives	244303	2043003	5	1.5240		1.000		0.001	25	298
C-29E	Crusher Conveyor Tranfer Fugitives	244291	2043007	7.5	2.2860		1.000		0.001	25	298
C-29F	Screening Fugitives	244282	2043009	10	3.0480		1.000		0.001	25	269
C-29G	Screener Conveyor Transfer Fugitives	244273	2043011	5	1.5240		1.000		0.001	25	298
C-29H	Product Conveyor Transfer Fugitives	244260	2043019	20	6.0960		1.000		0.001	25	298
C-29J	Product Truck Loading	244223	2043046	10	3.0480		1.000		0.001	25	298
C-29K	Dock Fugitive Emissions	245324	2042871	10	3.0480		1.000		0.001	25	298

Table 3-0
2030-2033 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM				Emission Rate PM-10			
						Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Ps													
DE-09						0.002	0.00006706	0.00117809	-	0.002	0.00006706	0.00117809	-
B-01						1.098	0.03471907	0.03471907	-	1.098	0.03471907	0.03471907	-
B-02						1.098	0.03471907	0.03471907	-	1.098	0.03471907	0.03471907	-
C-04						1.142	0.03611475	0.10182000	-	0.191	0.00604395	0.01704000	-
C-05						1.142	0.03611475	0.10182000	-	0.191	0.00604395	0.01704000	-
C-06						4.568	0.14445901	0.23348274	-	0.764	0.02417582	0.03907431	-
C-07						2.287	0.07232889	0.07232889	-	0.383	0.01210454	0.01210454	-
C-08						0.461	0.01459267	0.01459267	-	0.077	0.00244214	0.00244214	-
C-09						0.923	0.02918534	0.02918534	-	0.154	0.00488429	0.00488429	-
C-10						0.461	0.01459267	0.01459267	-	0.077	0.00244214	0.00244214	-
C-11						0.762	0.02410963	0.02410963	-	0.128	0.00403485	0.00403485	-
C-14F						1.018	0.03219869	0.07353667	-	0.170	0.00538859	0.01230667	-
C-21						1.525	0.04822077	0.04822077	-	0.255	0.00806995	0.00806995	-
C-23						1.525	0.04822077	0.04822077	-	0.255	0.00806995	0.00806995	-
C-27						0.076	0.00241104	0.01697000	-	0.013	0.00040350	0.00284000	-
C-28B						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28D						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28E						1.360	0.04302037	0.10253188	-	0.232	0.00733979	0.01749317	-
C-28G						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28I						0.444	0.01405034	0.03348664	-	0.074	0.00235138	0.00560413	-
C-28J						1.360	0.04302037	0.10253188	-	0.232	0.00733979	0.01749317	-
C-29B						0.032	0.00101194	0.00133333	-	0.032	0.00101194	0.00133333	-
C-29D						1.200	0.03794778	0.05000000	-	0.540	0.01707650	0.02250000	-
C-29E						0.140	0.00442724	0.00583333	-	0.046	0.00145467	0.00191667	-
C-29F						2.200	0.06957094	0.09166667	-	0.740	0.02340113	0.03083333	-
C-29G						0.140	0.00442724	0.00583333	-	0.046	0.00145467	0.00191667	-
C-29H						0.140	0.00442724	0.00583333	-	0.046	0.00145467	0.00191667	-
C-29J						0.100	0.00316232	0.00416667	-	0.100	0.00316232	0.00416667	-
C-29K						0.560	0.01770897	0.02333333	-	0.184	0.00581866	0.00766667	-

Table 3-0
2030-2033 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Ps												
DE-09	0.002	0.00006249	0.00109777	-	0.022	0.00070869		-	0.007	0.00020727	0.00364138	-
B-01	23.621	0.74698610	0.74698610	-	4.990	0.15781396		-	1.663	0.05260465	0.05260465	-
B-02	23.621	0.74698610	0.74698610	-	4.990	0.15781396		-	1.663	0.05260465	0.05260465	-
C-04												
C-05												
C-06												
C-07												
C-08												
C-09												
C-10												
C-11												
C-14F												
C-21												
C-23												
C-27												
C-28B												
C-28D												
C-28E												
C-28G												
C-28I												
C-28J												
C-29B												
C-29D												
C-29E												
C-29F												
C-29G												
C-29H												
C-29J												
C-29K												

Table 3-0
2030-2033 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Mine Pseudo-point Sources											
C-01a	Mine Clearing A	238448.7	2034331.1		1.0000		1.000		0.001	25	298
C-01b	Mine Clearing B	237733.4	2032659.2		1.0000		1.000		0.001	25	298
C-01c	Mine Clearing C	239460.4	2031383.5		1.0000		1.000		0.001	25	298
C-01d	Mine Clearing D	235629.9	2030310.1		1.0000		1.000		0.001	25	298
C-01e	Mine Clearing E	235101.4	2029029		1.0000		1.000		0.001	25	298
C-01f	Mine Clearing F	235822.7	2027235.1		1.0000		1.000		0.001	25	298
C-01g	Mine Clearing G	240671.4	2030267.7		1.0000		1.000		0.001	25	298
C-01h	Mine Clearing H	239880.1	2028885.7		1.0000		1.000		0.001	25	298
C-01i	Mine Clearing I	239064.9	20275341		1.0000		1.000		0.001	25	298
C-01j	Mine Clearing J	237461.6	2026659.1		1.0000		1.000		0.001	25	298
C-01k	Mine Clearing K	238556.3	2025298.7		1.0000		1.000		0.001	25	298
C-02a	Truck Loading A	238448.7	2034331.1	8	2.4384		1.000		0.001	25	298
C-02b	Truck Loading B	237733.4	2032659.2	8	2.4384		1.000		0.001	25	298
C-02c	Truck Loading C	239460.4	2031383.5	8	2.4384		1.000		0.001	25	298
C-02d	Truck Loading D	235629.9	2030310.1	8	2.4384		1.000		0.001	25	298
C-02e	Truck Loading E	235101.4	2029029	8	2.4384		1.000		0.001	25	298
C-02f	Truck Loading F	235822.7	2027235.1	8	2.4384		1.000		0.001	25	298
C-02g	Truck Loading G	240671.4	2030267.7	8	2.4384		1.000		0.001	25	298
C-02h	Truck Loading H	239880.1	2028885.7	8	2.4384		1.000		0.001	25	298
C-02i	Truck Loading I	239064.9	20275341	8	2.4384		1.000		0.001	25	298
C-02j	Truck Loading J	237461.6	2026659.1	8	2.4384		1.000		0.001	25	298
C-02k	Truck Loading K	238556.3	2025298.7	8	2.4384		1.000		0.001	25	298
C-03	Truck Unloading (Tobolski)	246828	2030857	4	1.2192		1.000		0.001	25	298
C-04	Truck Unloading (Water Valley)	248255.9	2026056.4	4	1.2192		1.000		0.001	25	298
C-07	Railcar Loading (Tobolski)	246700	2030833	12	3.6576		1.000		0.001	25	298
C-08	Railcar Loading (Water Valley)	248179.3	2026035.2	12	3.6576		1.000		0.001	25	298
C-09	Rejects Screening (Water Valley)	247682.2	2025991.1	8	2.4384		1.000		0.001	25	298
C-10	Recovered Bauxite Truck Loading (Water Valley)	247682.2	2025991.1	8	2.4384		1.000		0.001	25	298
C-11	Reject Rock Truck Loading (Water Valley)	247682.2	2025991.1	4	1.2192		1.000		0.001	25	298
C-12	Reject Rock Truck Unloading (Water Valley)	247688.6	2025728.6	4	1.2192		1.000		0.001	25	298
HR-1	Haul Road Fugitives	248257.3	2026108.3		1.0000		1.000		0.001	25	298
HR-2	Rejects Screening Haul Road Fugitives	248257.3	2026108.3		1.0000		1.000		0.001	25	298
Drying Plant Area Sources											
C-01	Railcar Unloading	244054.1	2042803.3		1.0000		0.000		0.000	25	298
C-02	Railcar Unloading Pan Feeder Transfer	244055.2	2042816.3		2.4384		0.000		0.000	25	298
C-03	Railcar Unloading Belt Ttansfer	244008.1	2042834.4		3.9624		0.000		0.000	25	298
C-12F	Dryer #1/2/3 Belt to Dryer Belt Fugitives	243943.7	2043042.3		1.8288		0.000		0.000	60	333
C-13F	Dryer #4 Belt to Dryer Belt Fugtives	244084.2	2042994		1.8288		0.000		0.000	60	333
C-19	Ship Loading	245335.4	2042922.3		7.9248		0.000		0.000	38	311
M-1	Steel Cutting	244187.8	2042792.5		1.0000		0.000		0.000	25	298
M-2	Welding Emissions	244187.8	2042792.5		1.0000		0.000		0.000	25	298
M-3	Fugitive Emissions from Painting Operations	244187.8	2042792.5		1.0000		0.000		0.000	25	298
M-4	Outdoor Blasting Emissions	244187.8	2042792.5		1.0000		0.000		0.000	25	298

Table 3-0
2030-2033 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s (-m^2)	PM g/s	PM g/s (-m^2)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s (-m^2)	PM-10 g/s	PM-10 g/s (-m^2)
Mine Pseudo-p													
C-01a						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01b						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01c						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01d						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01e						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01f						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01g						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01h						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01i						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01j						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-01k						0.842	0.02662352	0.03195699	-	0.365	0.01154061	0.01425150	-
C-02a						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02b						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02c						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02d						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02e						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02f						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02g						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02h						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02i						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02j						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-02k						0.104	0.00328316	0.03283159	-	0.017	0.00054945	0.00549450	-
C-03						1.142	0.03611475	0.05829982	-	0.191	0.00604395	0.05829982	-
C-04						1.142	0.03611475	0.36114752	-	0.191	0.00604395	0.06043954	-
C-07						1.142	0.03611475	0.36114752	-	0.191	0.00604395	0.06043954	-
C-08						1.142	0.03611475	0.36114752	-	0.191	0.00604395	0.06043954	-
C-09						0.053	0.00167433	0.00167433	-	0.009	0.00028021	0.00028021	-
C-10						0.032	0.00100460	0.00100460	-	0.005	0.00016812	0.00016812	-
C-11						0.021	0.00066973	0.00066973	-	0.004	0.00011208	0.00011208	-
C-12						0.021	0.00066973	0.00066973	-	0.004	0.00011208	0.00011208	-
HR-1						1041.639	32.93990316	32.93990316	-	205.021	6.48342062	6.48342062	-
HR-2						3.809	0.12046335	0.12046335	-	1.534	0.04849488	0.04849488	-
Drying Plant Ar													
C-01	13.41	10.97			21.04	1.142	0.00024550	0.102	0.00069215	0.191	0.00004109	0.017	0.00011583
C-02	2.06	1.37			21.04	1.142	0.01279667	0.102	0.03607824	0.191	0.00214158	0.017	0.00603784
C-03	3.53	1.68			21.04	1.142	0.00608977	0.102	0.01716916	0.191	0.00101915	0.017	0.00287333
C-12F	51.1	10.9			21.04	1.033	0.00005867	0.059	0.00010562	0.173	0.00000982	0.010	0.00001768
C-13F	20.58	12.61			20.58	1.018	0.00012408	0.080	0.00030952	0.170	0.00002076	0.013	0.00005180
C-19	99.42	17.41			-29.44	12.665	0.00023138	0.400	0.00023138	1.565	0.00002858	0.049	0.00002858
M-1	64.08	43.85			21.04	0.067	0.00000075	0.004	0.00000075	0.067	0.00000075	0.004	0.00000075
M-2	64.08	43.85			21.04	0.741	0.00000834	0.047	0.00000834	0.741	0.00000834	0.047	0.00000834
M-3	64.08	43.85			21.04	5.010	0.00005638	0.317	0.00005638	5.010	0.00005638	0.317	0.00005638
M-4	64.08	43.85			21.04	9.979	0.00011231	0.631	0.00011231	2.359	0.00002655	0.149	0.00002655

Table 3-0
2030-2033 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Mine Pseudo-p												
C-01a												
C-01b												
C-01c												
C-01d												
C-01e												
C-01f												
C-01g												
C-01h												
C-01i												
C-01j												
C-01k												
C-02a												
C-02b												
C-02c												
C-02d												
C-02e												
C-02f												
C-02g												
C-02h												
C-02i												
C-02j												
C-02k												
C-03												
C-04												
C-07												
C-08												
C-09												
C-10												
C-11												
C-12												
HR-1												
HR-2												
Drying Plant Ar												
C-01												
C-02												
C-03												
C-12F												
C-13F												
C-19												
M-1	0.0002	0.0000000025	0.00001	0.0000000049	0.026	0.00000029		0.00000000	0.015	0.00000016	0.001	0.00000033
M-2												
M-3												
M-4												

Table 3-0
2030-2033 Source Inventory

Point Source ID	Description	UTMX	UTMY	Elevation		Diameter of Stack		Discharge Velocity		Discharge Temperature	
				ft	m	ft	m	ft/s	m/s	C	K
Mine Area Sources											
C-05	Stockpile Emissions (Water Valley)	248219.8	2026031.7		6.0960				0.000	25	298
C-06	Stockpile Emissions (Tobolski)	246830	2030803		6.0960				0.000	25	298
M-1	Steel Cutting	247346.1	2025567.9		1.0000				0.000	25	298
M-2	Welding Emissions	247346.1	2025567.9		1.0000				0.000	25	298
M-3	Fugitive Emissions from Painting Operations	247346.1	2025567.9		1.0000				0.000	25	298
M-4	Outdoor Abrasive Blasting Emissions	247346.1	2025567.9		1.0000				0.000	25	298

Point Source ID	Description	UTMX	UTMY	Release Height		Diameter of Stack		Avg Discharge Velocity		Max Discharge Velocity	
				ft	m	ft	m	ft/s	m/s	ft/s	m/s
Drying Plant Volume Sources											
C-05F	Stockpile Fugitives	243928	2042948		4.5720						
C-15F	Dome Fugitives	245090.2	2042745.6		1.3716						
C-16F	Dock Belt Fugitives	245101.9	2042768.7		1.8288						
C-17F	Dedust Addition Fugitives	245116.3	2042781.9		1.2192						
C-18F	Gantry Fugitives	245275.3	2042926.4		15.2400						
C-22	Bauxite Recovery - Dry Products Building Reject Pile Fugitives	243835.6	2043074.7		4.5720						
C-24	Bauxite Recovery - Dryer #4 Reject Pile Fugitives	244086.8	2043023.1		4.5720						
C-25	Bauxite Recovery - Dome to Dome Stockpile Transfer	245030.5	2042590		1.0000						
C-26	Dome Stockpile Fugitives	245030.5	2042590		6.0960						
C-28K	Product Storage Pile 1 Fugitives	243978.9	2043087.7	12.5	3.8100						
C-28L	Product Storage Pile 2 Fugitives	243978.9	2043087.7	12.5	3.8100						
C-29I	Product Storage Pile Fugitives	244242	2043000	12.5	3.8100						
C-29L	Product Storage Pile Fugitives (Dock)	245322	2042848	12.5	3.8100						

Table 3-0
2030-2033 Source Inventory

Point Source ID	Width m	Length m	Area m^2	S_{zinit}	Angle degrees	Emission Rate PM Permitted mtpy	PM g/s ($-m^2$)	PM g/s	PM g/s ($-m^2$)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s ($-m^2$)	PM-10 g/s	PM-10 g/s ($-m^2$)
Mine Area Sour													
C-05	65.05	63.71			9.7	0.170	0.00000130	0.271	0.00006547	0.085	0.00000065	0.136	0.00003274
C-06	85.2	84.83			16.98	0.167	0.00000073	0.318	0.00004394	0.084	0.00000037	0.159	0.00002197
M-1	48.61	15.65			26.2	0.003	0.00000012	0.000	0.00000024	0.003	0.00000012	0.0002	0.00000024
M-2	48.61	15.65			26.2	0.177	0.00000737	0.011	0.00001474	0.177	0.00000737	0.011	0.00001474
M-3	48.61	15.65			26.2	0.188	0.00000781	0.012	0.00001562	0.188	0.00000781	0.012	0.00001562
M-4	48.61	15.65			26.2	2.495	0.00010370	0.158	0.00020741	0.590	0.00002451	0.037	0.00004902

2.200

Point Source ID	Discharge Temperature F	Discharge Temperature K	Syo m	Szo m		Emission Rate PM Permitted mtpy	PM g/s ($-m^2$)	PM g/s	PM g/s ($-m^2$)	Emission Rate PM-10 Permitted mtpy	PM-10 g/s ($-m^2$)	PM-10 g/s	PM-10 g/s ($-m^2$)
Drying Plant Vo													
C-05F			72.75	4.25		1.684	0.05326273	1.04018271		0.842	0.02663137	0.52009135	
C-15F			1.87	0.64		1.018	0.03219869	0.07353667		0.170	0.00538859	0.01230667	
C-16F			2.54	0.85		1.018	0.03219869	0.07353667		0.170	0.00538859	0.01230667	
C-17F			1.50	0.57		2.533	0.08009828	0.18293167		0.313	0.00989488	0.02259833	
C-18F			1.17	7.09		2.533	0.08009828	0.18293167		0.313	0.00989488	0.02259833	
C-22			7.61	2.13		0.046	0.00145159	0.02967396		0.023	0.00072580	0.01483698	
C-24			7.61	2.13		0.051	0.00161199	0.03273328		0.025	0.00080600	0.01636664	
C-25			14.18	0.47		0.015	0.00048221	0.00678800		0.003	0.00008070	0.00113600	
C-26			14.18	2.84		0.089	0.00279944	0.05467106		0.044	0.00139972	0.02733553	
C-28K			5.15	1.77		0.147	0.00465365	0.01942323		0.074	0.00232682	0.00971162	
C-28L			5.15	1.77		0.147	0.00465365	0.01942323		0.074	0.00232682	0.00971162	
C-29I			5.15	1.77		0.294	0.00930730	0.06562065		0.147	0.00465365	0.03281033	
C-29L			5.15	1.77		0.147	0.00465365	0.03281033		0.074	0.00232682	0.01640516	

Table 3-0
2030-2033 Source Inventory

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Mine Area Sour												
C-05												
C-06												
M-1	0.00001	0.0000000004	0.0000006	0.0000000008	0.001	0.00000006		0.00000000	0.001	0.00000003	0.00004	0.00000005
M-2												
M-3												
M-4												

Point Source ID	Emission Rate SO2				Emission Rate NO2				Emission Rate CO			
	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)	Permitted mtpy	g/s (-m^2)	g/s	g/s (-m^2)
Drying Plant Vo												
C-05F												
C-15F												
C-16F												
C-17F												
C-18F												
C-22												
C-24												
C-25												
C-26												
C-28K												
C-28L												
C-29I												
C-29L												

Table 3-1
2030-2033 NO2 Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2011	239800	2028900	-	73.24	0.00	73.24	No	No	Located in ore body mine site	11no2ann.inp
			244800	2031700	-	55.57		55.57	No	No		
			244700	2031600	-	54.95		54.95	No	No		
			244600	2031700	-	53.83		53.83	No	No		
			244700	2031800	-	51.81		51.81	No	No		
			244700	2031700	-	51.67		51.67	No	No		
			244600	2031600	-	50.83		50.83	No	No		
			244600	2031500	-	50.62		50.62	No	No		
			245600	2032000	-	49.87		49.87	No	No		
			244500	2031800	-	48.94		48.94	No	No		

Figure 3-1
NO_2
Annual Averaging Period
2011
2030-2033 Mining Sites

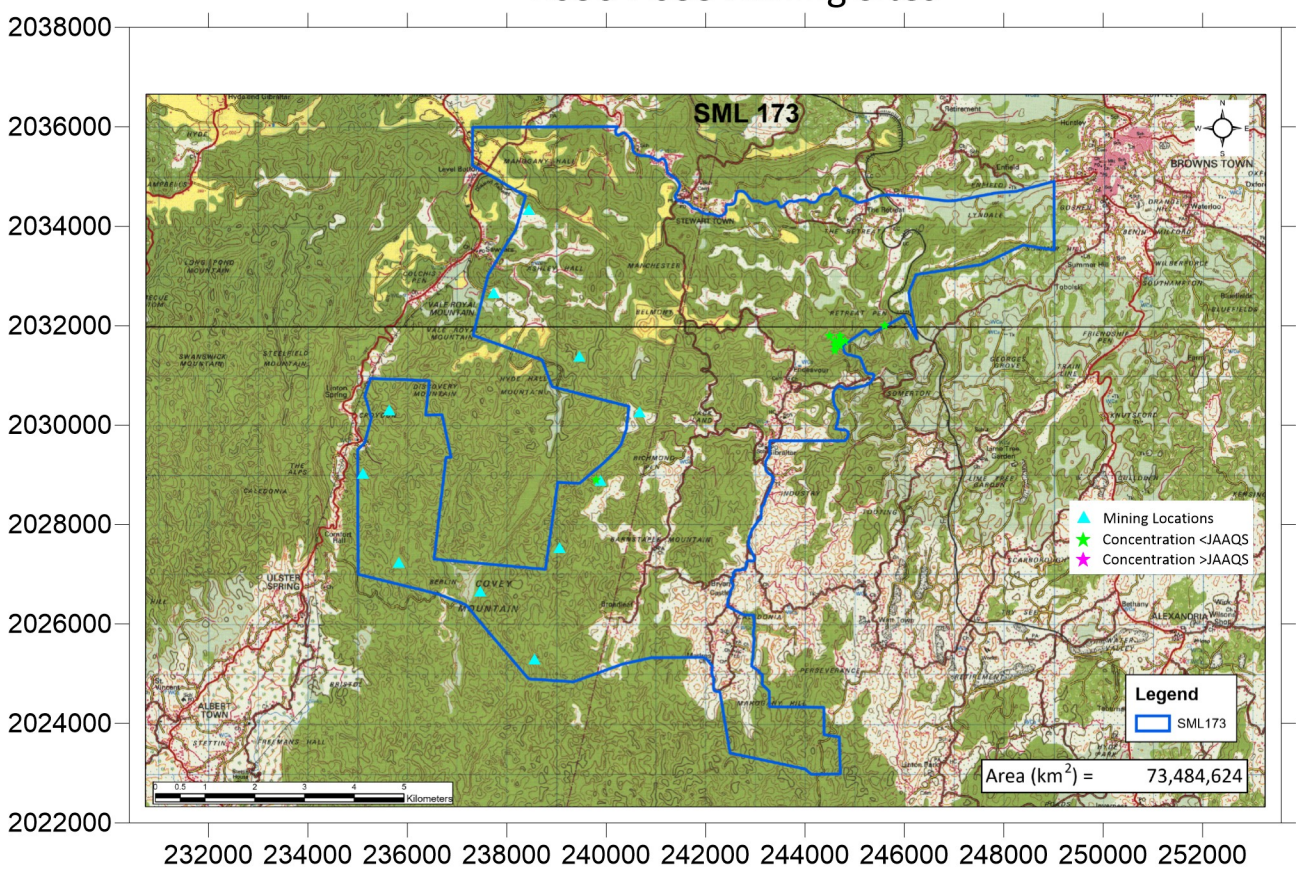


Table 3-2
2030-2033 Annual Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
NO2	100.00 (Annual)	2016	239800	2028900	-	69.16	0.00	69.16	No	No	Located in ore body mine site	16no2ann.inp
			245400	2031900	-	55.21		55.21	No	No		
			239000	2027600	-	53.94		53.94	No	No	Located in ore body mine site	
			244700	2031600	-	53.84		53.84	No	No		
			245600	2032000	-	53.16		53.16	No	No		
			244900	2032100	-	52.34		52.34	No	No		
			244800	2032100	-	52.30		52.30	No	No		
			244500	2031800	-	52.04		52.04	No	No		
			245500	2032000	-	49.26		49.26	No	No		
			244500	2032100	-	48.65		48.65	No	No		

Figure 3-2
NO_2
Annual Averaging Period
2016
2030-2033 Mining Sites

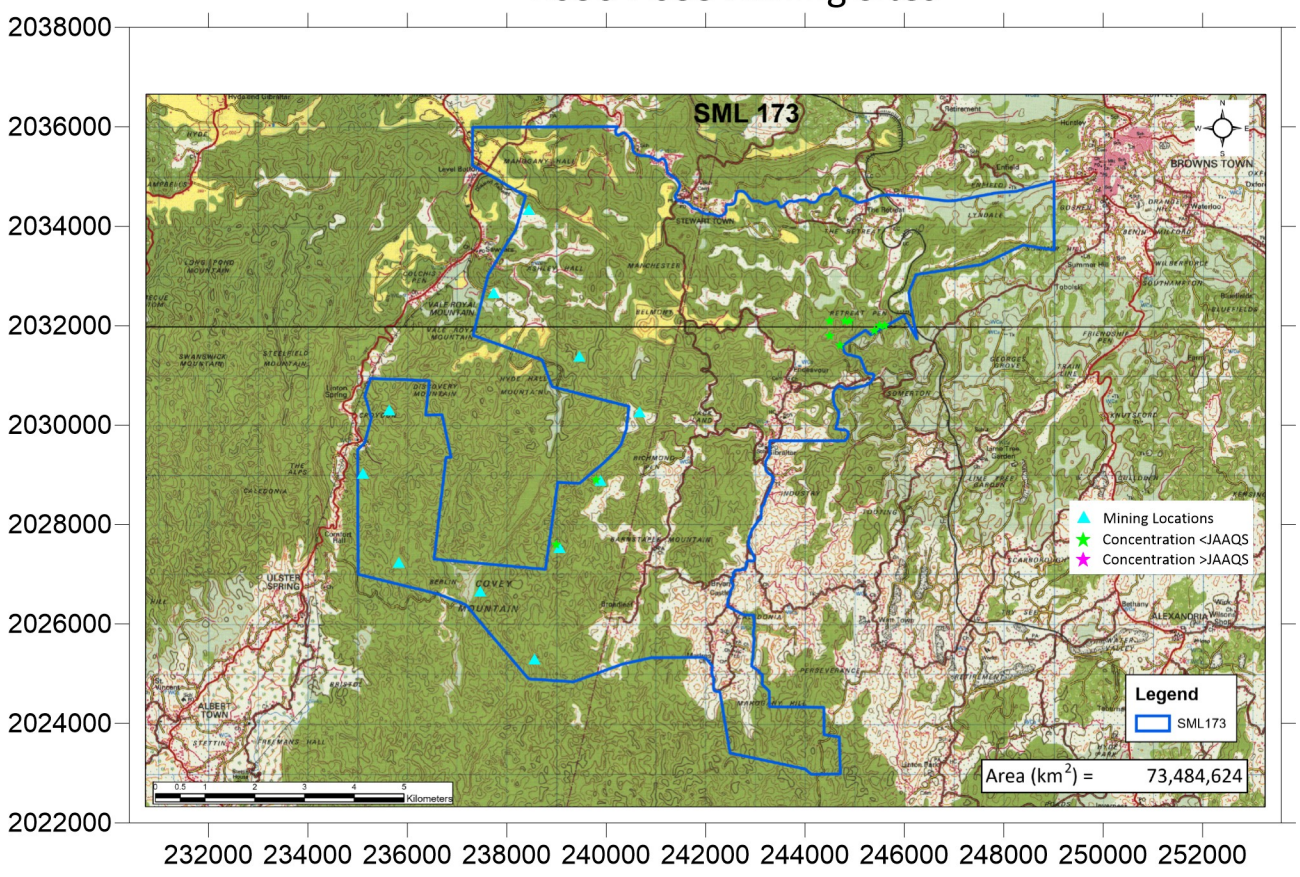


Table 3-3
2030-2033 NO2 Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
NO2	100.00 (Annual)	2017	239800	2028900	-	74.39	0.000	74.39	No	No	Located in ore body mine site	17no2ann.inp
			239000	2027600	-	55.58		55.58	No	No	Located in ore body mine site	
			244700	2031600	-	55.52		55.52	No	No		
			245400	2031900	-	53.82		53.82	No	No		
			244500	2031800	-	53.72		53.72	No	No		
			244800	2031700	-	52.49		52.49	No	No		
			244800	2032100	-	51.80		51.80	No	No		
			245600	2032000	-	51.60		51.60	No	No		
			244900	2032100	-	51.53		51.53	No	No		
			244600	2031500	-	51.31		51.31	No	No		

Figure 3-3
NO_2
Annual Averaging Period
2017
2030-2033 Mining Sites

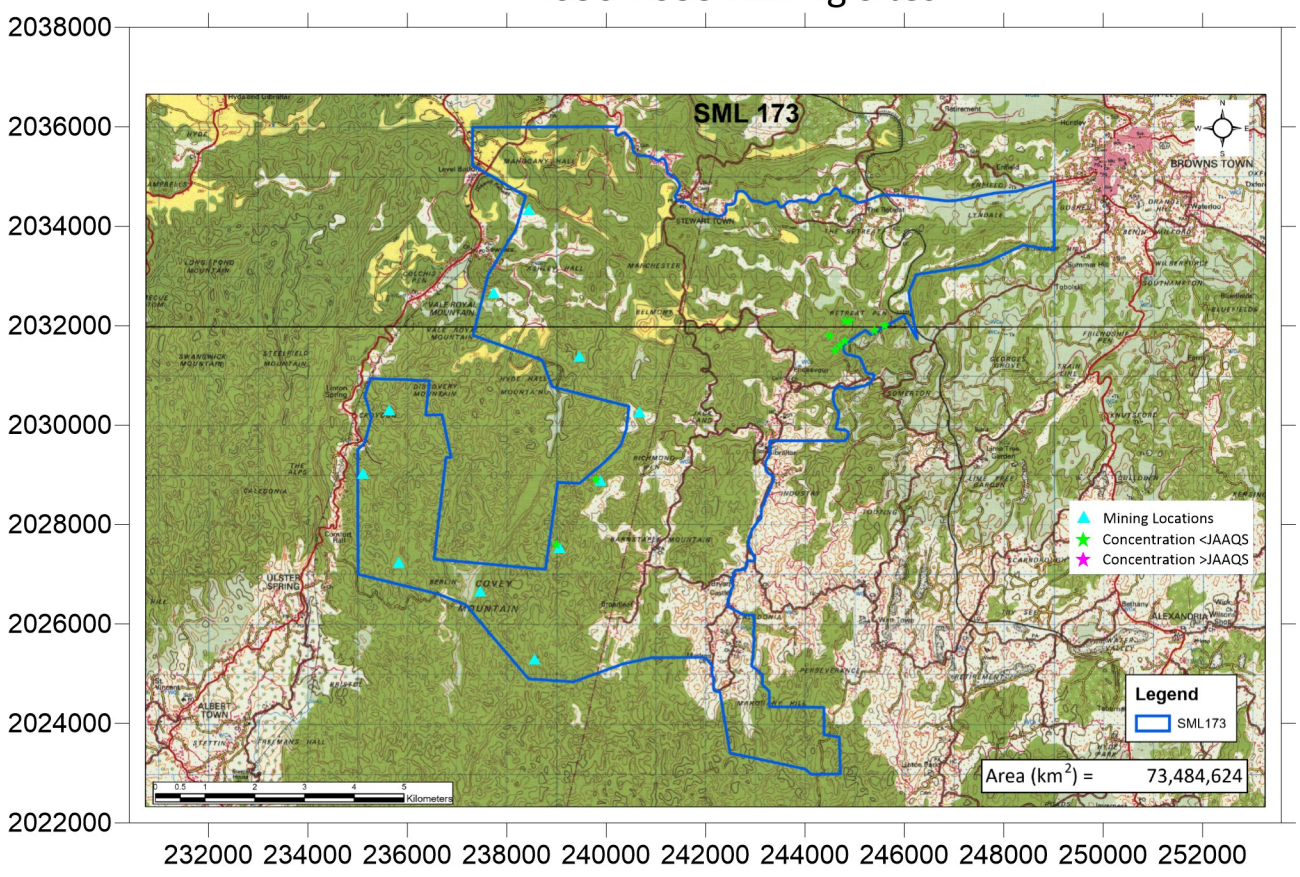


Table 3-4
2030-2033 NO2 Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2018	239800	2028900	-	70.00	0.00	70.00	No	No	Located in ore body mine site	18no2ann.inp
			239000	2027600	-	61.63		61.63	No	No	Located in ore body mine site	
			245600	2032000	-	59.29		59.29	No	No		
			245400	2031900	-	59.24		59.24	No	No		
			244800	2032100	-	58.64		58.64	No	No		
			244900	2032100	-	58.28		58.28	No	No		
			244700	2031600	-	57.07		57.07	No	No		
			244500	2031800	-	55.93		55.93	No	No		
			244700	2032100	-	54.24		54.24	No	No		
			244500	2032100	-	54.11		54.11	No	No		

Figure 3-4
NO_2
Annual Averaging Period
2018
2030-2033 Mining Sites

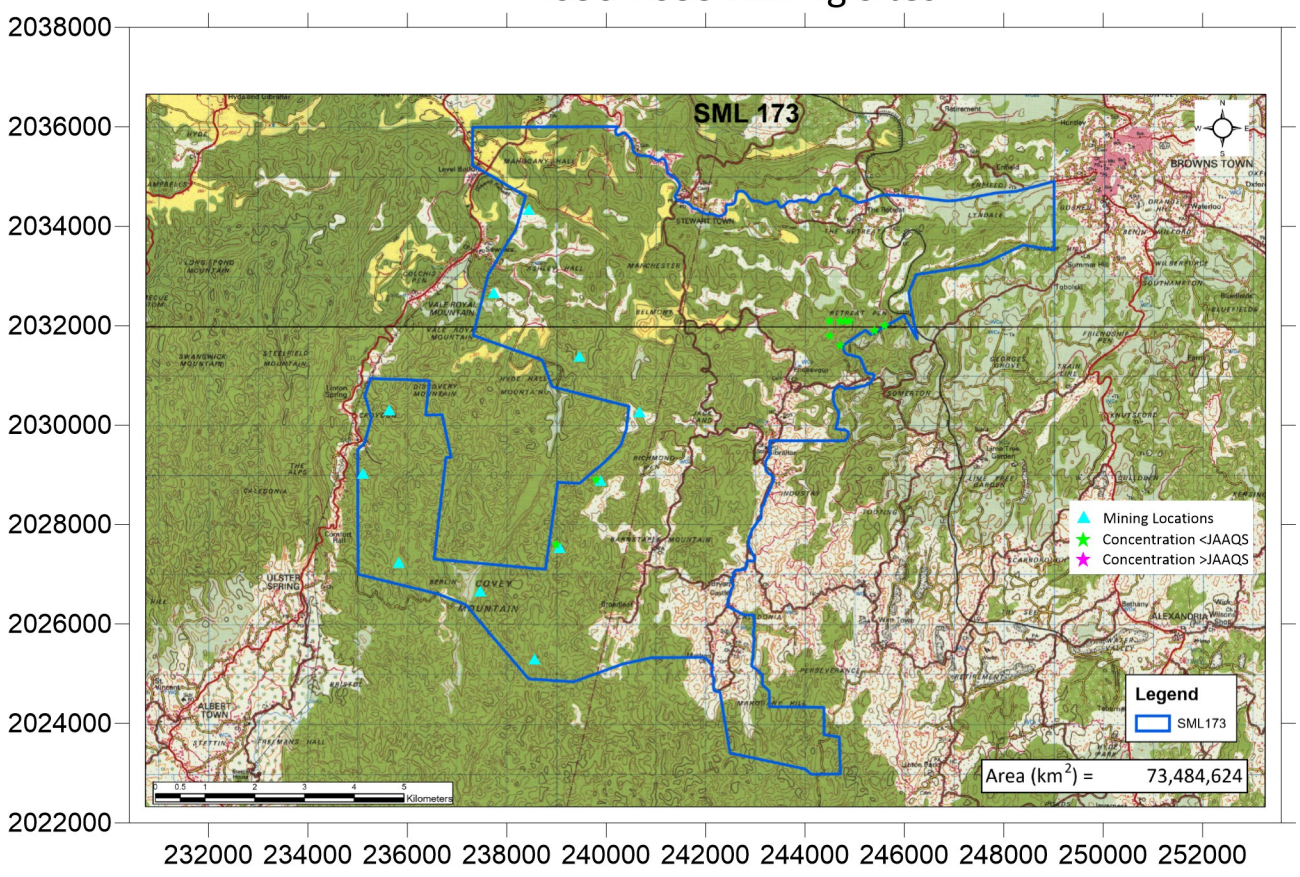


Table 3-5
2030-2033 NO2 Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
NO2	100.00 (Annual)	2019	239800	2028900	-	79.80	0.00	79.80	No	Yes	Located in ore body mine site	19no2ann.inp
			245600	2032000	-	75.38		75.38	No	Yes		
			239000	2027600	-	73.14		73.14	No	No	Located in ore body mine site	
			245400	2031900	-	72.18		72.18	No	No		
			244700	2031600	-	70.64		70.64	No	No		
			244800	2032100	-	70.43		70.43	No	No		
			244500	2031800	-	69.99		69.99	No	No		
			244900	2032100	-	69.64		69.64	No	No		
			245500	2032000	-	68.15		68.15	No	No		
			244500	2032100	-	65.74		65.74	No	No		

Figure 3-5
NO_2
Annual Averaging Period
2019
2030-2033 Mining Sites

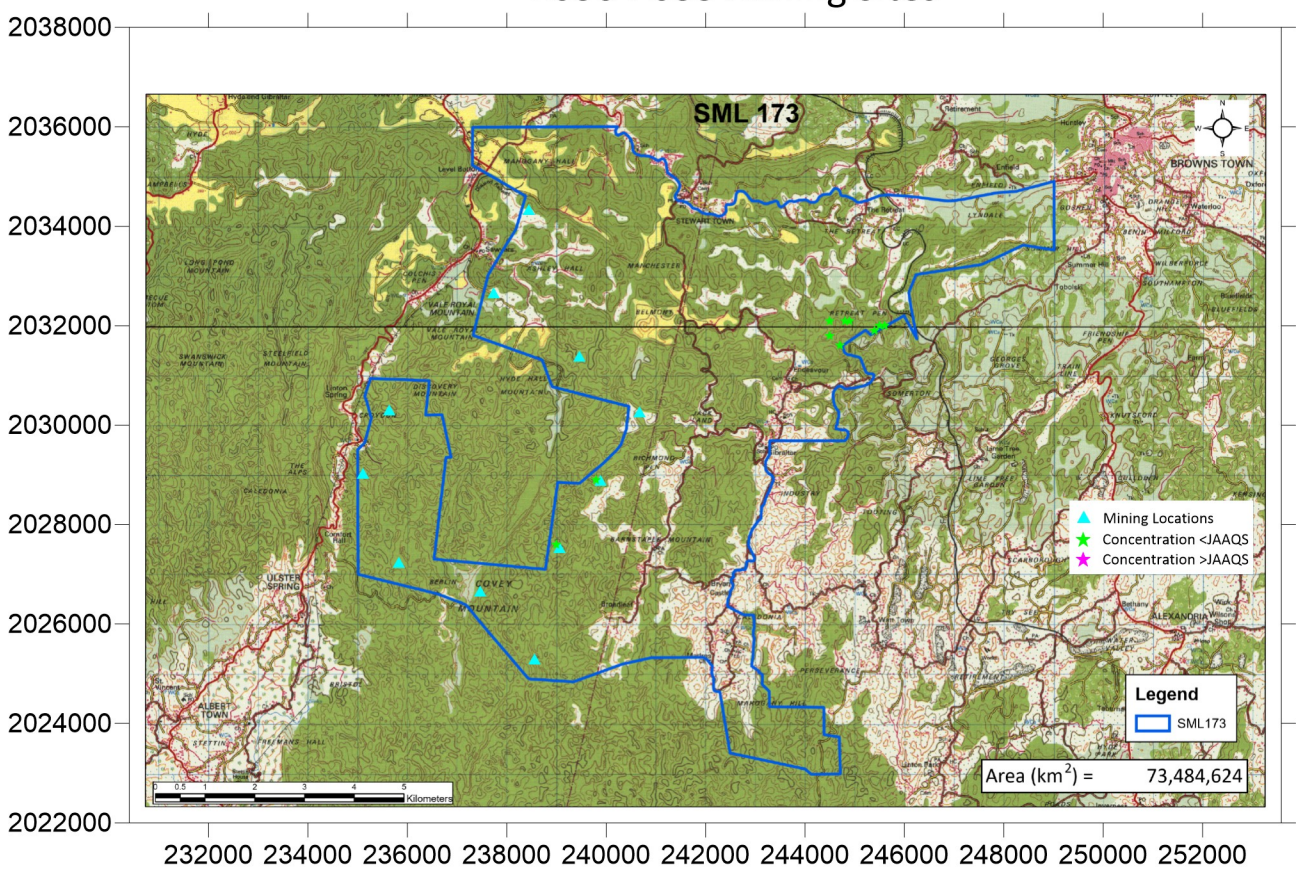


Table 3-6
2030-2033 CO 1-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	40,000.00 (1-hr)	2011	245600	2032000	11031103	803.30	0.00	803.30	No	No		11co1hr.inp
			245100	2032300	11031024	789.23		789.23	No	No		
			244800	2032100	11042022	723.12		723.12	No	No		
			246100	2033300	11020906	721.73		721.73	No	No		
			244500	2031500	11030123	717.52		717.52	No	No		
			246200	2033400	11051301	715.03		715.03	No	No		
			244400	2031500	11042004	686.52		686.52	No	No		
			246000	2033300	11110222	678.80		678.80	No	No		
			246000	2032300	11110823	678.12		678.12	No	No		
			244900	2032100	11042022	676.04		676.04	No	No		

Figure 3-6
CO
1-hr Averaging Period
2011
2030-2033 Mining Sites

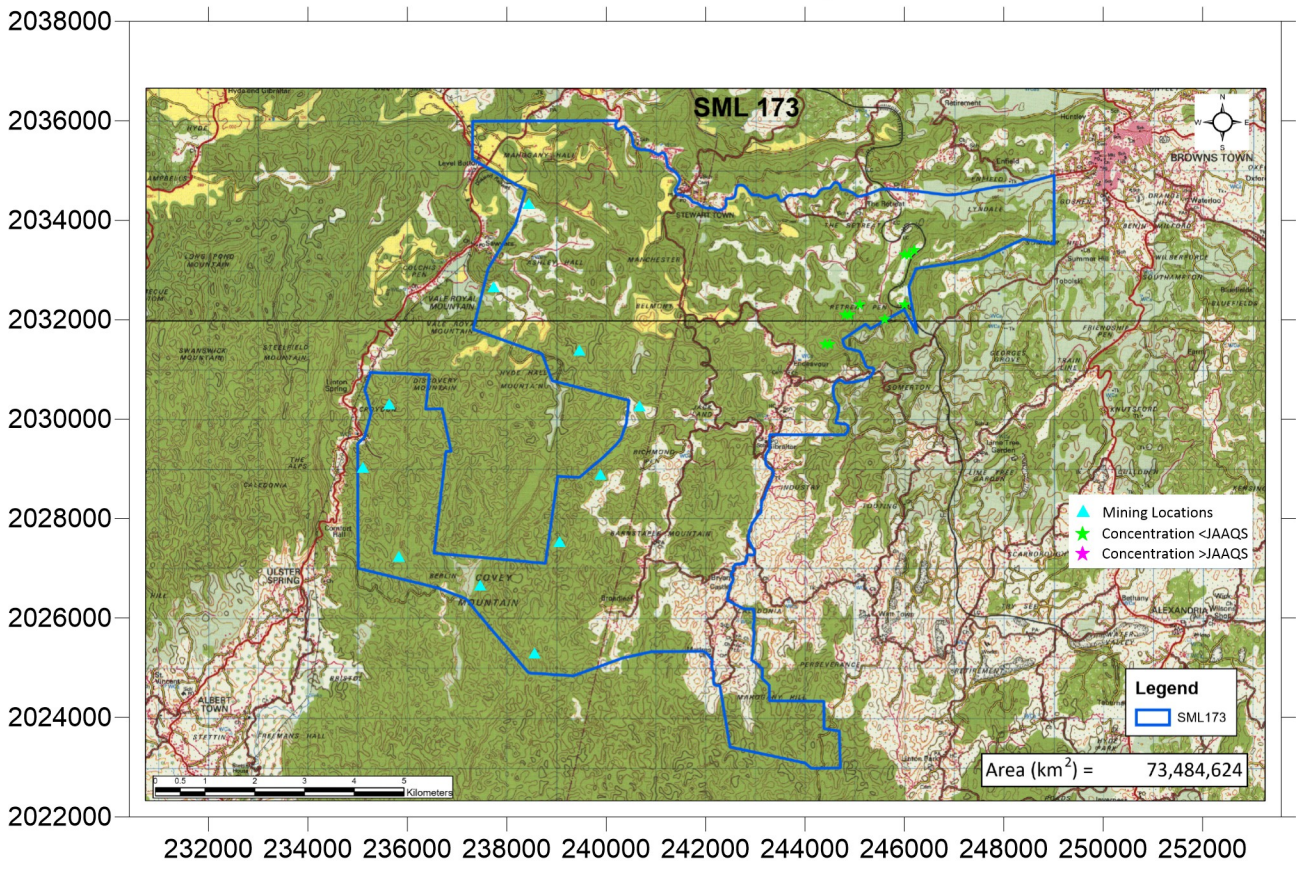


Table 3-7
2030-2033 CO 1-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	40,000.00 (1-hr)	2016	245600	2032000	16061523	838.55	0.00	838.55	No	No	Driven by sources at Tobolski	16co1hr.inp
			246000	2032300	16111601	777.71		777.71	No	No	Driven by sources at Tobolski	
			245100	2032300	16011206	765.53		765.53	No	No	Driven by sources at Tobolski	
			244800	2032100	16101802	729.68		729.68	No	No	Driven by sources at Tobolski	
			244500	2031500	16041324	726.61		726.61	No	No	Driven by sources at Tobolski	
			246100	2033300	16090323	722.05		722.05	No	No	Driven by sources at Tobolski	
			246000	2032400	16102104	721.89		721.89	No	No	Driven by sources at Tobolski	
			244500	2031800	16041704	713.79		713.79	No	No	Driven by sources at Tobolski	
			247100	2033400	16011320	708.49		708.49	No	No	Driven by sources at Tobolski	
			246700	2033400	16011321	700.56		700.56	No	No	Driven by sources at Tobolski	

Figure 3-7
CO
1-hr Averaging Period
2016
2030-2033 Mining Sites

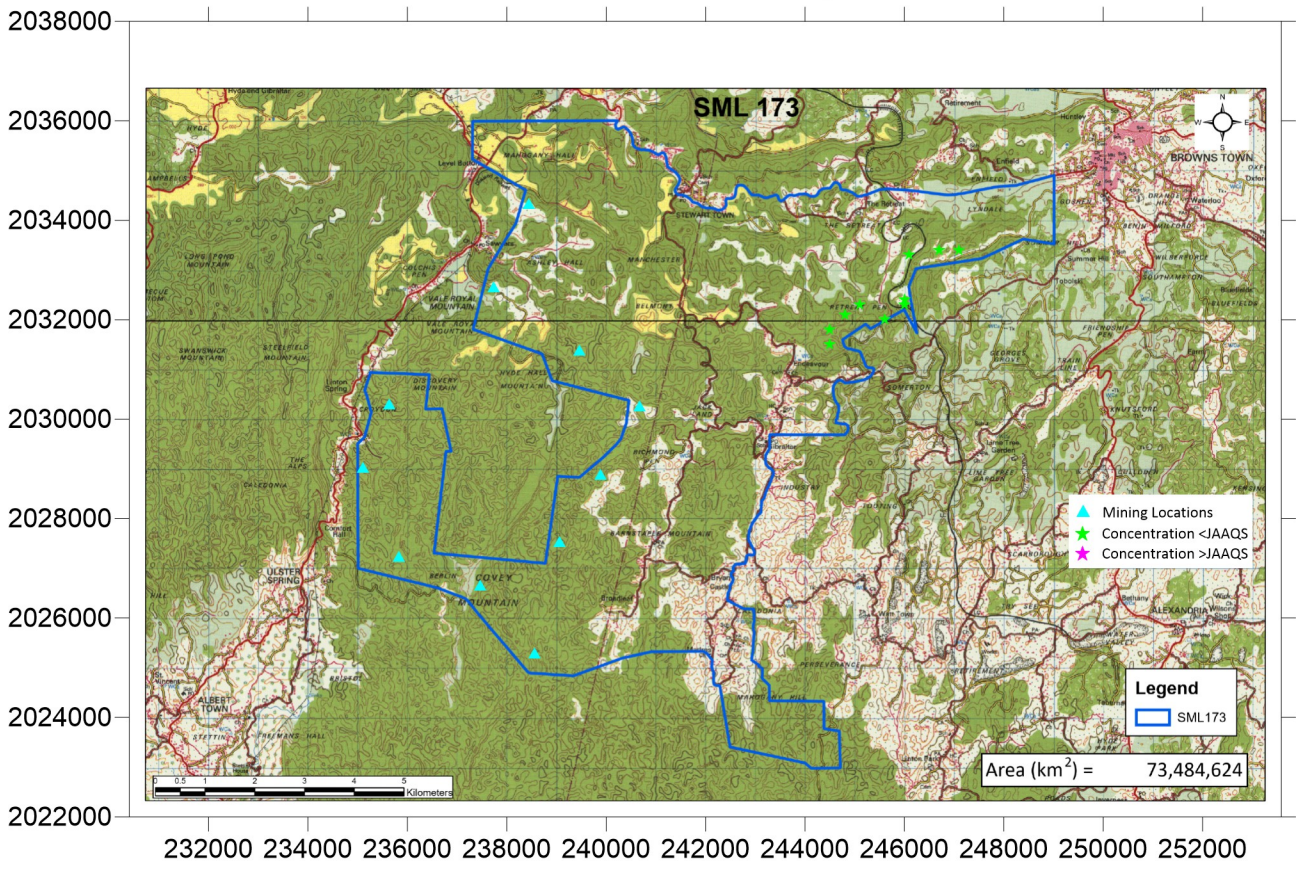


Table 3-8
2030-2033 CO 1-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
CO	40,000.00 (1-hr)	2017	245600	2032000	17122804	840.24	0.00	840.24	No	No		17co1hr.inp
			246000	2032300	17031222	824.68		824.68	No	No		
			245100	2032300	17090603	775.40		775.40	No	No		
			246000	2032200	17031222	754.53		754.53	No	No		
			244800	2032100	17020421	728.69		728.69	No	No		
			246200	2033400	17101406	714.92		714.92	No	No		
			244500	2031500	17021803	713.89		713.89	No	No		
			244500	2031800	17123101	710.89		710.89	No	No		
			246000	2032400	17031222	708.18		708.18	No	No		
			246000	2033300	17041324	706.41		706.41	No	No		

Figure 3-8
CO
1-hr Averaging Period
2017
2030-2033 Mining Sites

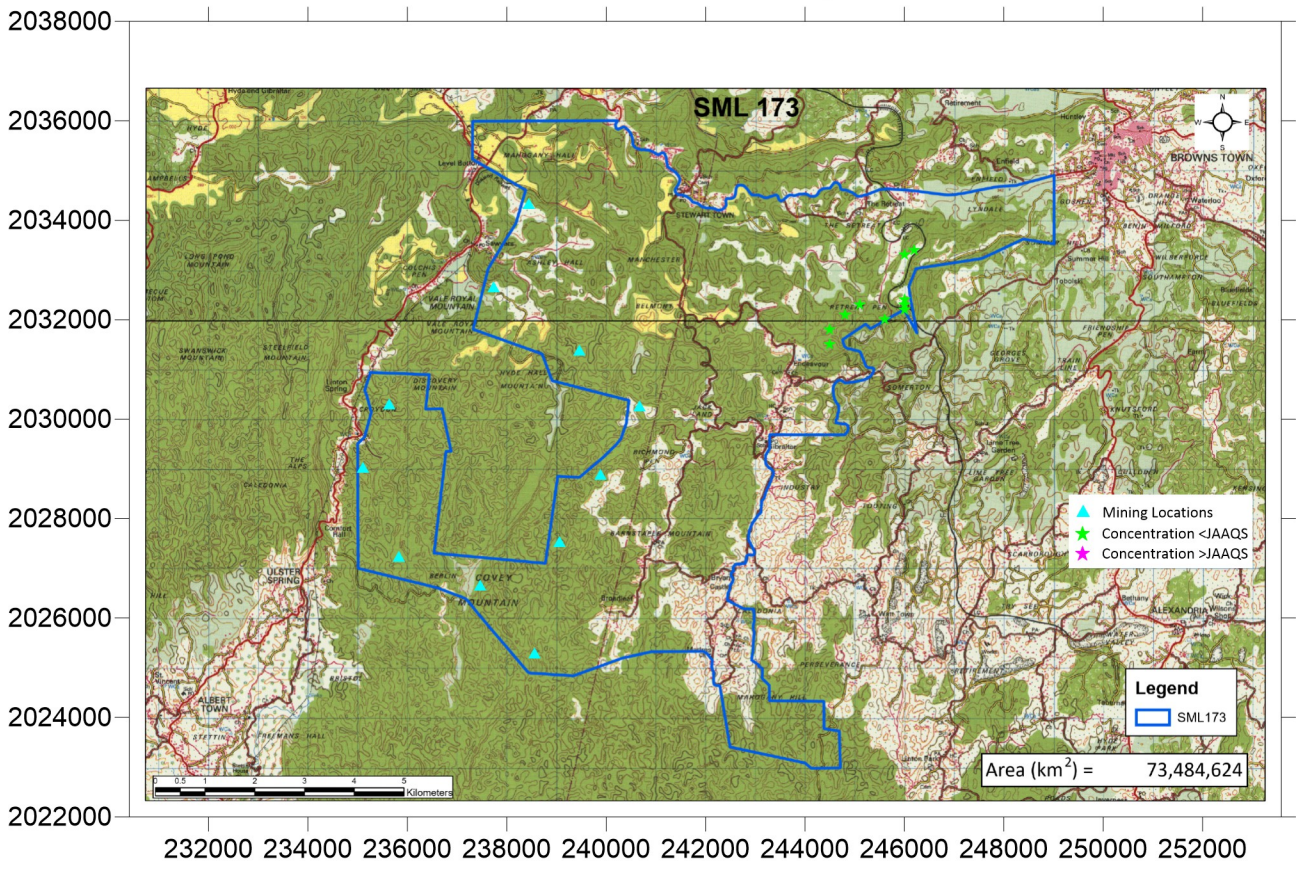


Table 3-9
2030-2033 CO 1-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	40,000.00 (1-hr)	2018	245600	2032000	18041022	872.84	0.00	872.84	No	No		18co1hr.inp
			245100	2032300	18061023	789.37		789.37	No	No		
			246000	2032300	18061324	766.04		766.04	No	No		
			244800	2032100	18051105	728.83		728.83	No	No		
			244500	2031500	18112504	727.53		727.53	No	No		
			246200	2033400	18120123	717.13		717.13	No	No		
			244700	2032100	18060204	706.69		706.69	No	No		
			244400	2031500	18120624	706.24		706.24	No	No		
			246100	2033300	18033023	701.98		701.98	No	No		
			244500	2031800	18110106	700.95		700.95	No	No		

Figure 3-9
CO
1-hr Averaging Period
2018
2030-2033 Mining Sites

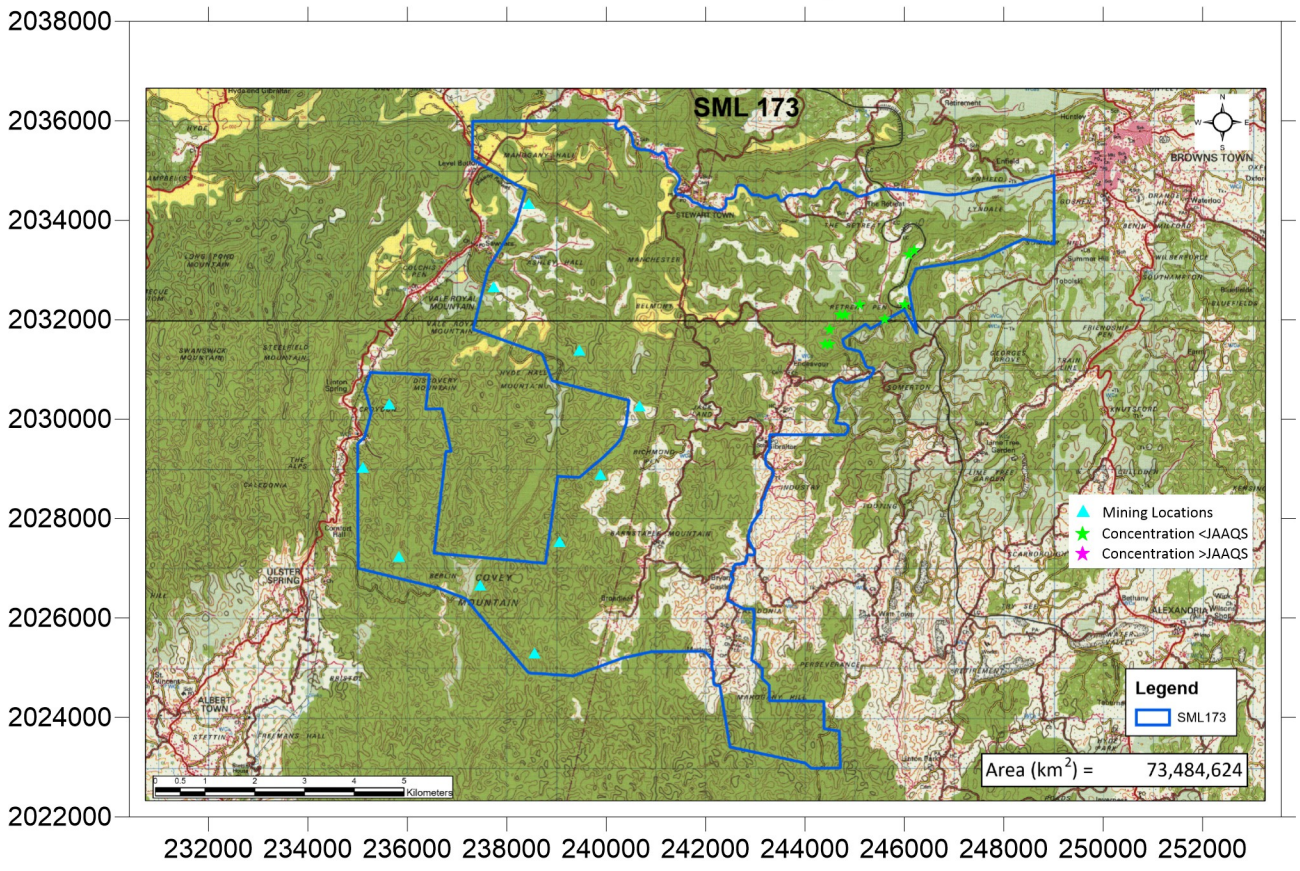


Table 3-10
2030-2033 CO 1-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	40,000.00 (1-hr)	2019	245600	2032000	19050123	847.94	0.00	847.94	No	No		19co1hr.inp
			246000	2032300	19120502	775.73		775.73	No	No		
			245100	2032300	19110922	773.36		773.36	No	No		
			246000	2032400	19120502	752.22		752.22	No	No		
			244500	2031500	19122720	732.95		732.95	No	No		
			244800	2032100	19111502	732.72		732.72	No	No		
			246100	2033300	19011520	721.92		721.92	No	No		
			244700	2032100	19111502	702.01		702.01	No	No		
			244900	2032100	19092224	699.64		699.64	No	No		
			244500	2031800	19071002	693.88		693.88	No	No		

Figure 3-10
CO
1-hr Averaging Period
2019
2030-2033 Mining Sites

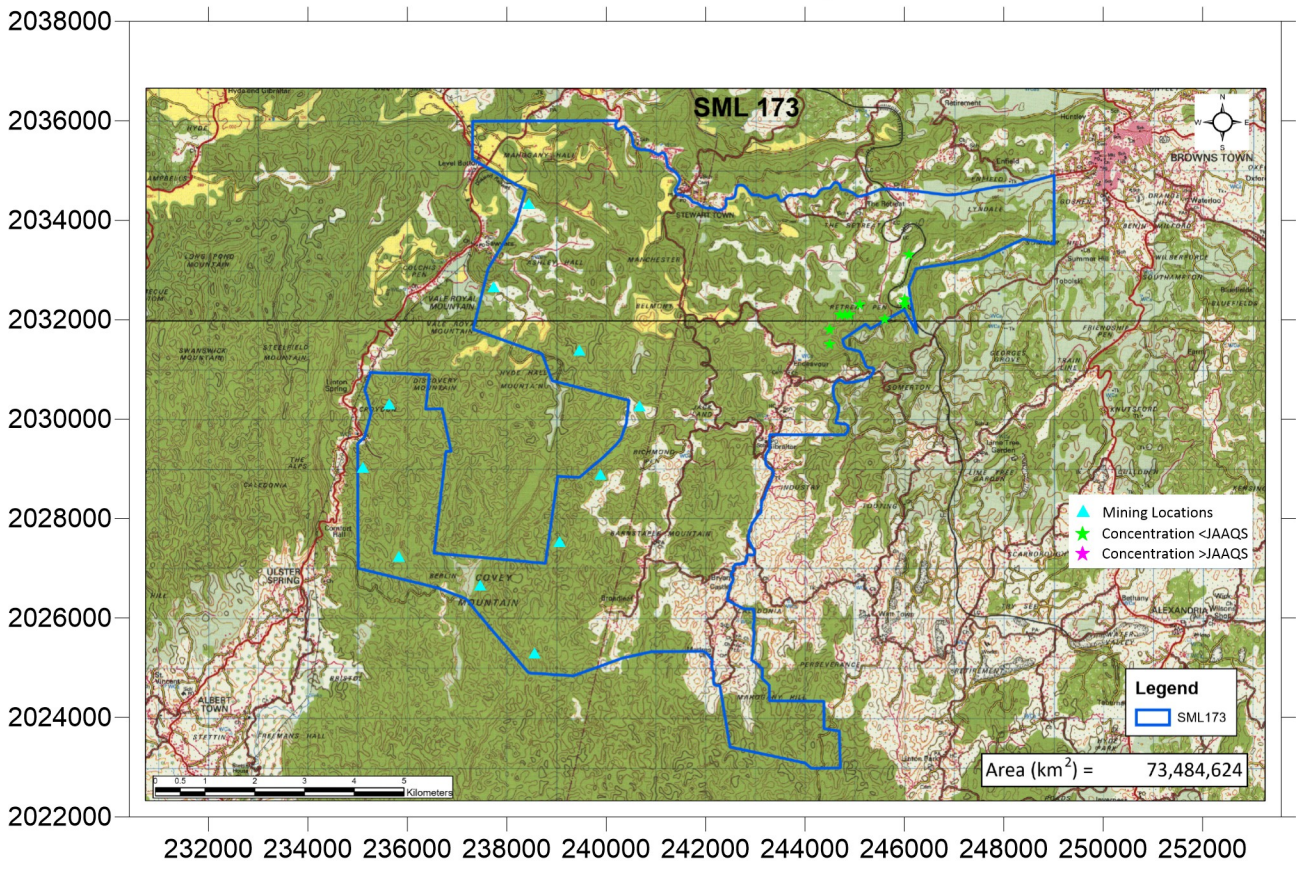


Table 3-11
2030-2033 CO 8-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2011	245100	2032300	11031024	277.01	0.00	277.01	No	No		11co8hr.inp
			245600	2032000	11111008	252.96		252.96	No	No		
			244800	2032100	11030608	196.89		196.89	No	No		
			244900	2032100	11030608	189.10		189.10	No	No		
			246000	2033100	11051024	187.80		187.80	No	No		
			245500	2032000	11111008	182.28		182.28	No	No		
			244500	2031500	11042008	182.27		182.27	No	No		
			246000	2033000	11051024	180.41		180.41	No	No		
			244400	2031500	11042008	178.74		178.74	No	No		
			244700	2032100	11030608	177.33		177.33	No	No		

Figure 3-11
CO
8-hr Averaging Period
2011
2030-2033 Mining Sites

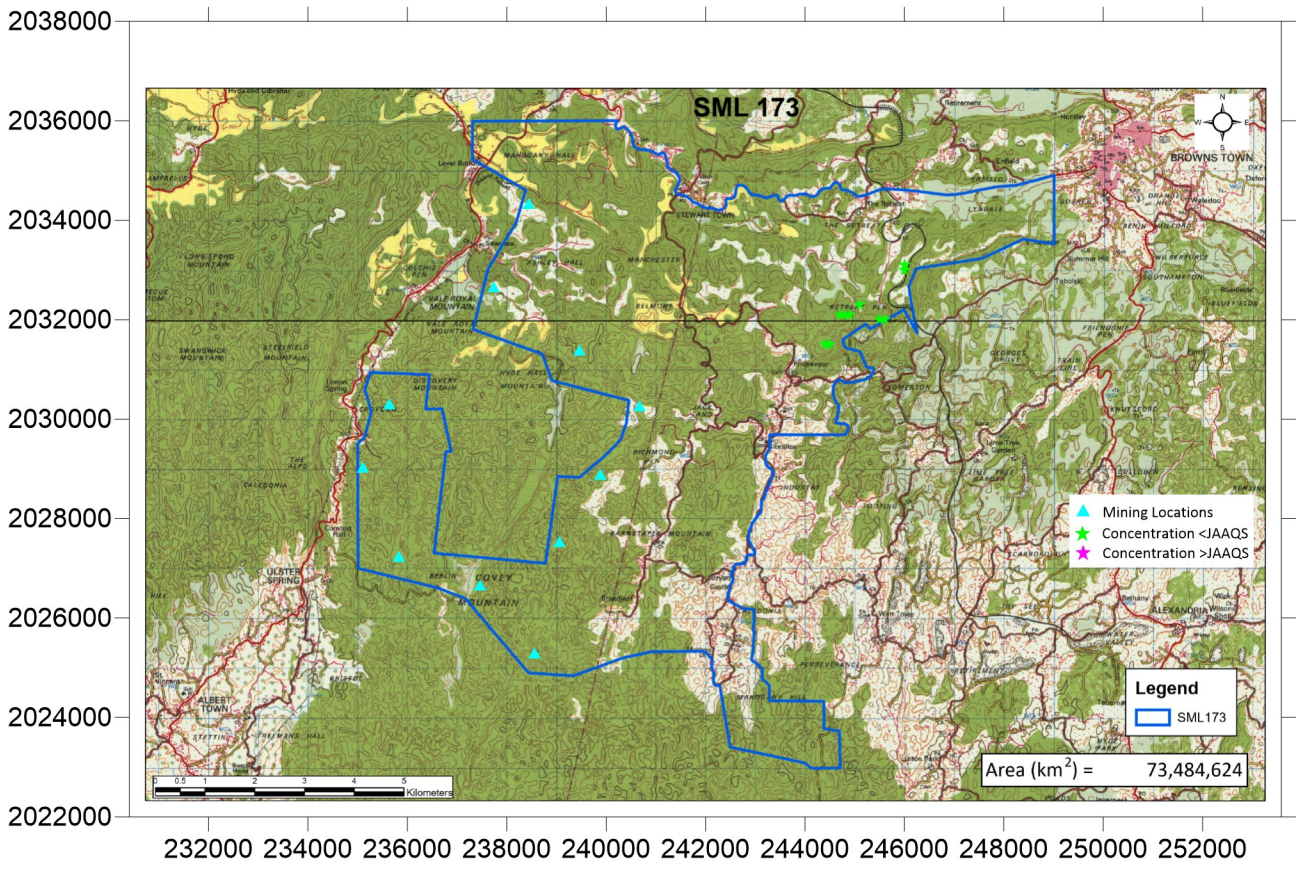


Table 3-12
2030-2033 CO 8-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2016	244900	2032100	16011208	292.89	0.00	292.89	No	No		16co8hr.inp
			244500	2031500	16111608	271.66		271.66	No	No		
			245100	2032300	16011208	271.41		271.41	No	No		
			244000	2031800	16111608	262.34		262.34	No	No		
			244700	2031600	16111608	257.90		257.90	No	No		
			244800	2032100	16011208	257.33		257.33	No	No		
			244600	2031500	16111608	252.66		252.66	No	No		
			244400	2031500	16111608	242.00		242.00	No	No		
			243700	2031800	16111608	233.16		233.16	No	No		
			244500	2031800	16111608	225.93		225.93	No	No		

Figure 3-12
CO
8-hr Averaging Period
2016
2030-2033 Mining Sites

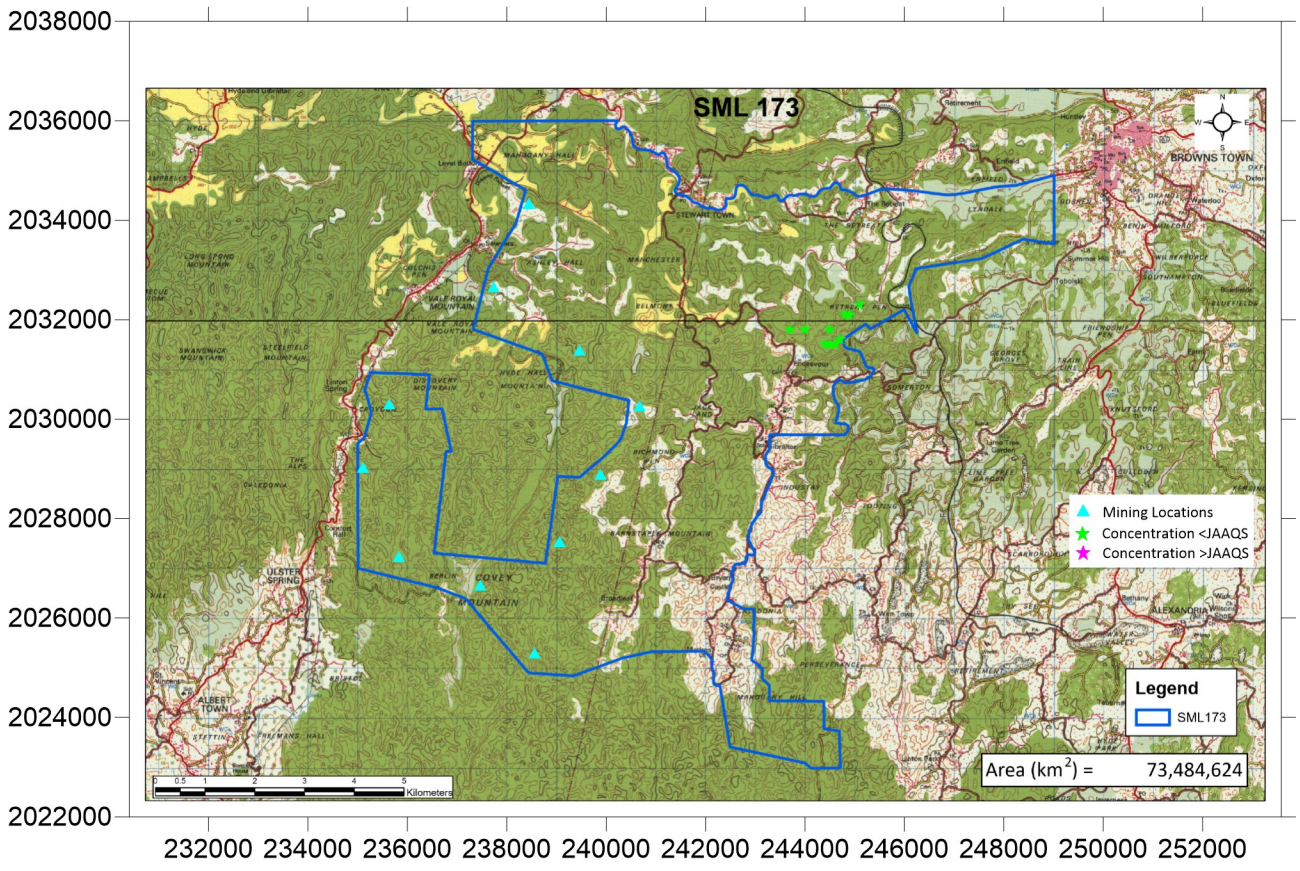


Table 3-13
2030-2033 CO 8-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2017	244500	2031500	17082908	274.90	0.00	274.90	No	No		17co8hr.inp
			244400	2031500	17082908	254.51		254.51	No	No		
			244600	2031500	17082908	250.68		250.68	No	No		
			244500	2031800	17022508	249.65		249.65	No	No		
			244300	2031400	17021308	243.16		243.16	No	No		
			244000	2031800	17082908	241.64		241.64	No	No		
			244700	2031600	17082908	239.65		239.65	No	No		
			244200	2031400	17021308	234.34		234.34	No	No		
			243800	2031300	17021308	232.10		232.10	No	No		
			243700	2031800	17082908	225.26		225.26	No	No		

Figure 3-13
CO
8-hr Averaging Period
2017
2030-2033 Mining Sites

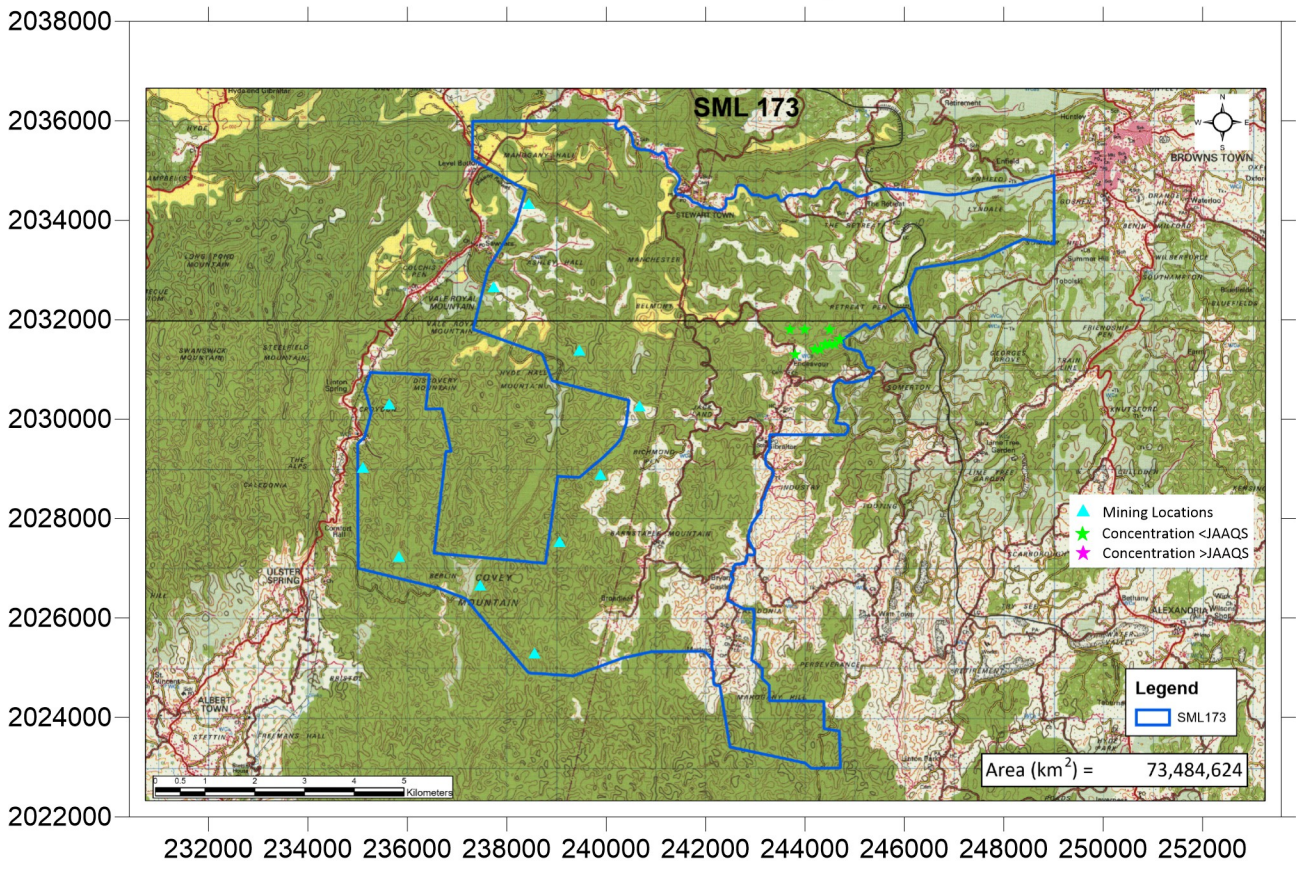


Table 3-14
2030-2033 CO 8-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2018	244400	2032000	18091208	316.65	0.00	316.65	No	No		18co8hr.inp
			244500	2031800	18091208	289.83		289.83	No	No		
			244500	2032100	18091208	253.16		253.16	No	No		
			245600	2032000	18060108	241.81		241.81	No	No		
			244900	2032100	18051108	234.32		234.32	No	No		
			244800	2032100	18042408	228.32		228.32	No	No		
			244700	2032100	18050208	218.62		218.62	No	No		
			244700	2031600	18061608	213.96		213.96	No	No		
			243800	2032200	18091208	203.57		203.57	No	No		
			244600	2032200	18042408	192.75		192.75	No	No		

Figure 3-14
CO
8-hr Averaging Period
2018
2030-2033 Mining Sites

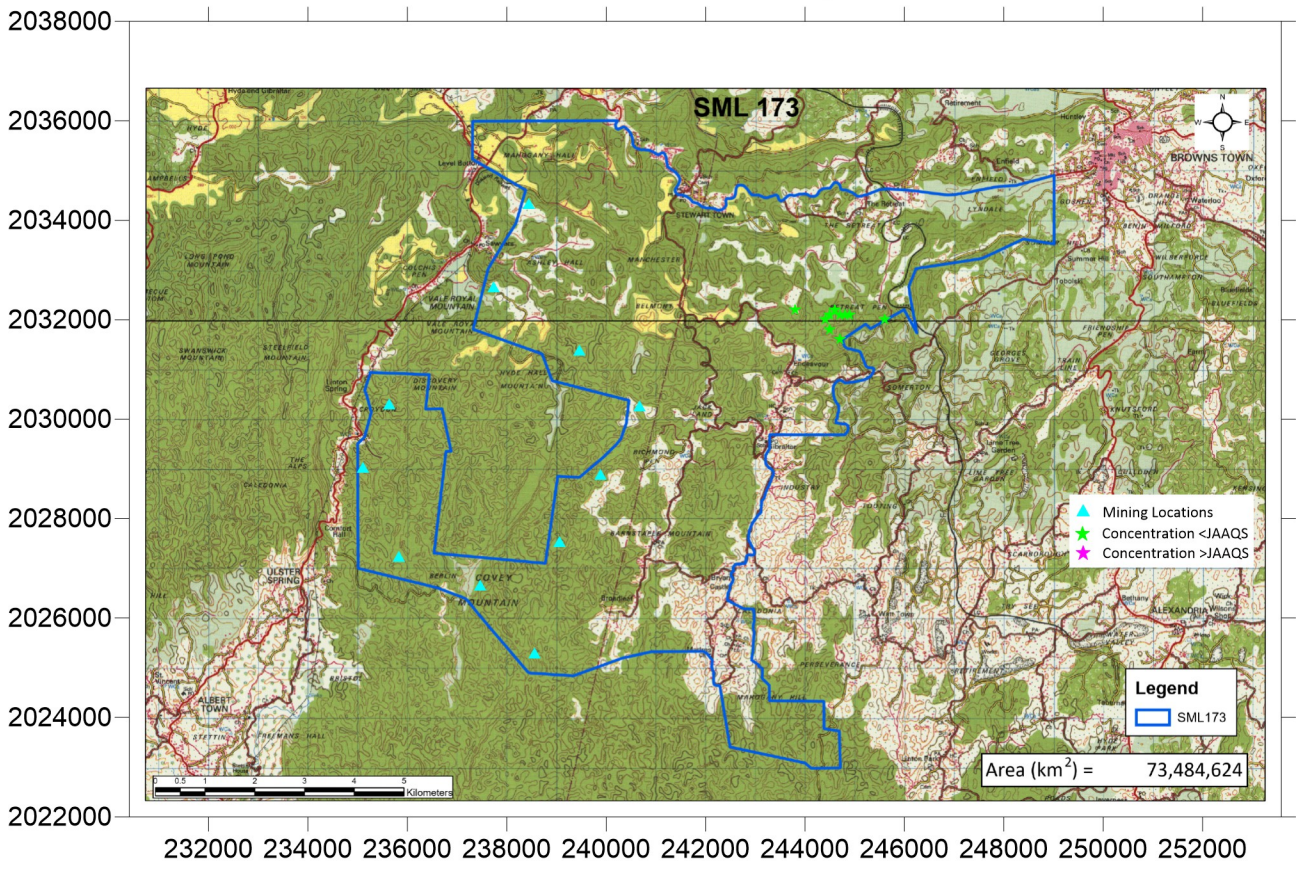


Table 3-15
2030-2033 CO 8-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
CO	10,000.00 (8-hr)	2019	244800	2032100	19042508	258.27	0.00	258.27	No	No		19co8hr.inp
			245600	2032000	19062924	255.40		255.40	No	No		
			244500	2032100	19111508	246.55		246.55	No	No		
			244700	2031600	19082124	243.42		243.42	No	No		
			244500	2031500	19082124	243.46		243.46	No	No		
			244900	2032100	19042508	243.16		243.16	No	No		
			244400	2032000	19111508	236.36		236.36	No	No		
			244600	2031500	19082124	232.10		232.10	No	No		
			244700	2032100	19030308	229.39		229.39	No	No		
			244000	2031800	19082124	228.27		228.27	No	No		

Figure 3-15
CO
8-hr Averaging Period
2019
2030-2033 Mining Sites

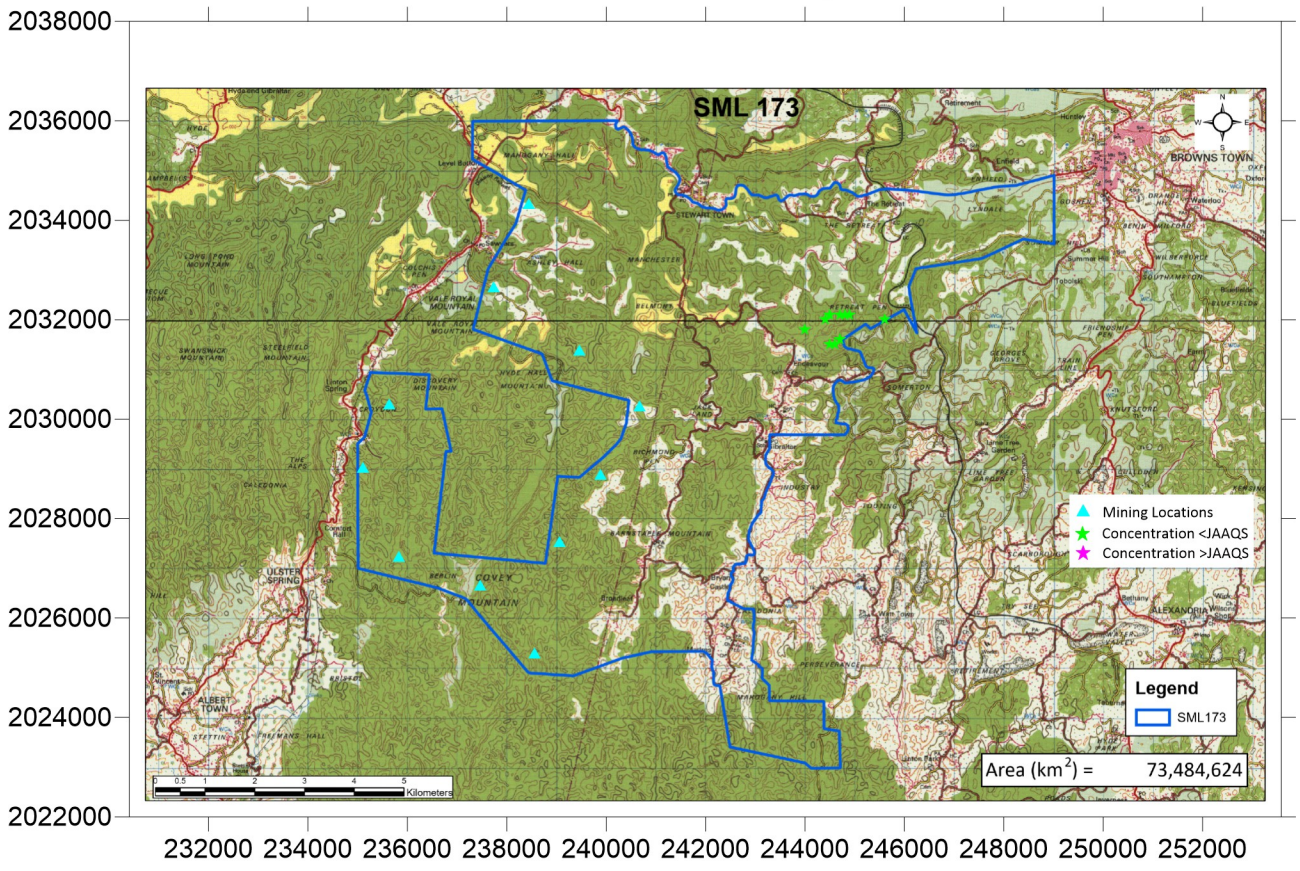


Table 3-16
2030-2033 SO2 Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2011	239800	2028900	-	16.44	0.00	16.44	No	No	Located in ore body mine site	11so2ann.inp
			244800	2031700	-	12.48		12.48	No	No		
			244700	2031600	-	12.34		12.34	No	No		
			244600	2031700	-	12.08		12.08	No	No		
			244700	2031800	-	11.64		11.64	No	No		
			244700	2031700	-	11.61		11.61	No	No		
			244600	2031600	-	11.42		11.42	No	No		
			244600	2031500	-	11.37		11.37	No	No		
			245600	2032000	-	11.20		11.20	No	No		
			244500	2031800	-	10.99		10.99	No	No		

Figure 3-16
SO_2
Annual Averaging Period
2011
2030-2033 Mining Sites

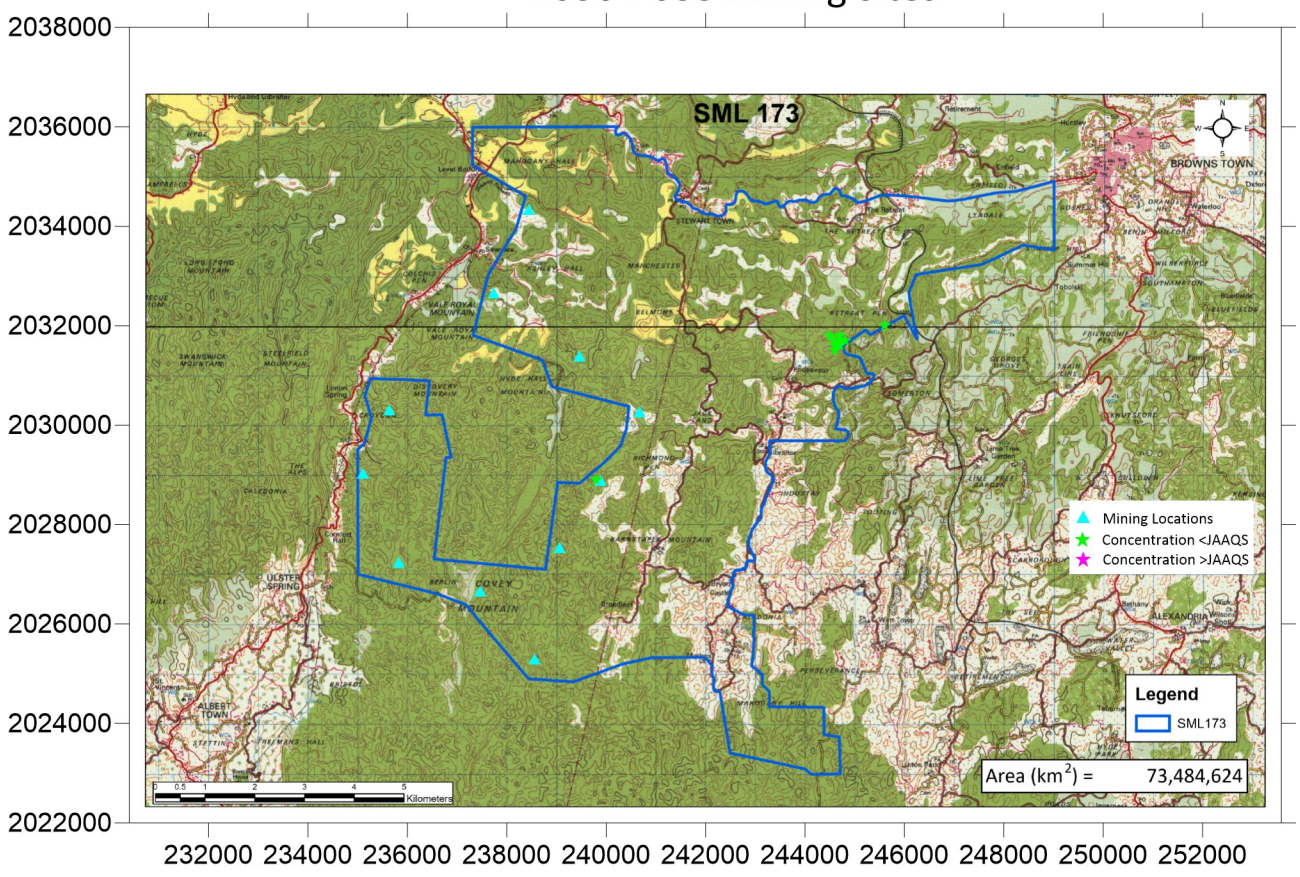


Table 3-17
2030-2033 SO2 Annual Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2016	239800	2028900	-	15.53	0.00	15.53	No	No	Located in ore body mine site	16so2ann.inp
			245400	2031900	-	12.40		12.40	No	No		
			239000	2027600	-	12.11		12.11	No	No	Located in ore body mine site	
			244700	2031600	-	12.09		12.09	No	No		
			245600	2032000	-	11.94		11.94	No	No		
			244900	2032100	-	11.76		11.76	No	No		
			244800	2032100	-	11.75		11.75	No	No		
			244500	2031800	-	11.69		11.69	No	No		
			245500	2032000	-	11.07		11.07	No	No		
			244500	2032100	-	10.93		10.93	No	No		

Figure 3-17
SO_2
Annual Averaging Period
2016
2030-2033 Mining Sites

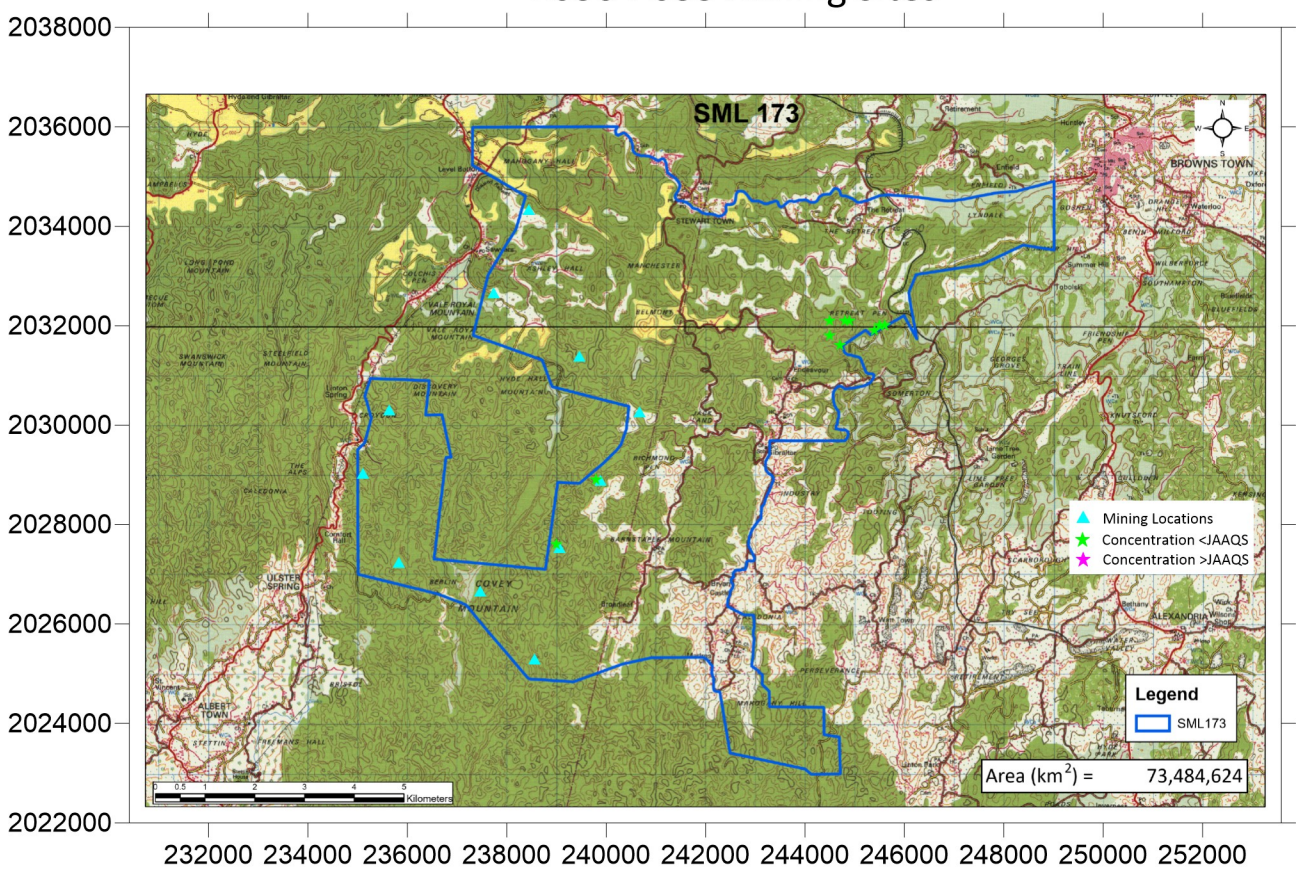


Table 3-18
2030-2033 SO2 Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80	2017	239800	2028900	-	16.70	0.00	16.70	No	No	Located in ore body mine site	17so2ann.inp
	(Annual)		239000	2027600	-	12.48		12.48	No	No	Located in ore body mine site	
	(Annual)		244700	2031600	-	12.47		12.47	No	No		
			245400	2031900	-	12.09		12.09	No	No		
			244500	2031800	-	12.07		12.07	No	No		
			244800	2031700	-	11.79		11.79	No	No		
			244800	2032100	-	11.64		11.64	No	No		
			245600	2032000	-	11.59		11.59	No	No		
			244900	2032100	-	11.57		11.57	No	No		
			244600	2031500	-	11.52		11.52	No	No		

Figure 3-18
SO_2
Annual Averaging Period
2017
2030-2033 Mining Sites

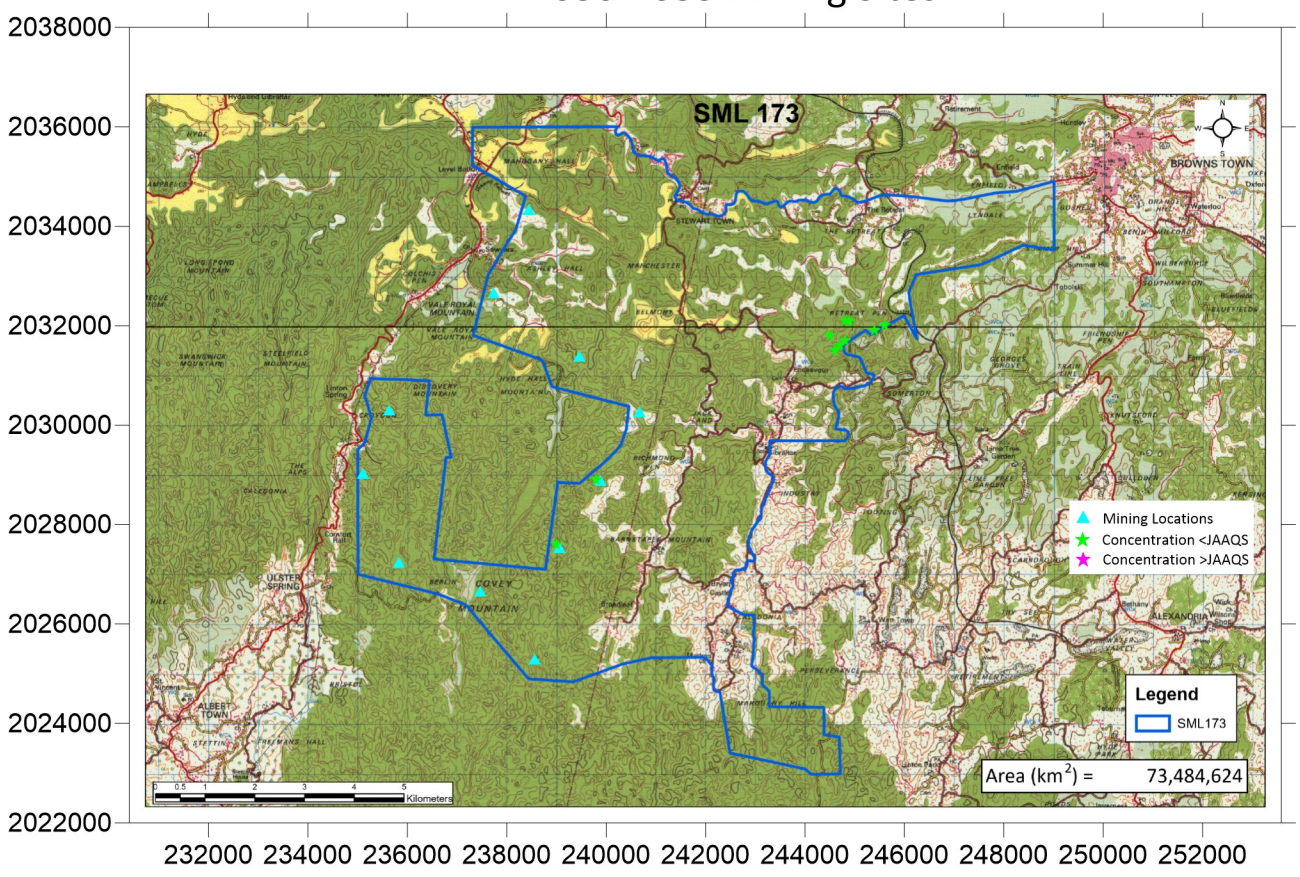


Table 3-19
2030-2033 SO2 Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80	2018	239800	2028900	-	15.71	0.00	15.71	No	No	Located in ore body mine site	18so2ann.inp
	(Annual)		239000	2027600	-	13.84		13.84	No	No	Located in ore body mine site	
			245600	2032000	-	13.32		13.32	No	No		
			245400	2031900	-	13.31		13.31	No	No		
			244800	2032100	-	13.17		13.17	No	No		
			244900	2032100	-	13.09		13.09	No	No		
			244700	2031600	-	12.82		12.82	No	No		
			244500	2031800	-	12.56		12.56	No	No		
			244700	2032100	-	12.18		12.18	No	No		
			244500	2032100	-	12.15		12.15	No	No		

Figure 3-19
SO_2
Annual Averaging Period
2018
2030-2033 Mining Sites

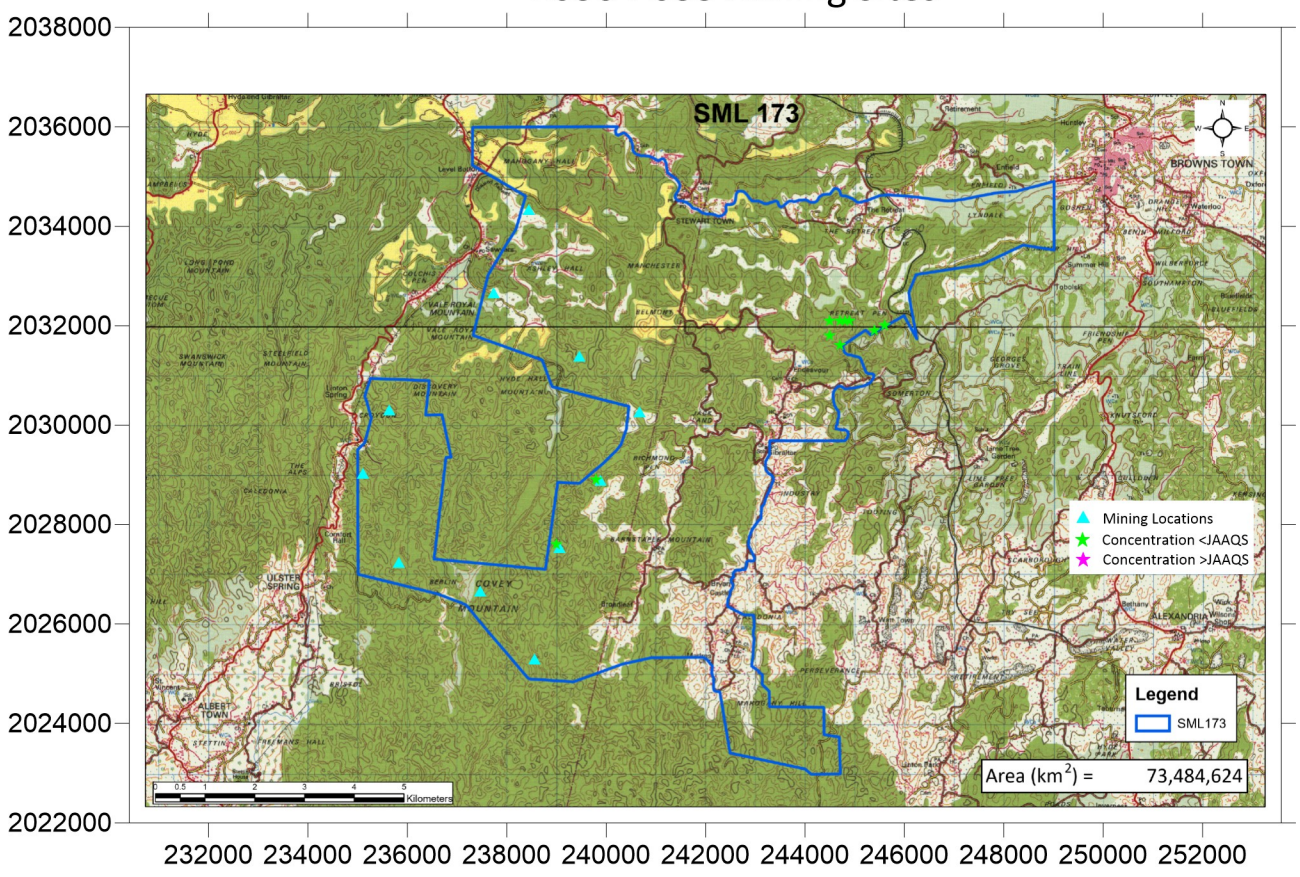


Table 3-20
2030-2033 SO2 Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	80 (Annual)	2019	239800	2028900	-	17.91	0.00	17.91	No	No	Located in ore body mine site	19so2ann.inp
			245600	2032000	-	16.95		16.95	No	No		
			239000	2027600	-	16.42		16.42	No	No	Located in ore body mine site	
			245400	2031900	-	16.21		16.21	No	No		
			244700	2031600	-	15.86		15.86	No	No		
			244800	2032100	-	15.82		15.82	No	No		
			244500	2031800	-	15.72		15.72	No	No		
			244900	2032100	-	15.64		15.64	No	No		
			245500	2032000	-	15.31		15.31	No	No		
			244500	2032100	-	14.77		14.77	No	No		

Figure 3-20
SO_2
Annual Averaging Period
2019
2030-2033 Mining Sites

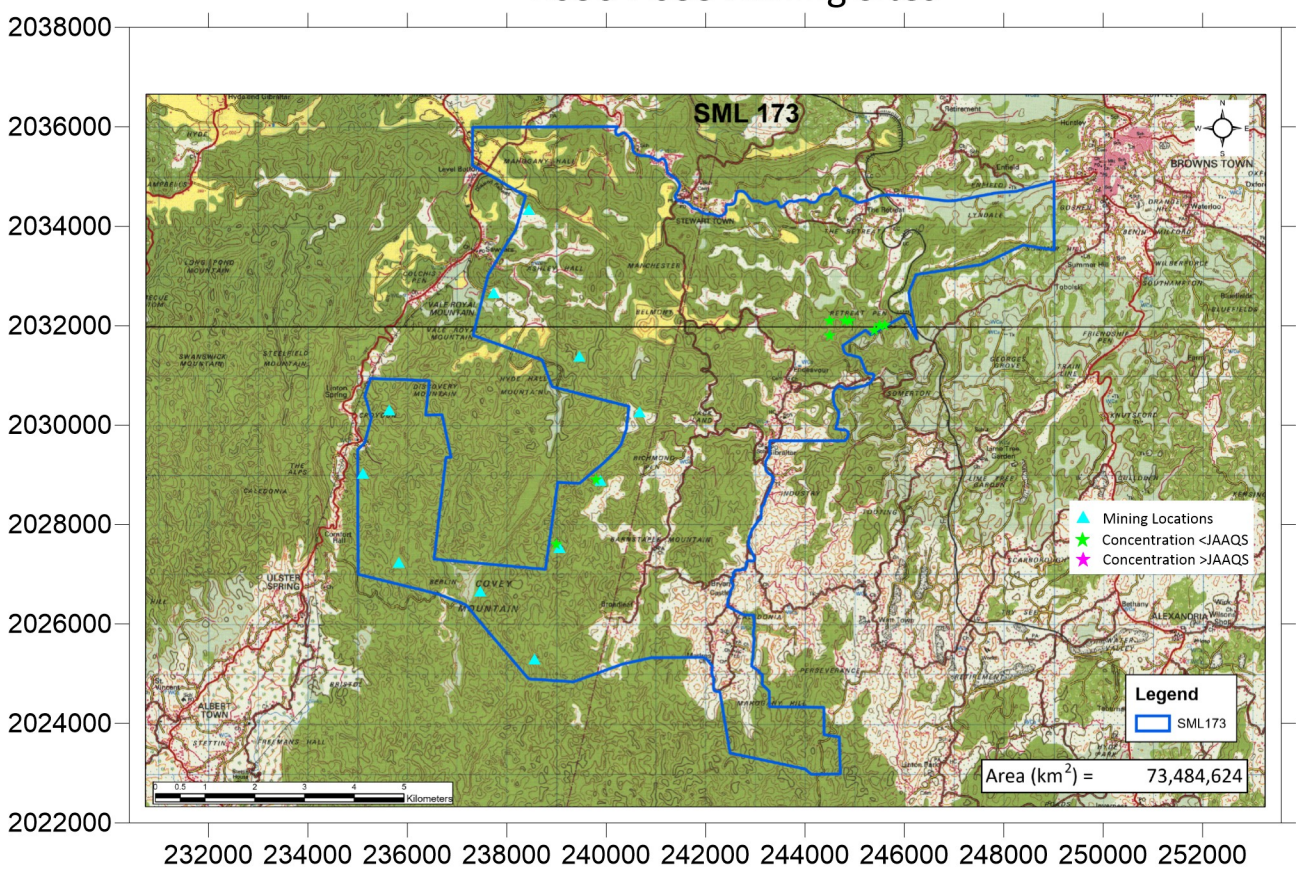


Table 3-21
2030-2033 SO2 24-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2011	245100	2032300	11031024	71.19	0.00	14.96	No	No		11so224h.inp
			244500	2032100	11110124	66.79		66.79	No	No		
			244700	2032100	11110124	66.18		66.18	No	No		
			244800	2032100	11110124	64.82		64.82	No	No		
			246000	2032300	11110824	63.31		63.31	No	No		
			245600	2032000	11111024	62.60		62.60	No	No		
			244600	2032200	11110124	59.21		59.21	No	No		
			239800	2028900	11072624	58.33		58.33	No	No	Located in ore body mine site	
			235600	2030300	11121924	58.27		58.27	No	No	Located in ore body mine site	
			244400	2032000	11110124	56.97		56.97	No	No		

Figure 3-21
SO_2
24-hr Averaging Period
2011
20303-2033 Mining Sites

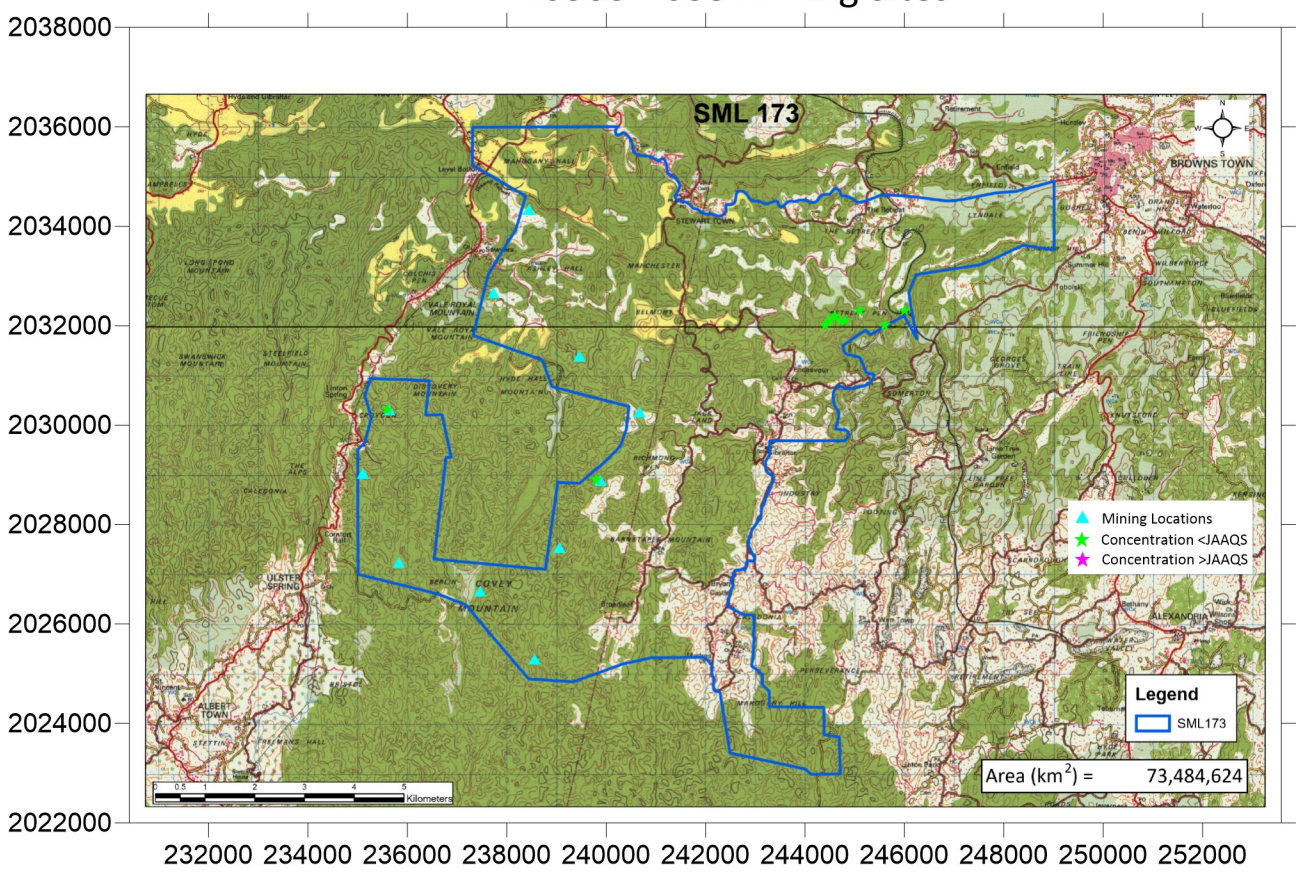


Table 3-22
2030-2033 SO2 24-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2016	244900	2032100	16011224	107.37	0.00	14.96	No	No		16so224h.inp
			244800	2032100	16011224	96.63		96.63	No	No		
			245100	2032300	16011224	95.18		95.18	No	No		
			245400	2031900	16011224	85.93		85.93	No	No		
			244600	2032200	16011224	75.87		75.87	No	No		
			244500	2031500	16111624	73.53		73.53	No	No		
			244700	2032100	16011224	73.50		73.50	No	No		
			245600	2032000	16011224	71.36		71.36	No	No		
			244000	2031800	16111624	71.14		71.14	No	No		
			244400	2032000	16010824	69.84		69.84	No	No		

Figure 3-22
SO_2
24-hr Averaging Period
2016
20303-2033 Mining Sites

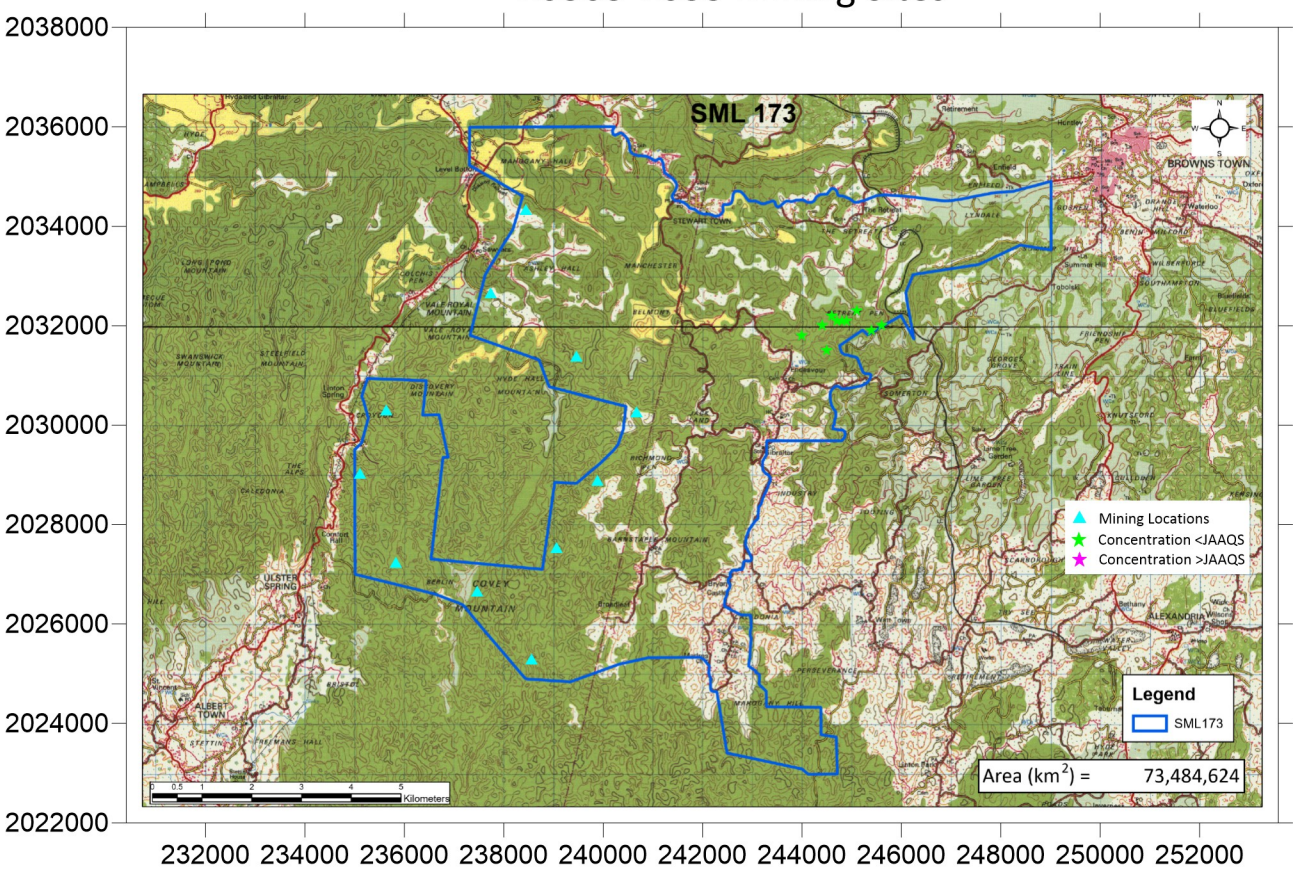


Table 3-23
2030-2033 SO2 24-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2017	244500	2031800	17022524	103.77	0.00	14.96	No	No		17so224h.inp
			245600	2032000	17012024	94.46		94.46	No	No		
			244400	2032000	17022524	87.87		87.87	No	No		
			244700	2031600	17082924	85.97		85.97	No	No		
			244500	2031500	17082924	83.21		83.21	No	No		
			244000	2031800	17082924	81.63		81.63	No	No		
			244600	2031500	17082924	78.40		78.40	No	No		
			244400	2031500	17082924	75.47		75.47	No	No		
			243800	2032000	17022524	74.84		74.84	No	No		
			243700	2031800	17082924	70.08		70.08	No	No		

Figure 3-23
SO_2
24-hr Averaging Period
2017
20303-2033 Mining Sites

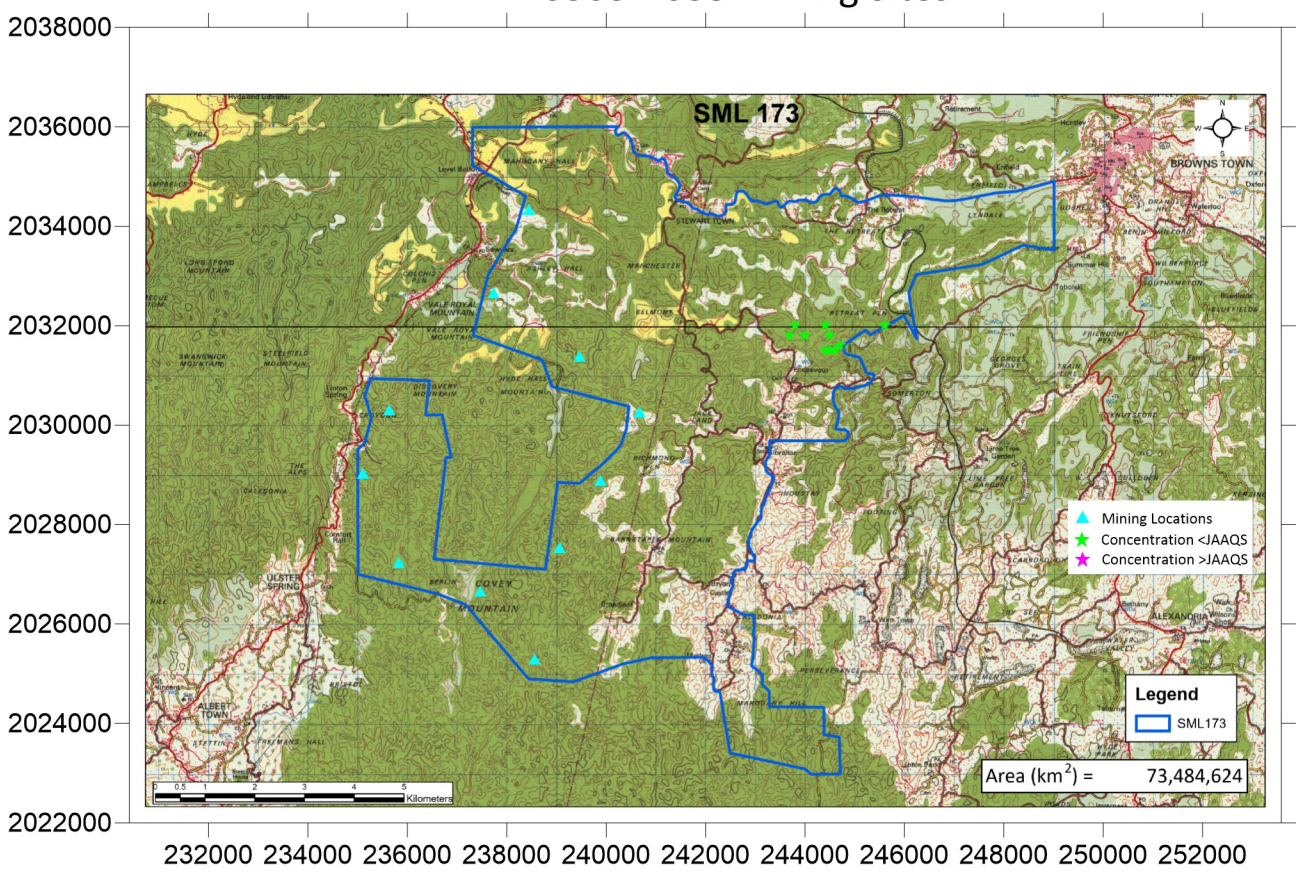


Table 3-24
2030-2033 SO2 24-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2018	244500	2031800	18041124	90.11	0.00	14.96	No	No		18so224h.inp
			245600	2032000	18060124	84.37		84.37	No	No		
			244700	2031600	18041124	79.04		79.04	No	No		
			244800	2032100	18051124	78.15		78.15	No	No		
			244900	2032100	18051124	77.61		77.61	No	No		
			244400	2032000	18112524	72.71		72.71	No	No		
			244500	2032100	18112524	72.69		72.69	No	No		
			244700	2032100	18112524	68.07		68.07	No	No		
			244600	2032200	18051124	67.64		67.64	No	No		
			243800	2032000	18051124	66.17		66.17	No	No		

Figure 3-24
SO_2
24-hr Averaging Period
2018
20303-2033 Mining Sites

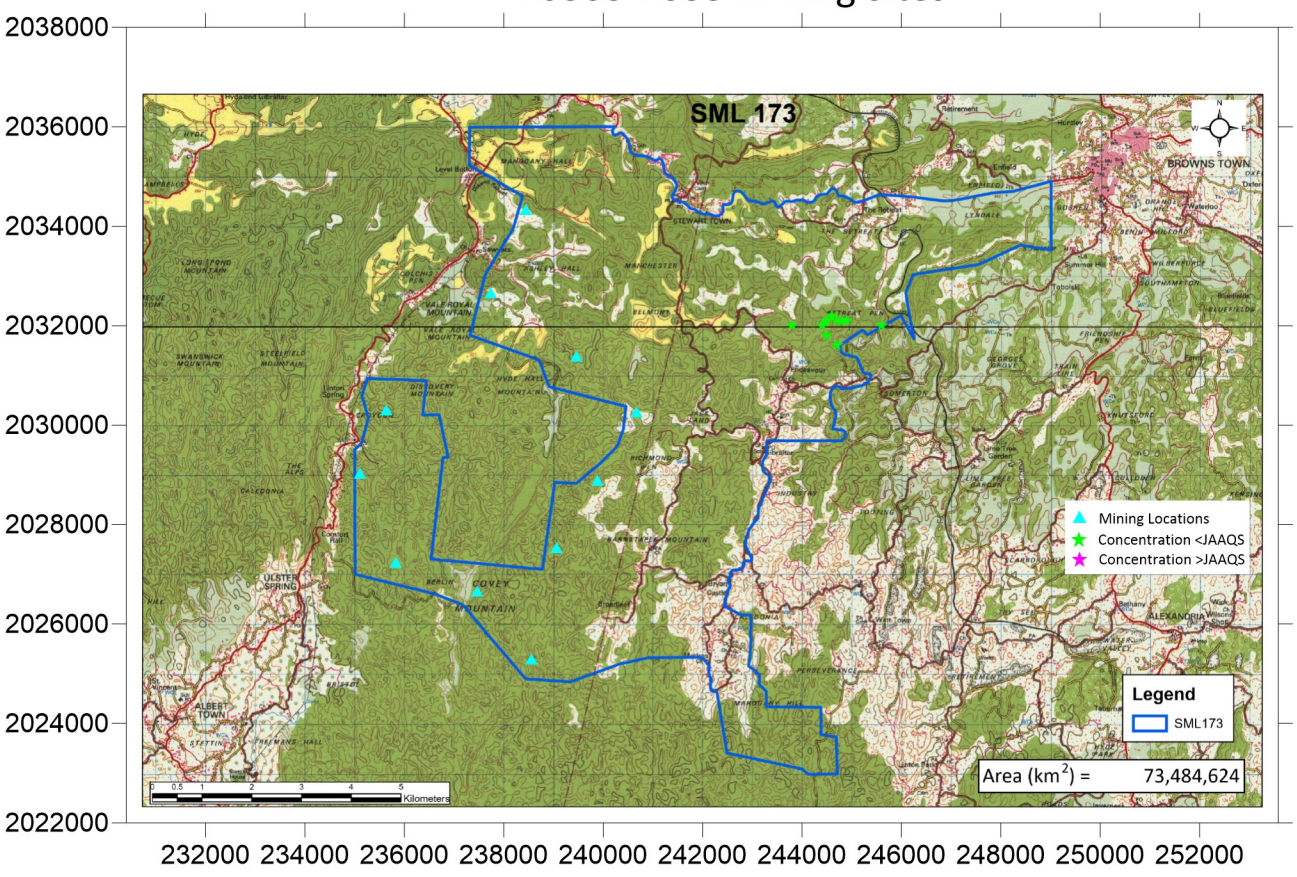


Table 3-25
2030-2033 SO2 24-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	365 (24-hr)	2019	244800	2032100	19070324	89.70	0.00	14.96	No	No		19so224h.inp
			244900	2032100	19070324	85.47		85.47	No	No		
			245600	2032000	19070224	82.25		82.25	No	No		
			244700	2032100	19070324	81.94		81.94	No	No		
			244700	2031600	19080624	78.49		78.49	No	No		
			244600	2032200	19070324	78.23		78.23	No	No		
			244500	2032100	19070324	74.37		74.37	No	No		
			244500	2031800	19090224	70.13		70.13	No	No		
			245100	2032300	19061324	64.47		64.47	No	No		
			245400	2031900	19070324	64.09		64.09	No	No		

Figure 3-25
SO_2
24-hr Averaging Period
2019
20303-2033 Mining Sites

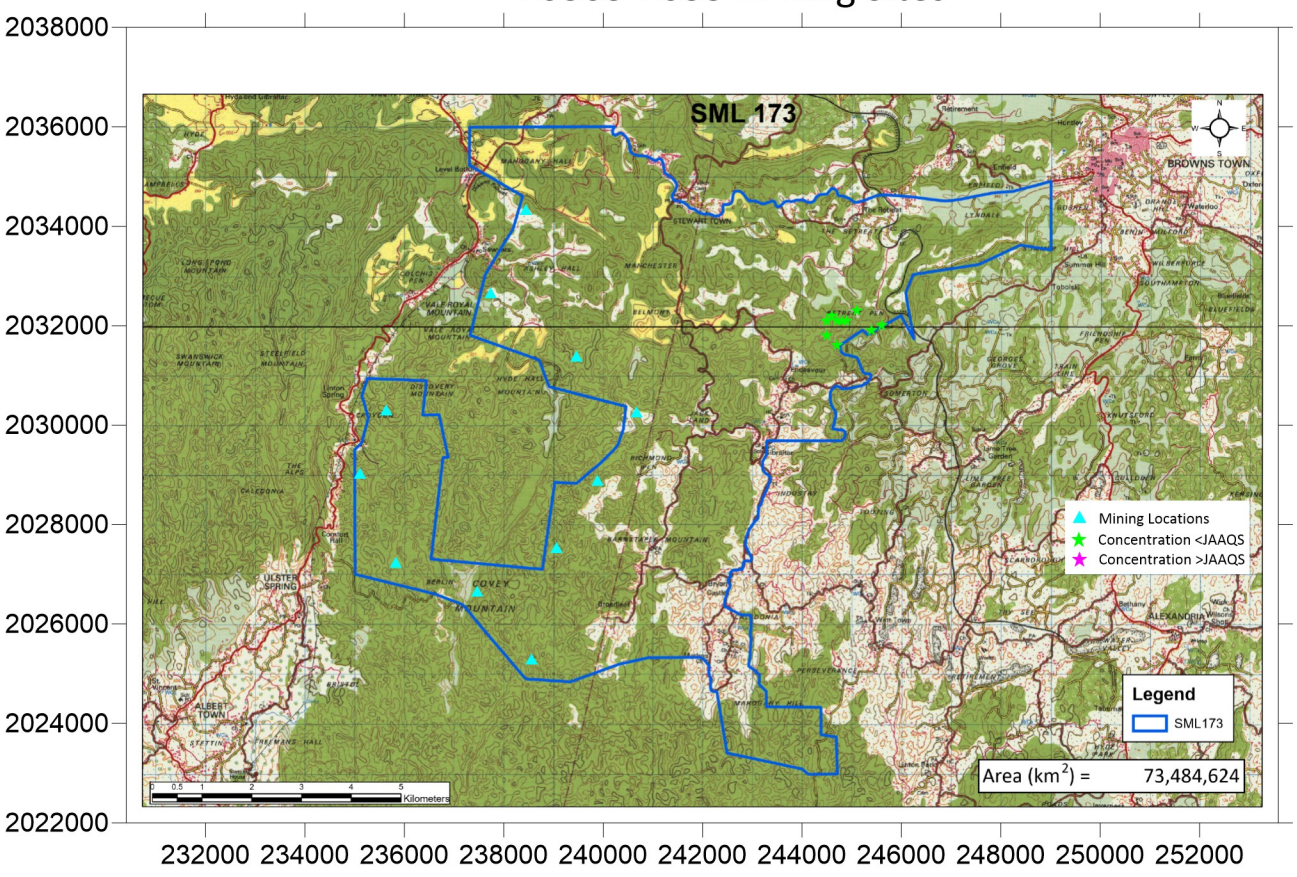


Table 3-26
2030-2033 SO2 1-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2011	245600	2032000	11031103	590.79	0.00	590.79	No	Yes		11so21hr.inp
			245100	2032300	11031024	580.44		580.44	No	Yes		
			244800	2032100	11042022	531.82		531.82	No	Yes		
			246100	2033300	11020906	530.67		530.67	No	Yes		
			244500	2031500	11030123	527.70		527.70	No	Yes		
			246200	2033400	11051301	525.69		525.69	No	Yes		
			244400	2031500	11042004	504.90		504.90	No	No		
			246000	2033300	11110222	499.18		499.18	No	No		
			246000	2032300	11110823	498.72		498.72	No	No		
			244900	2032100	11042022	497.20		497.20	No	No		

Figure 3-26
SO_2
1-hr Averaging Period
2011
2030-2033 Mining Sites

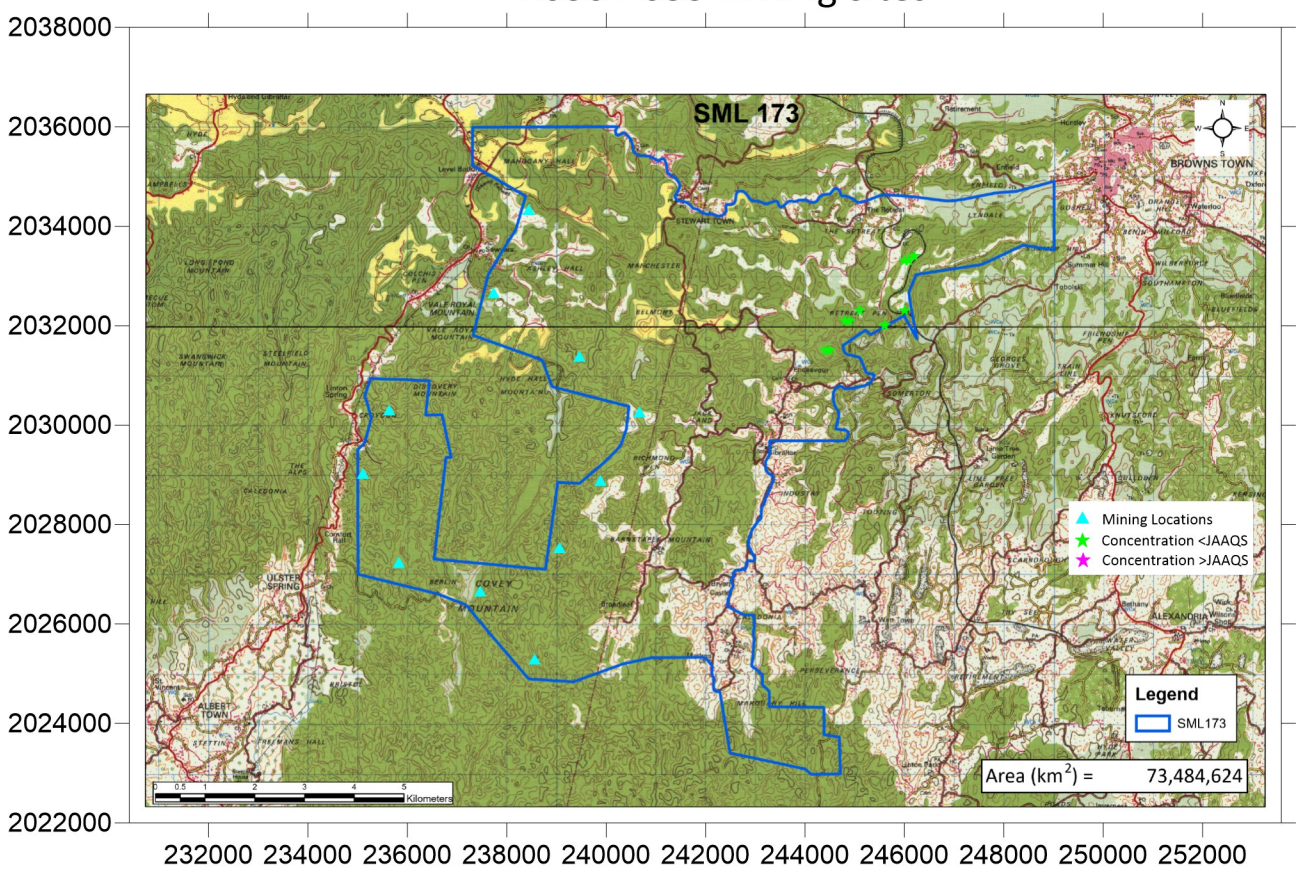


Table 3-27
2030-2033 SO2 1-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2016	245600	2032000	16061523	616.71	0.00	616.71	No	Yes		16so21hr.inp
			246000	2032300	16111601	571.97		571.97	No	Yes		
			245100	2032300	16011206	563.01		563.01	No	Yes		
			244800	2032100	16101802	536.64		536.64	No	Yes		
			244500	2031500	16041324	534.39		534.39	No	Yes		
			246100	2033300	16090323	530.90		530.90	No	Yes		
			246000	2032400	16102104	530.92		530.92	No	Yes		
			244500	2031800	16041704	524.96		524.96	No	No		
			247100	2033400	16011320	521.06		521.06	No	No		
			246700	2033400	16011321	515.13		515.13	No	No		

Figure 3-27
SO_2
1-hr Averaging Period
2016
2030-2033 Mining Sites

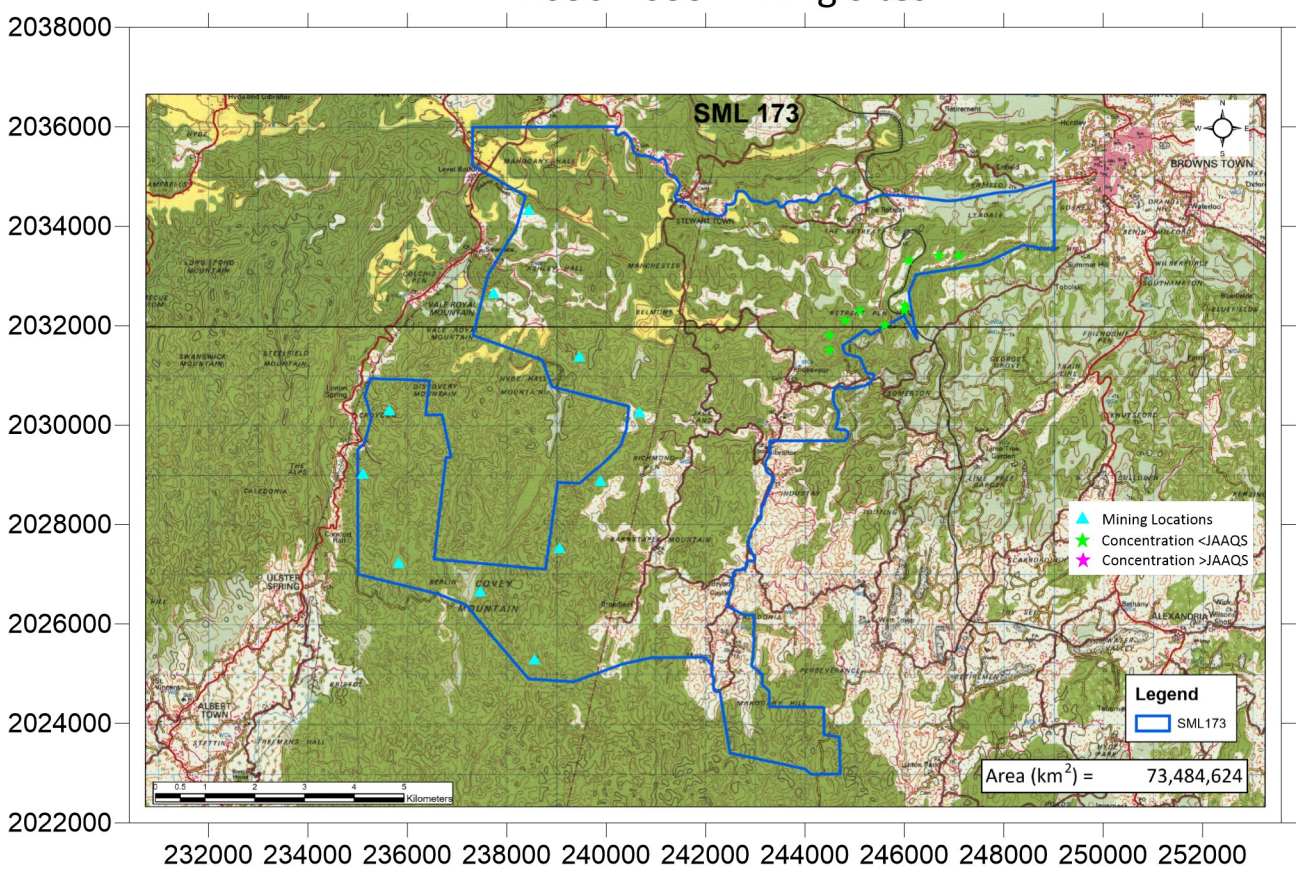


Table 3-28
2030-2033 SO2 1-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2017	245600	2032000	17122804	617.96	0.00	617.96	No	Yes	Driven by sources at Tobolski	17so21hr.inp
			246000	2032300	17031222	606.52		606.52	No	Yes	Driven by sources at Tobolski	
			245100	2032300	17090603	570.27		570.27	No	Yes	Driven by sources at Tobolski	
			246000	2032200	17031222	554.92		554.92	No	Yes	Driven by sources at Tobolski	
			244800	2032100	17020421	535.92		535.92	No	Yes	Driven by sources at Tobolski	
			246200	2033400	17101406	525.64		525.64	No	Yes	Driven by sources at Tobolski	
			244500	2031500	17021803	525.03		525.03	No	Yes	Driven by sources at Tobolski	
			244500	2031800	17123101	522.83		522.83	No	No	Driven by sources at Tobolski	
			246000	2032400	17031222	520.83		520.83	No	No	Driven by sources at Tobolski	
			246000	2033300	17041324	519.46		519.46	No	No	Driven by sources at Tobolski	

Figure 3-28
SO_2
1-hr Averaging Period
2017
2030-2033 Mining Sites

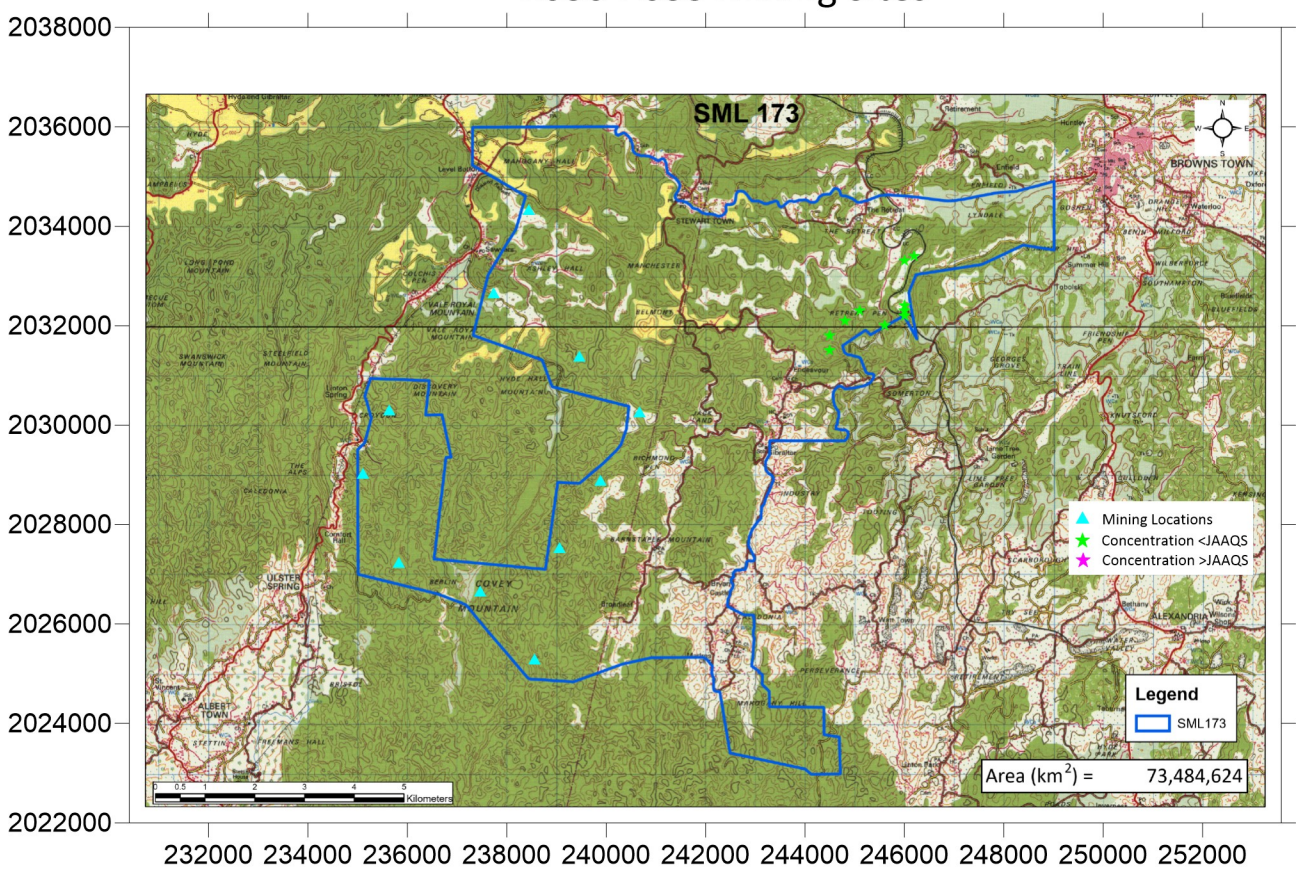


Table 3-29
2030-2033 SO2 1-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2018	245600	2032000	18041022	641.93	0.00	641.93	No	Yes		18so21hr.inp
			245100	2032300	18061023	580.54		580.54	No	Yes		
			246000	2032300	18061324	563.38		563.38	No	Yes		
			244800	2032100	18051105	536.02		536.02	No	Yes		
			244500	2031500	18112504	535.06		535.06	No	Yes		
			246200	2033400	18120123	527.26		527.26	No	Yes		
			244700	2032100	18060204	519.74		519.74	No	No		
			244400	2031500	18120624	519.41		519.41	No	No		
			246100	2033300	18033023	516.10		516.10	No	No		
			244500	2031800	18110106	515.52		515.52	No	No		

Figure 3-29
SO_2
1-hr Averaging Period
2018
2030-2033 Mining Sites

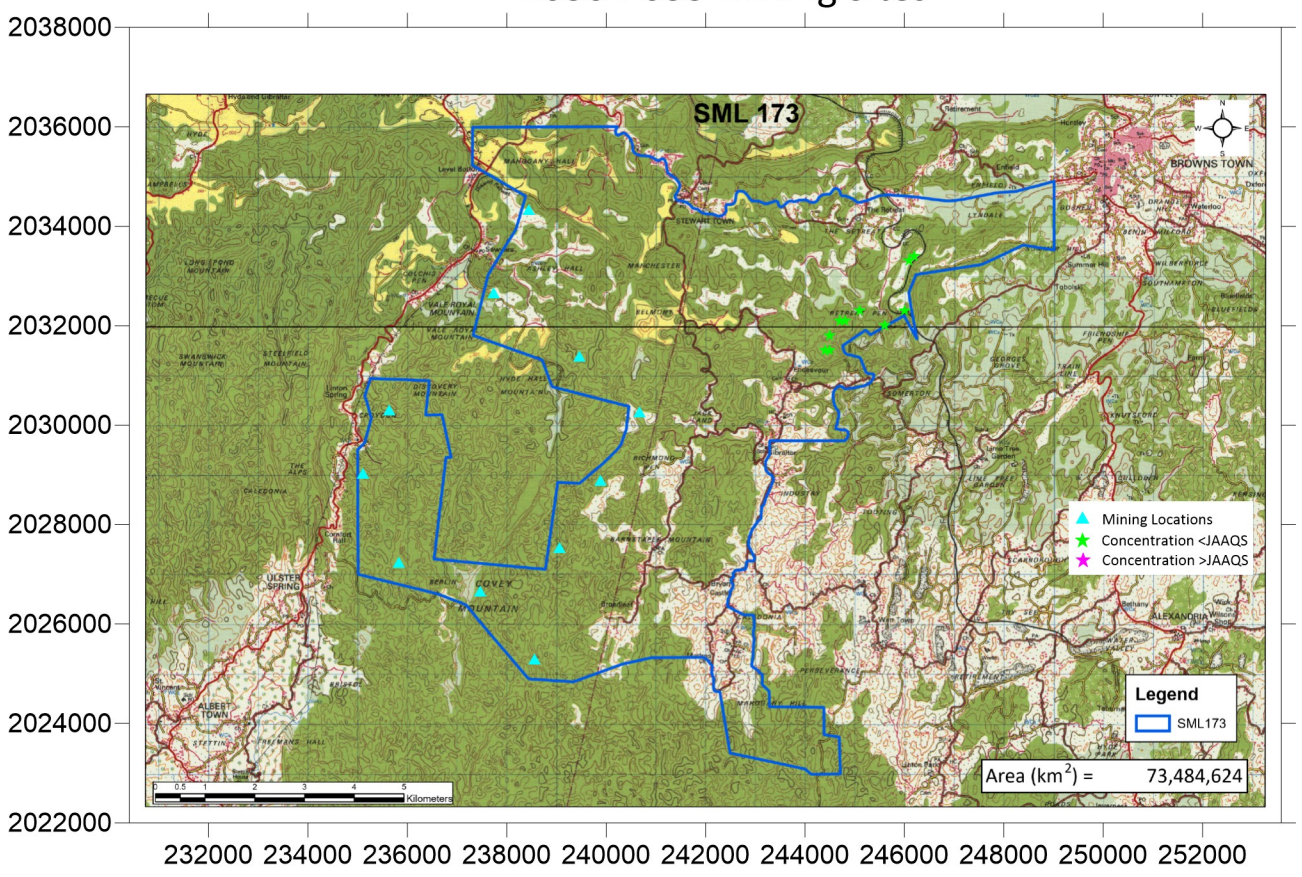


Table 3-30
2030-2033 SO2 1-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
SO2	700 (1-hr)	2019	245600	2032000	19050123	623.62	0.00	623.62	No	Yes		19so21hr.inp
			246000	2032300	19120502	570.51		570.51	No	Yes		
			245100	2032300	19110922	568.77		568.77	No	Yes		
			246000	2032400	19120502	553.22		553.22	No	Yes		
			244500	2031500	19122720	539.05		539.05	No	Yes		
			244800	2032100	19111502	538.88		538.88	No	Yes		
			246100	2033300	19011520	530.80		530.80	No	Yes		
			244700	2032100	19111502	516.30		516.30	No	No		
			244900	2032100	19092224	514.55		514.55	No	No		
			244500	2031800	19071002	510.32		510.32	No	No		

Figure 3-30
SO_2
1-hr Averaging Period
2019
2030-2033 Mining Sites

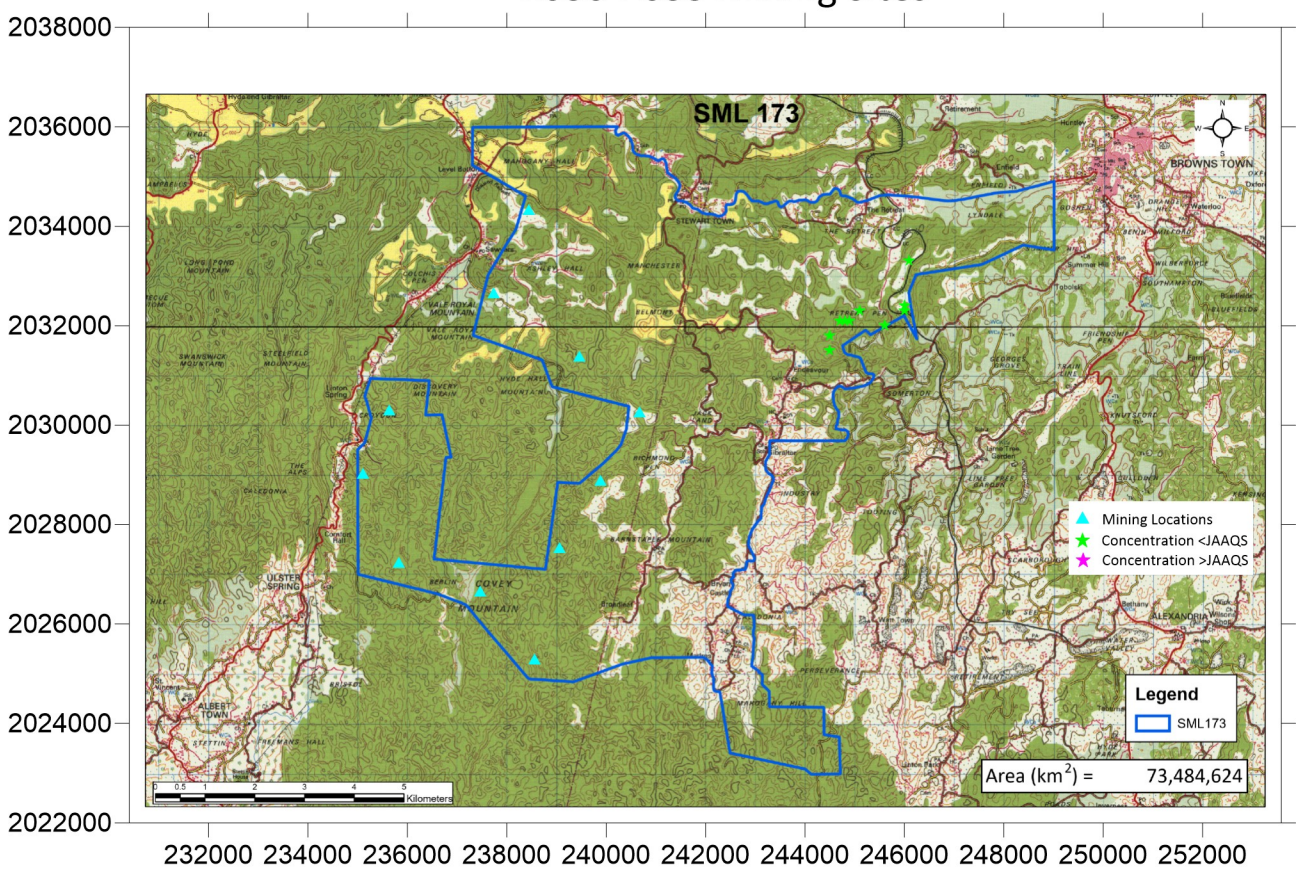


Table 3-31
2030-2033 PM-10 Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	50.00 (Annual)	2011	235600	2030300	-	23.79	20.00	43.79	No	Yes	Located in ore body mine site	11pm10an.inp
			239900	2028900	-	21.67		41.67	No	Yes	Located in ore body mine site	
			235100	2029000	-	19.35		39.35	No	Yes	Located in ore body mine site	
			235800	2027200	-	11.70		31.70	No	No	Located in ore body mine site	
			237700	2032700	-	10.47		30.47	No	No	Located in ore body mine site	
			239400	2031400	-	9.68		29.68	No	No	Located in ore body mine site	
			238500	2025300	-	9.54		29.54	No	No	Located in ore body mine site	
			240600	2030300	-	8.97		28.97	No	No	Located in ore body mine site	
			240700	2030300	-	8.71		28.71	No	No	Located in ore body mine site	
			239000	2027500	-	6.59		26.59	No	No	Located in ore body mine site	

Figure 3-31
PM-10
Annual Averaging Period
2011
2030-2033 Mining Sites

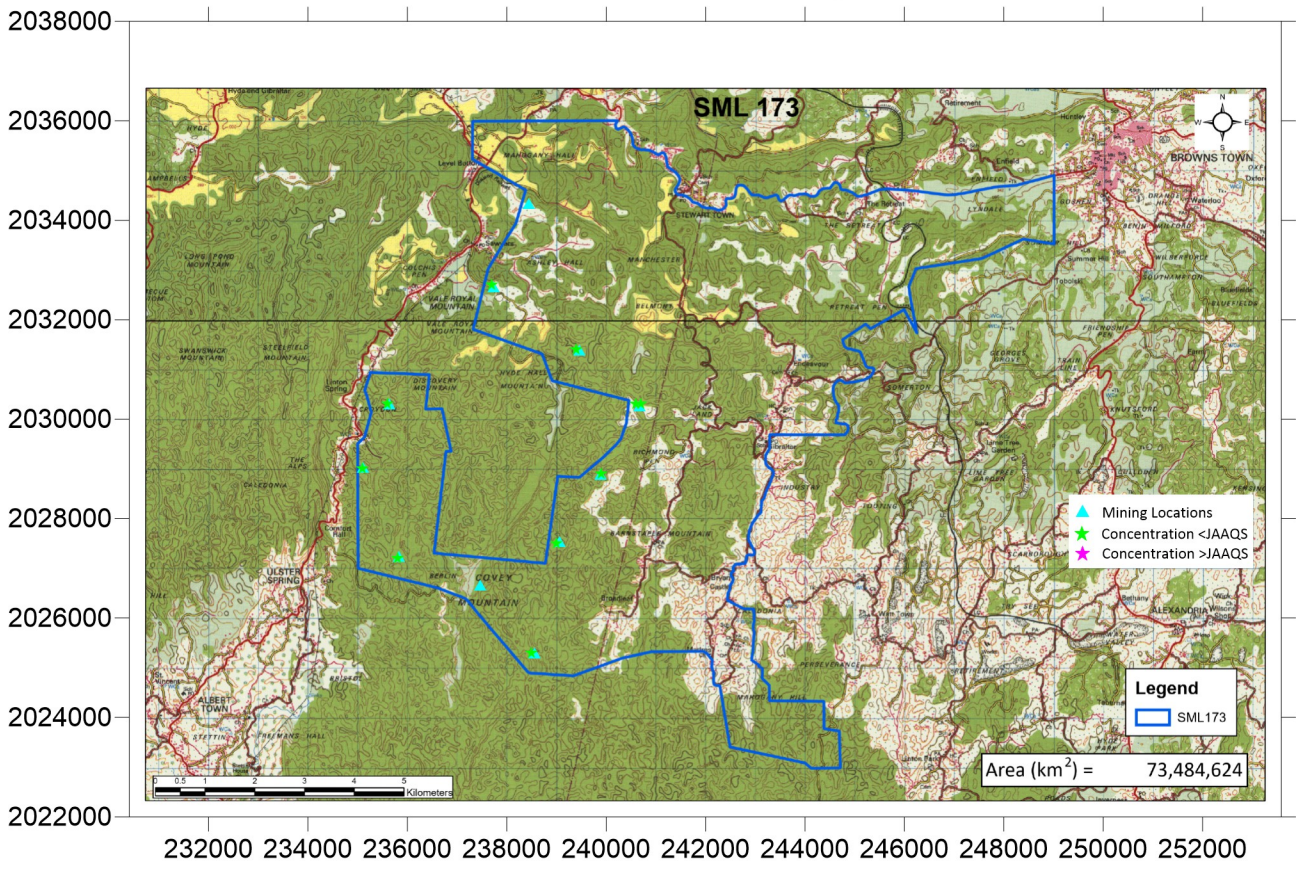


Table 3-32
2030-2033 PM-10 Annual Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	50.00 (Annual)	2016	235600	2030300	-	25.61	20.00	45.61	No	Yes	Located in ore body mine site	16pm10an.inp
			239900	2028900	-	22.49		42.49	No	Yes	Located in ore body mine site	
			235100	2029000	-	20.74		40.74	No	Yes	Located in ore body mine site	
			235800	2027200	-	12.19		32.19	No	No	Located in ore body mine site	
			237700	2032700	-	11.09		31.09	No	No	Located in ore body mine site	
			240700	2030300	-	9.18		29.18	No	No	Located in ore body mine site	
			238500	2025300	-	8.43		28.43	No	No	Located in ore body mine site	
			239400	2031400	-	8.31		28.31	No	No	Located in ore body mine site	
			240600	2030300	-	8.02		28.02	No	No	Located in ore body mine site	
			239000	2027500	-	6.78		26.78	No	No	Located in ore body mine site	

Figure 3-32
PM-10
Annual Averaging Period
2016
2030-2033 Mining Sites

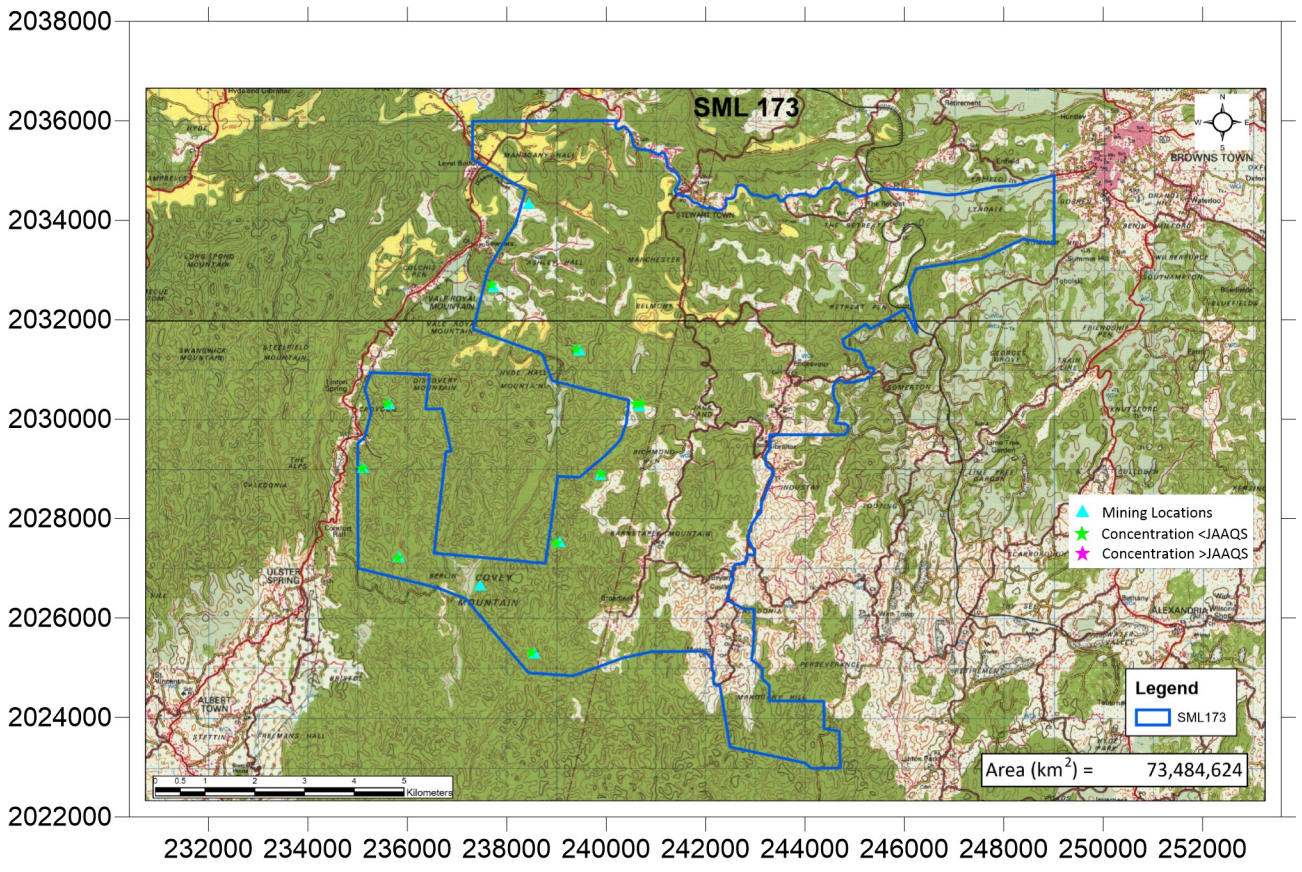


Table 3-33
2030-2033 PM-10 Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	50.00 (Annual)	2017	235600	2030300	-	25.96	20.00	45.96	No	Yes	Located in ore body mine site	17pm10an.inp
			239900	2028900	-	23.12		43.12	No	Yes	Located in ore body mine site	
			235100	2029000	-	21.01		41.01	No	Yes	Located in ore body mine site	
			235800	2027200	-	12.11		32.11	No	No	Located in ore body mine site	
			237700	2032700	-	11.87		31.87	No	No	Located in ore body mine site	
			240700	2030300	-	9.50		29.50	No	No	Located in ore body mine site	
			239400	2031400	-	9.12		29.12	No	No	Located in ore body mine site	
			240600	2030300	-	8.86		28.86	No	No	Located in ore body mine site	
			238500	2025300	-	8.79		28.79	No	No	Located in ore body mine site	
			239000	2027500	-	6.93		26.93	No	No	Located in ore body mine site	

Figure 3-33
PM-10
Annual Averaging Period
2017
2030-2033 Mining Sites

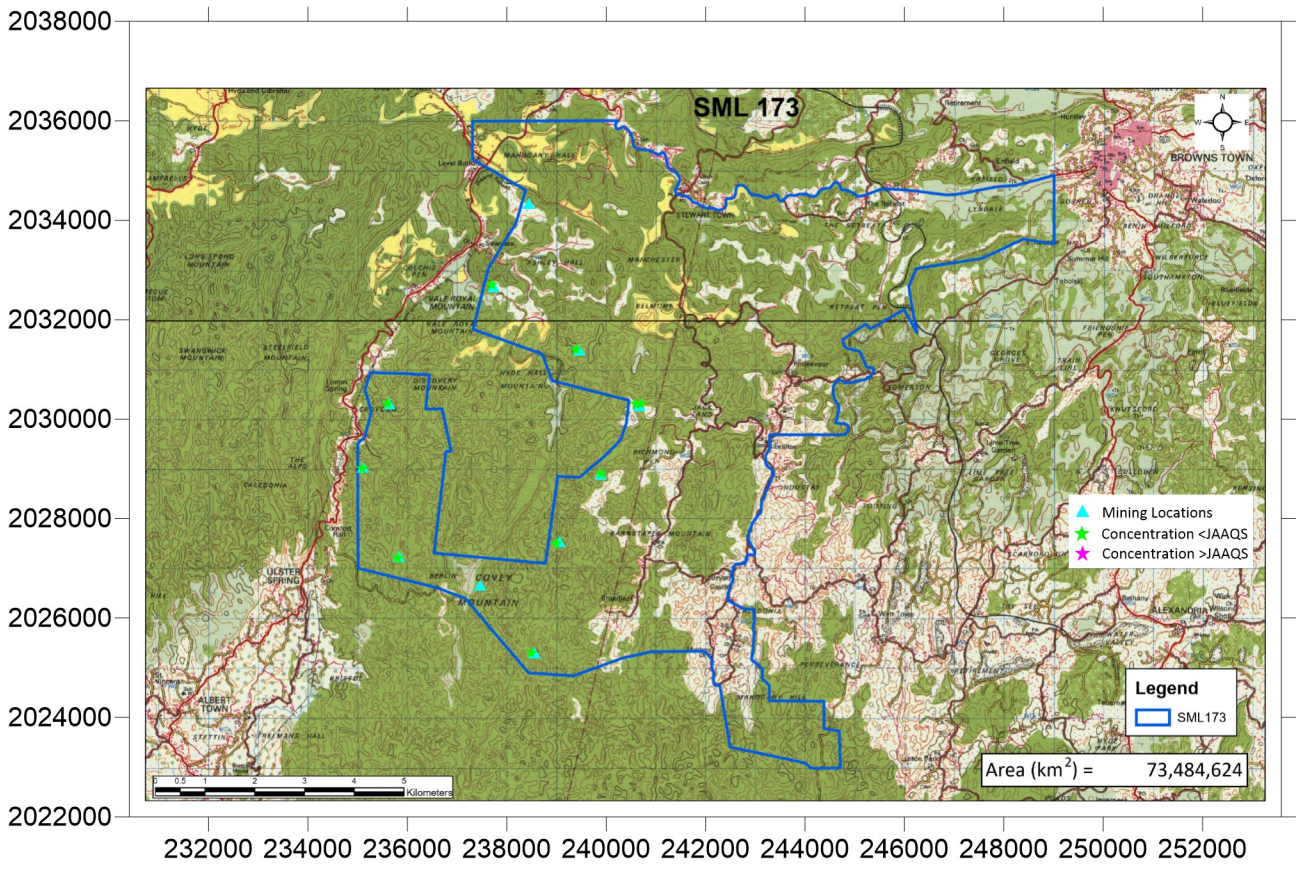


Table 3-34
2030-2033 PM-10 Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	50.00 (Annual)	2018	235600	2030300	-	24.90	20.00	44.90	No	Yes	Located in ore body mine site	18pm10an.inp
			239900	2028900	-	23.48		43.48	No	Yes	Located in ore body mine site	
			235100	2029000	-	21.34		41.34	No	Yes	Located in ore body mine site	
			235800	2027200	-	12.24		32.24	No	No	Located in ore body mine site	
			237700	2032700	-	12.05		32.05	No	No	Located in ore body mine site	
			240700	2030300	-	9.53		29.53	No	No	Located in ore body mine site	
			238500	2025300	-	8.16		28.16	No	No	Located in ore body mine site	
			239400	2031400	-	7.94		27.94	No	No	Located in ore body mine site	
			240600	2030300	-	7.60		27.60	No	No	Located in ore body mine site	
			239000	2027500	-	6.45		26.45	No	No	Located in ore body mine site	

Figure 3-34
PM-10
Annual Averaging Period
2018
2030-2033 Mining Sites

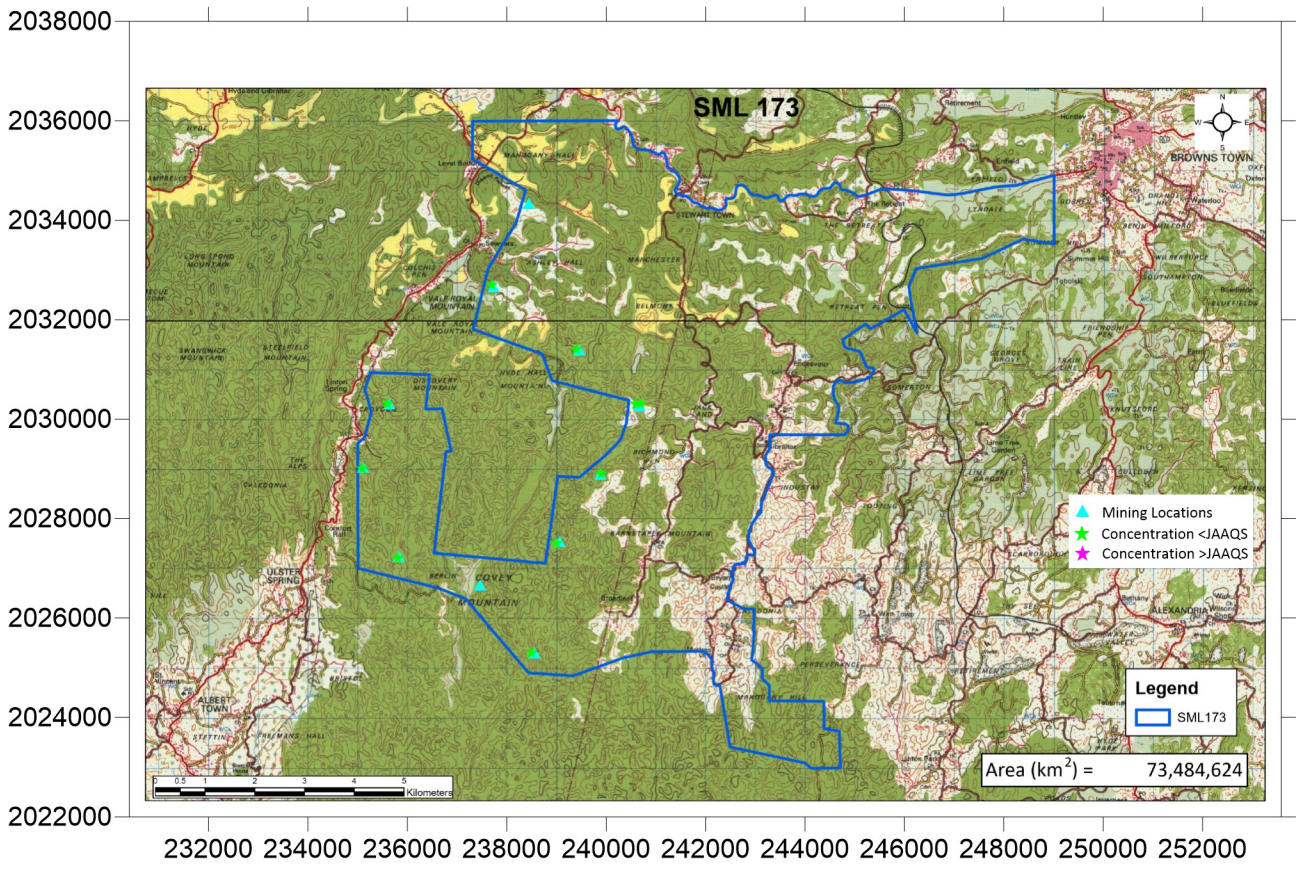


Table 3-35
2030-2033 PM-10 Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	50.00 (Annual)	2019	239900	2028900	-	25.07	20.00	45.07	No	Yes	Located in ore body mine site	19pm10an.inp
			235600	2030300	-	24.48		44.48	No	Yes	Located in ore body mine site	
			235100	2029000	-	23.17		43.17	No	Yes	Located in ore body mine site	
			237700	2032700	-	13.75		33.75	No	No	Located in ore body mine site	
			235800	2027200	-	12.95		32.95	No	No	Located in ore body mine site	
			240700	2030300	-	10.30		30.30	No	No	Located in ore body mine site	
			238500	2025300	-	8.77		28.77	No	No	Located in ore body mine site	
			239400	2031400	-	8.63		28.63	No	No	Located in ore body mine site	
			240600	2030300	-	8.35		28.35	No	No	Located in ore body mine site	
			237400	2026700	-	6.88		26.88	No	No	Located in ore body mine site	

Figure 3-35
PM-10
Annual Averaging Period
2019
2030-2033 Mining Sites

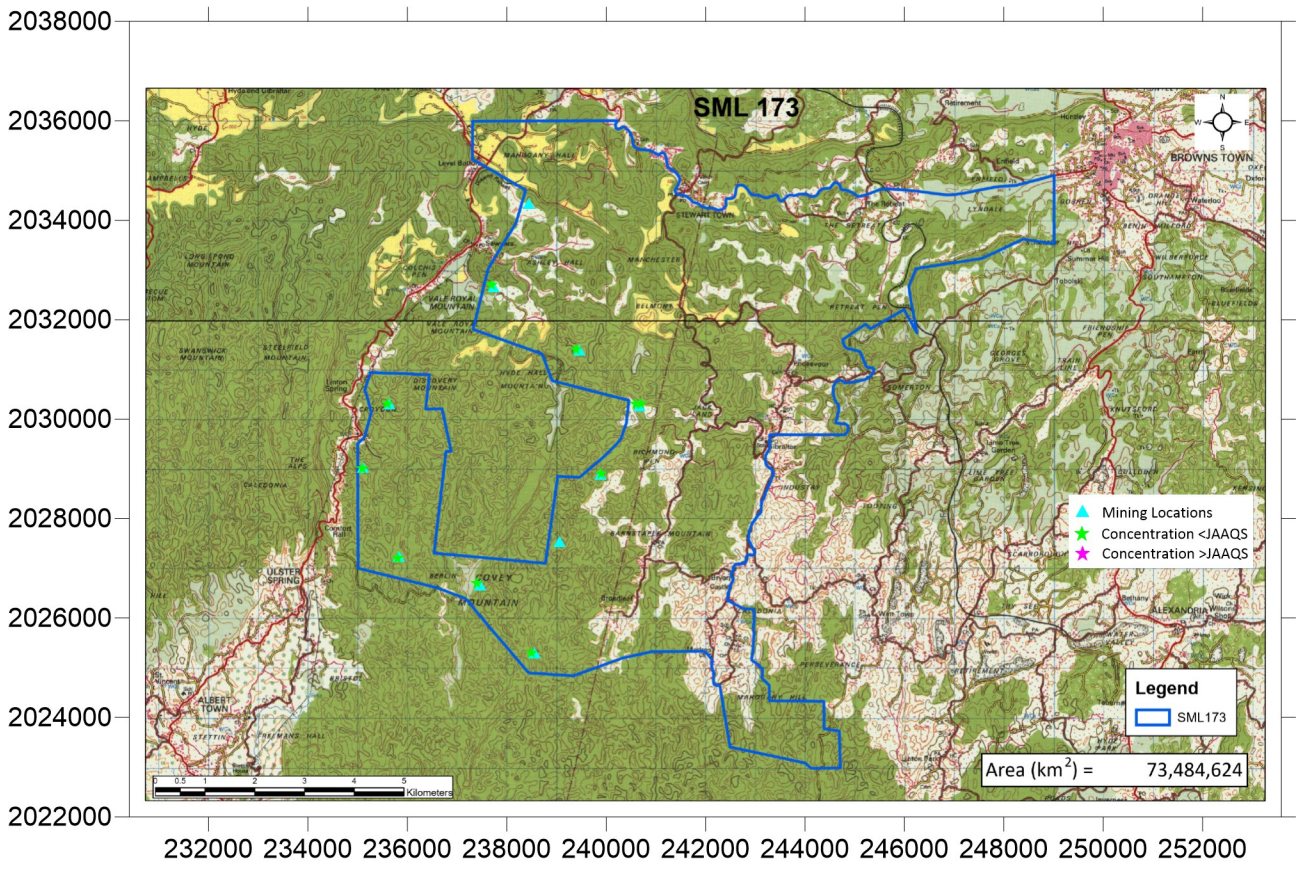


Table 3-36
2030-2033 PM-10 24-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	150.00 (24-hr)	2011	235600	2030300	11112024	114.88	9.00	123.88	No	Yes	Located in ore body mine site	11pm1024.inp
			235100	2029000	11031124	93.03		102.03	No	No	Located in ore body mine site	
			239900	2028900	11110224	83.10		92.10	No	No	Located in ore body mine site	
			235800	2027200	11011424	59.12		68.12	No	No	Located in ore body mine site	
			244000	2023600	11080424	50.99		59.99	No	No	Located in ore body mine site	
			243700	2023500	11080424	50.91		59.91	No	No	Located in ore body mine site	
			243800	2023600	11080424	50.32		59.32	No	No		
			243800	2023500	11080424	50.22		59.22	No	No		
			244600	2023200	11111224	49.99		58.99	No	No		
			243600	2023400	11080424	49.18		58.18	No	No		

Figure 3-36
PM-10
24-hr Averaging Period
2011
2030-2033 Mining Sites

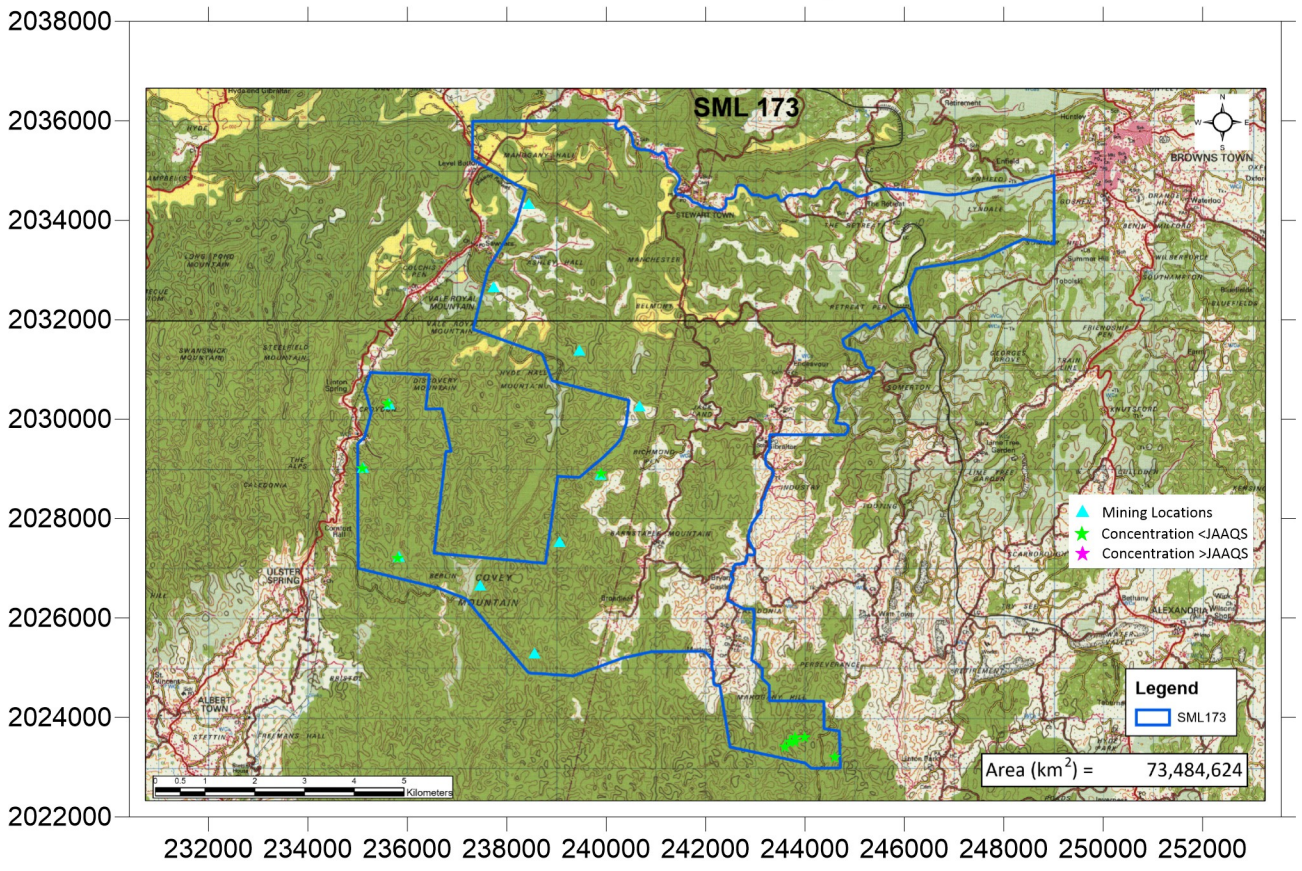


Table 3-37
2030-2033 PM-10 24-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	150.00 (24-hr)	2016	235600	2030300	16110824	160.84	9.00	169.84	Yes	Yes	Located in ore body mine site	16pm1024.inp
			235100	2029000	16101224	82.37		91.37	No	No	Located in ore body mine site	
			239900	2028900	16011224	79.20		88.20	No	No	Located in ore body mine site	
			242900	2025100	16042624	54.63		63.63	No	No		
			235800	2027200	16040524	51.27		60.27	No	No	Located in ore body mine site	
			243100	2025000	16110924	51.02		60.02	No	No		
			242900	2025600	16042624	50.50		59.50	No	No		
			244100	2024000	16121624	48.30		57.30	No	No		
			242900	2025500	16111424	47.04		56.04	No	No		
			243000	2024200	16110824	45.80		54.80	No	No		

Figure 3-37
PM-10
24-hr Averaging Period
2016
2030-2033 Mining Sites

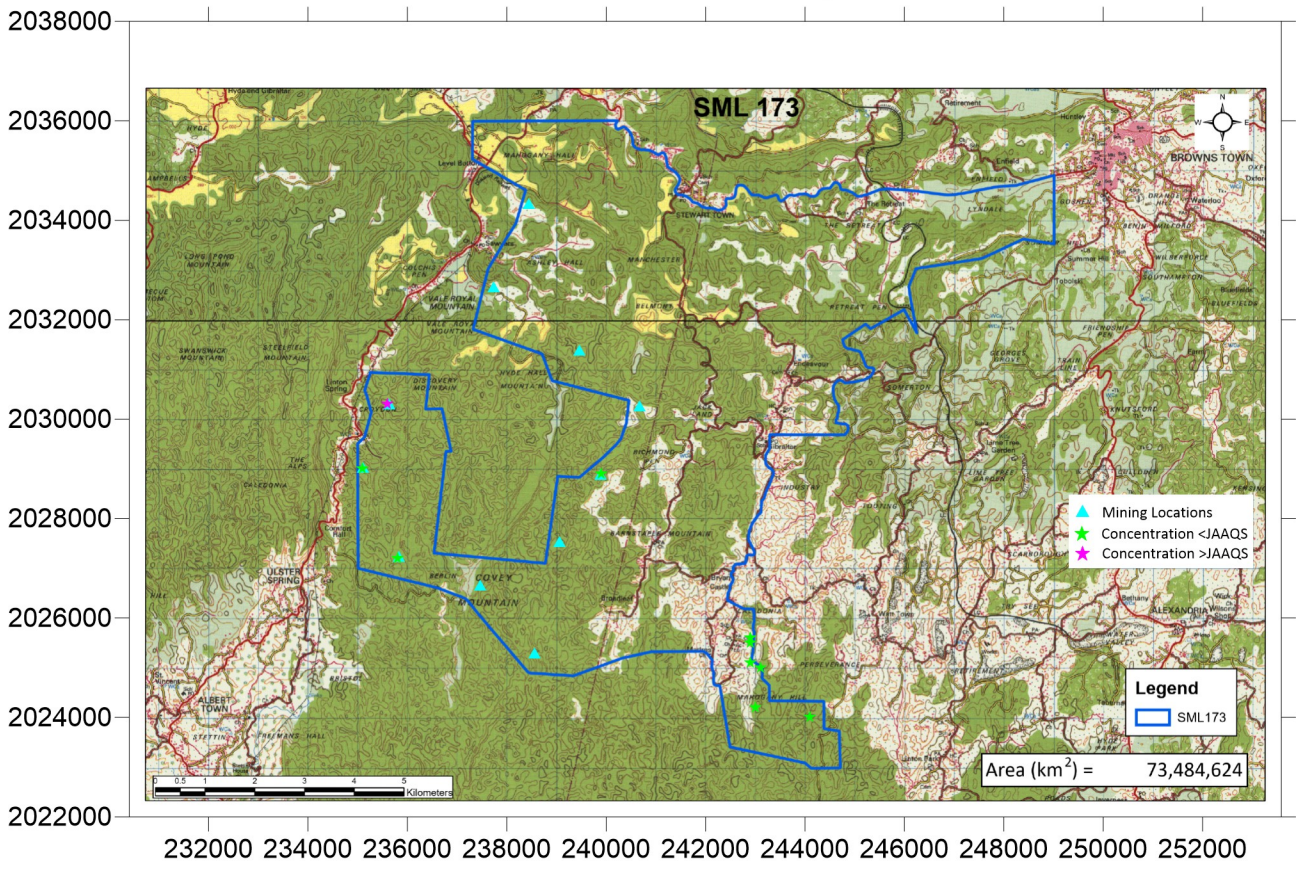


Table 3-38
2030-2033 PM-10 24-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	150.00 (24-hr)	2017	235600	2030300	17121724	149.18	9.00	158.18	Yes	Yes	Located in ore body mine site	17pm1024.inp
			235100	2029000	17111624	101.55		110.55	No	No	Located in ore body mine site	
			239900	2028900	17120124	84.50		93.50	No	No	Located in ore body mine site	
			244100	2024000	17122724	52.67		61.67	No	No		
			242900	2024400	17020424	51.96		60.96	No	No		
			235800	2027200	17092124	50.82		59.82	No	No	Located in ore body mine site	
			243100	2024500	17020424	49.84		58.84	No	No		
			242900	2025500	17112624	48.93		57.93	No	No		
			239000	2027500	17120324	48.08		57.08	No	No	Located in ore body mine site	
			244000	2023900	17122724	47.98		56.98	No	No		

Figure 3-38
PM-10
24-hr Averaging Period
2017
2030-2033 Mining Sites

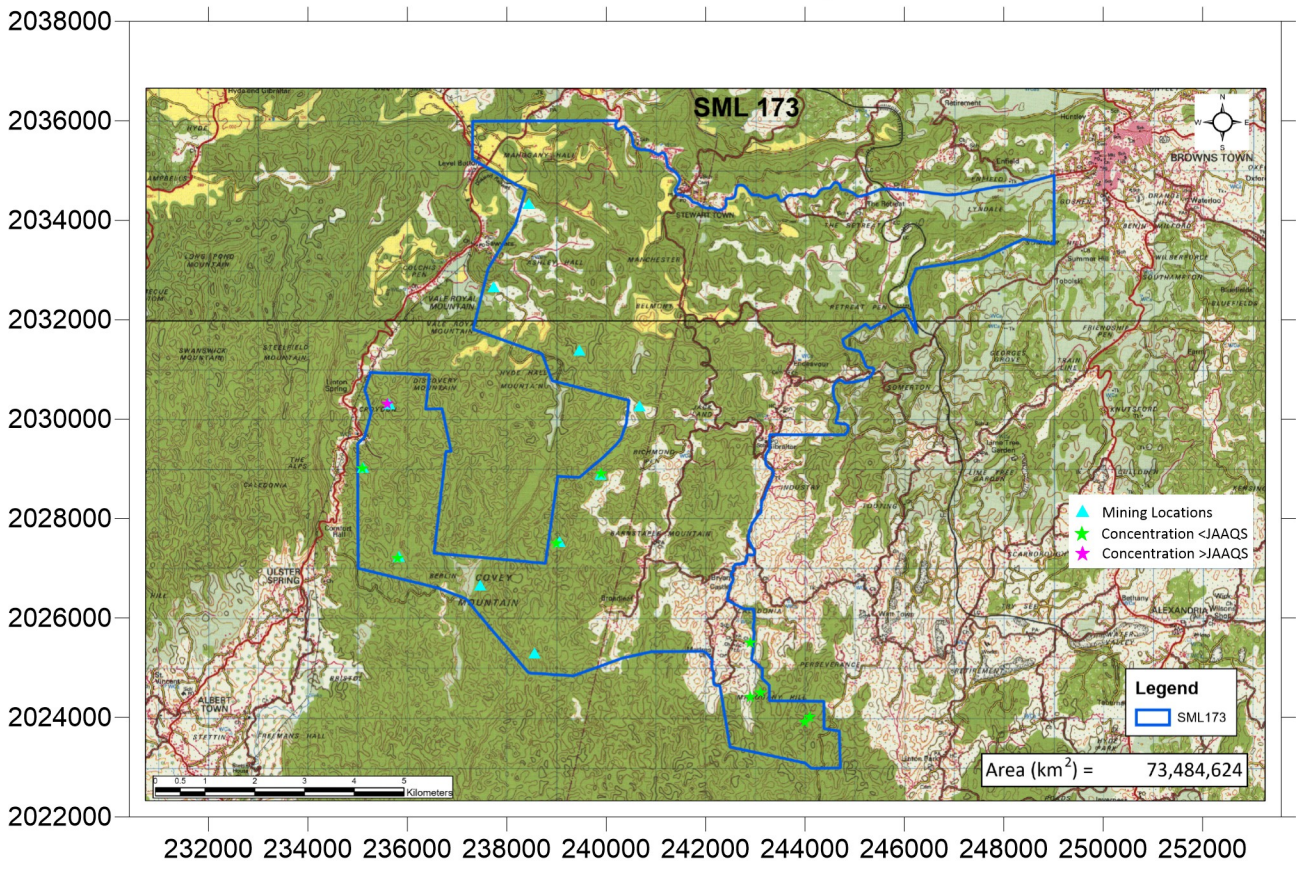


Table 3-39
2030-2033 PM-10 24-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
PM-10	150.00 (24-hr)	2018	235600	2030300	18020324	120.01	9.00	129.01	No	Yes	Located in ore body mine site	18pm1024.inp
			235100	2029000	18032224	98.83		107.83	No	No	Located in ore body mine site	
			239900	2028900	18011624	81.84		90.84	No	No	Located in ore body mine site	
			242900	2025500	18101724	60.00		69.00	No	No		
			243300	2024100	18102224	58.66		67.66	No	No		
			243200	2024100	18102224	55.57		64.57	No	No		
			243100	2024000	18102224	55.11		64.11	No	No		
			235800	2027200	18011924	54.91		63.91	No	No	Located in ore body mine site	
			244600	2023200	18011824	54.74		63.74	No	No		
			244400	2023000	18011824	54.37		63.37	No	No		

Figure 3-39
PM-10
24-hr Averaging Period
2018
2030-2033 Mining Sites

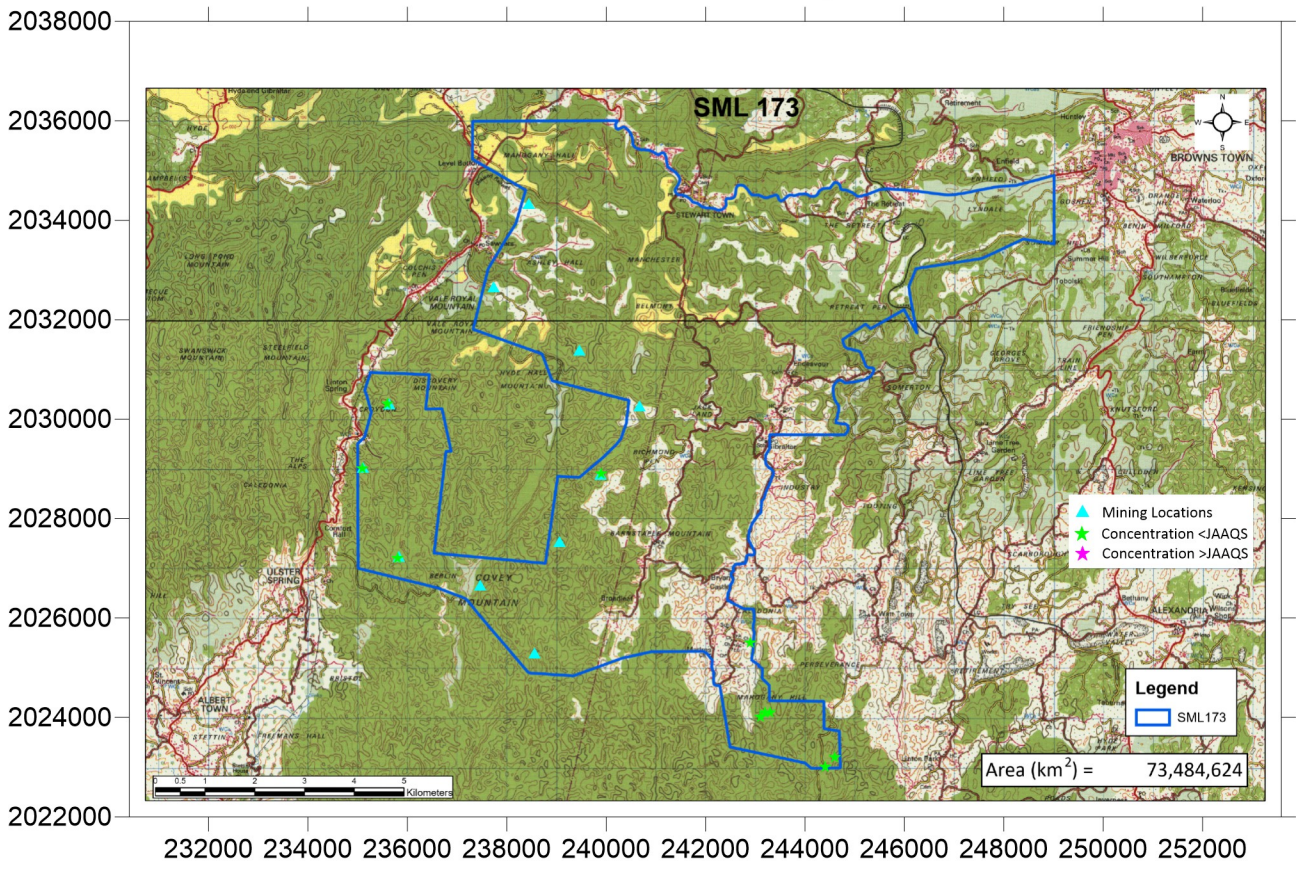


Table 3-40
2030-2033 PM-10 24-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
PM-10	150.00 (24-hr)	2019	235600	2030300	19121224	190.43	9.00	199.43	Yes	Yes	Located in ore body mine site	19pm1024.inp
			239900	2028900	19102824	92.32		101.32	No	No	Located in ore body mine site	
			235100	2029000	19102824	88.99		97.99	No	No	Located in ore body mine site	
			243100	2025000	19112724	72.30		81.30	No	No		
			242900	2025000	19112724	61.78		70.78	No	No		
			242900	2025100	19112724	58.65		67.65	No	No		
			238500	2025300	19122124	57.48		66.48	No	No		
			244200	2023500	19121224	55.85		64.85	No	No	Located in ore body mine site	
			242900	2024300	19121224	54.73		63.73	No	No		
			239000	2027500	19121224	54.69		63.69	No	No	Located in ore body mine site	

Figure 3-40
PM-10
24-hr Averaging Period
2019
2030-2033 Mining Sites

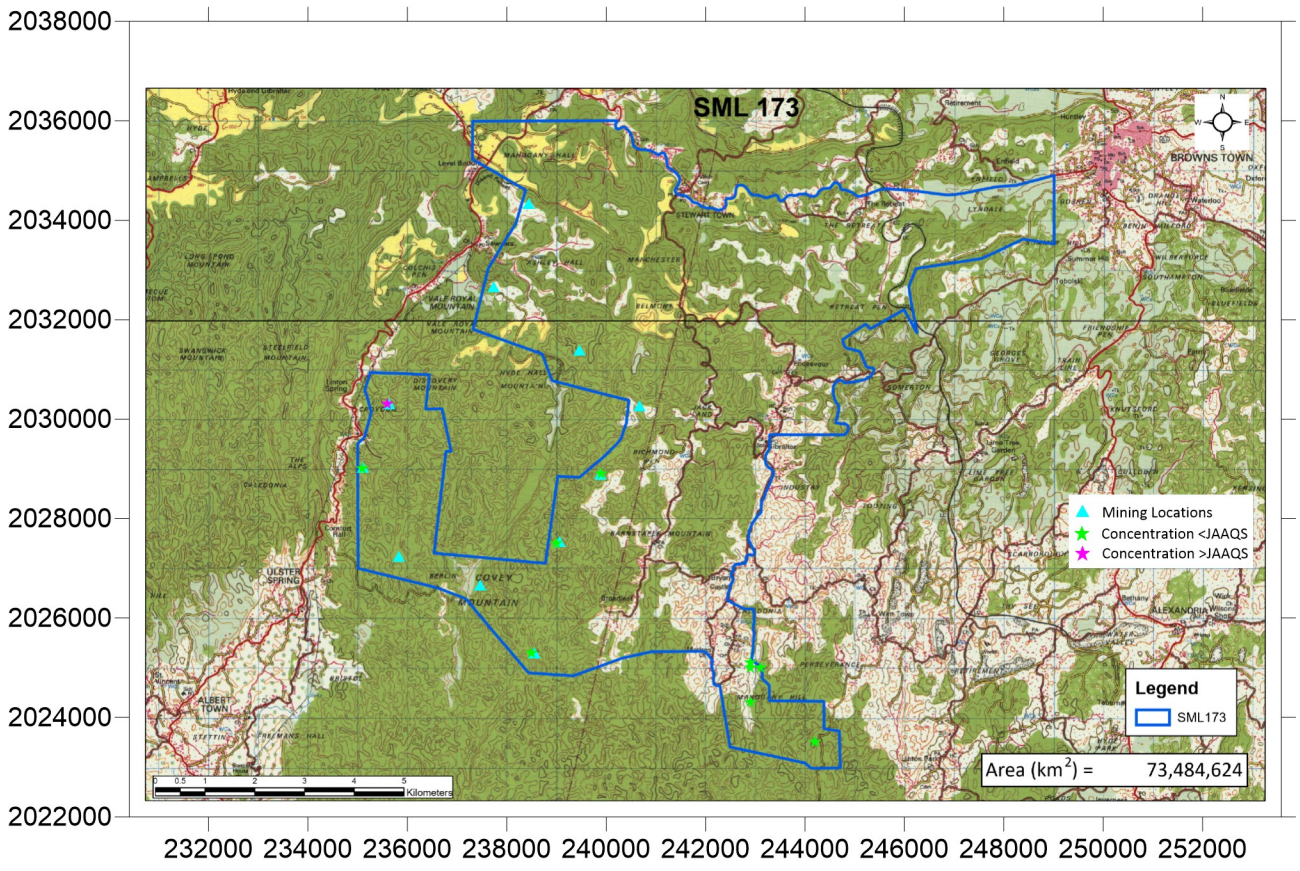


Table 3-41
2030-2033 TSP Annual Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	60.00 (Annual)	2011	235600	2030300	-	58.65	20.00	78.65	Yes	Yes	Located in ore body mine site	11tspan2.inp
			239900	2028900	-	55.54		75.54	Yes	Yes	Located in ore body mine site	
			235100	2029000	-	48.30		68.30	Yes	Yes	Located in ore body mine site	
			235800	2027200	-	29.17		49.17	No	Yes	Located in ore body mine site	
			237700	2032700	-	25.27		45.27	No	Yes	Located in ore body mine site	
			239400	2031400	-	24.35		44.35	No	No	Located in ore body mine site	
			238500	2025300	-	24.24		44.24	No	No	Located in ore body mine site	
			240600	2030300	-	23.44		43.44	No	No	Located in ore body mine site	
			240700	2030300	-	23.27		43.27	No	No	Located in ore body mine site	
			244600	2029700	-	18.44		38.44	No	No		

Figure 3-41
TSP
Annual Averaging Period
2011
2030-2033 Mining Sites

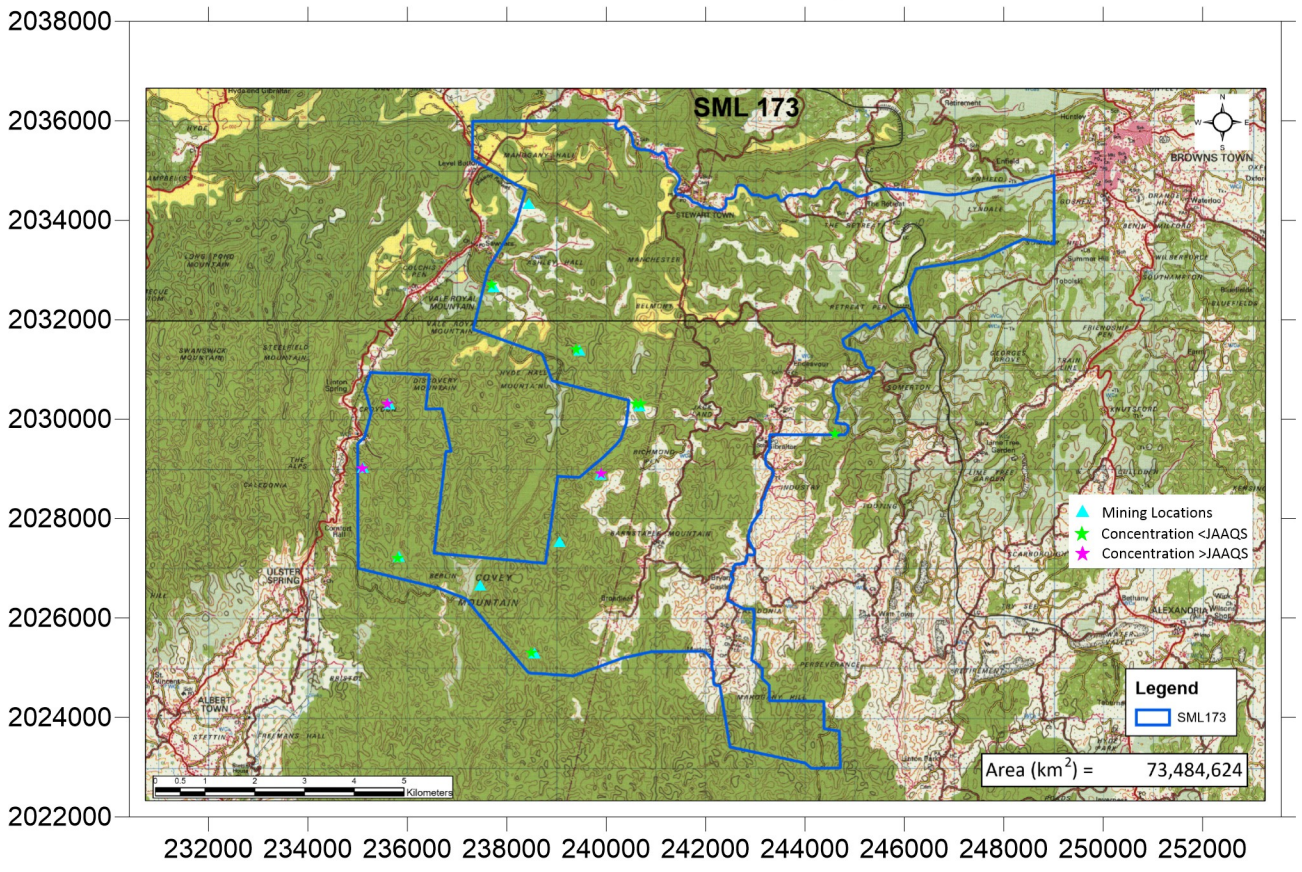


Table 3-42
2030-2033 TSP Annual Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	60.00 (Annual)	2016	235600	2030300	-	62.94	20.00	82.94	Yes	Yes	Located in ore body mine site	16tspan2.inp
			239900	2028900	-	56.76		76.76	Yes	Yes	Located in ore body mine site	
			235100	2029000	-	51.28		71.28	Yes	Yes	Located in ore body mine site	
			235800	2027200	-	30.18		50.18	No	Yes	Located in ore body mine site	
			237700	2032700	-	26.79		46.79	No	Yes	Located in ore body mine site	
			240700	2030300	-	24.09		44.09	No	No	Located in ore body mine site	
			238500	2025300	-	21.59		41.59	No	No	Located in ore body mine site	
			239400	2031400	-	20.87		40.87	No	No	Located in ore body mine site	
			240600	2030300	-	20.80		40.80	No	No	Located in ore body mine site	
			244600	2029700	-	19.92		39.92	No	No		

Figure 3-42
TSP
Annual Averaging Period
2016
2030-2033 Mining Sites

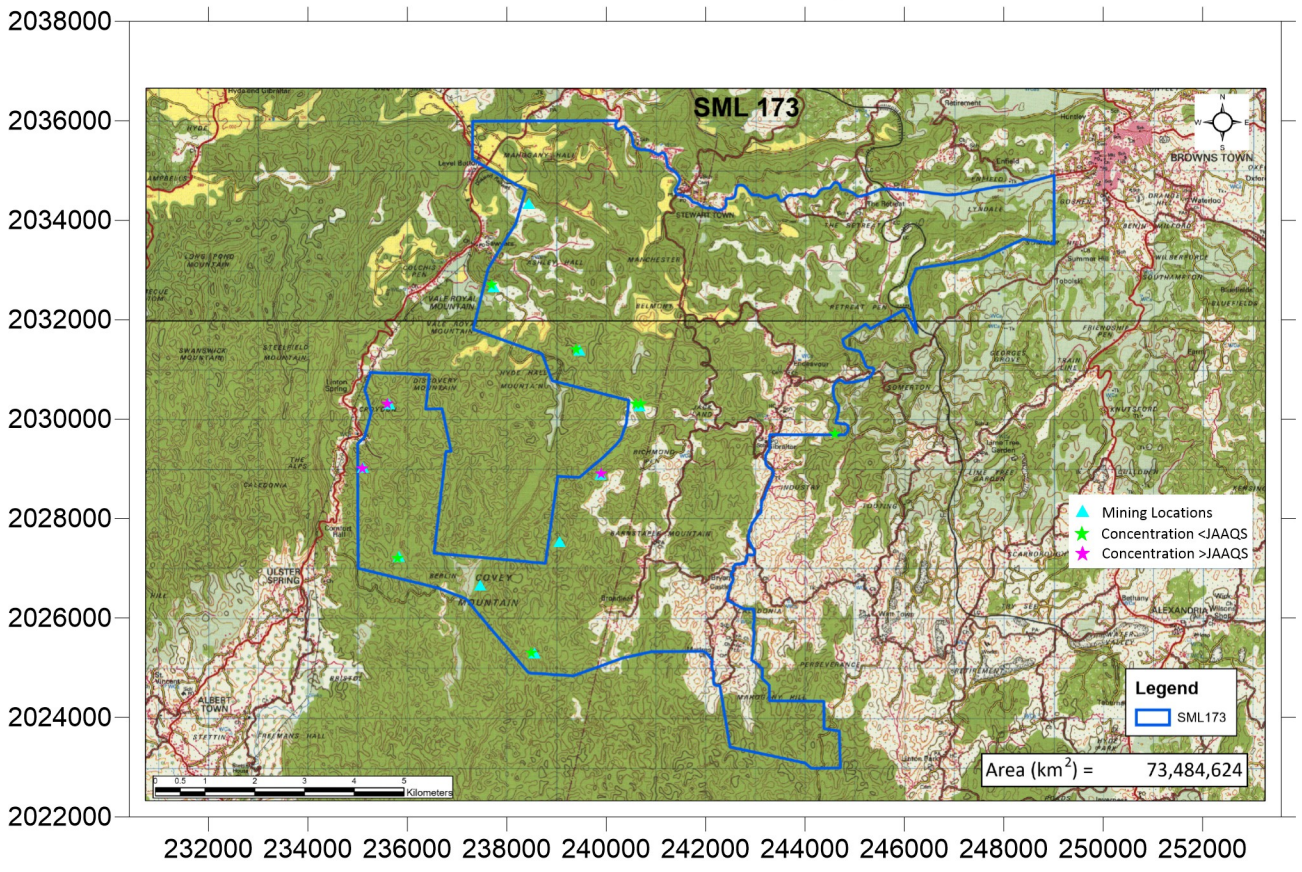


Table 3-43
2030-2033 TSP Annual Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.								
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	60.00 (Annual)	2017	235600	2030300	-	63.98	20.00	83.98	Yes	Yes	Located in ore body mine site	17tspan2.inp
			239900	2028900	-	58.42		78.42	Yes	Yes	Located in ore body mine site	
			235100	2029000	-	52.10		72.10	Yes	Yes	Located in ore body mine site	
			235800	2027200	-	30.09		50.09	No	Yes	Located in ore body mine site	
			237700	2032700	-	28.55		48.55	No	Yes	Located in ore body mine site	
			240700	2030300	-	25.14		45.14	No	Yes	Located in ore body mine site	
			240600	2030300	-	23.21		43.21	No	No	Located in ore body mine site	
			239400	2031400	-	23.08		43.08	No	No	Located in ore body mine site	
			238500	2025300	-	22.73		42.73	No	No	Located in ore body mine site	
			244600	2029700	-	19.98		39.98	No	No		

Figure 3-43
TSP
Annual Averaging Period
2017
2030-2033 Mining Sites

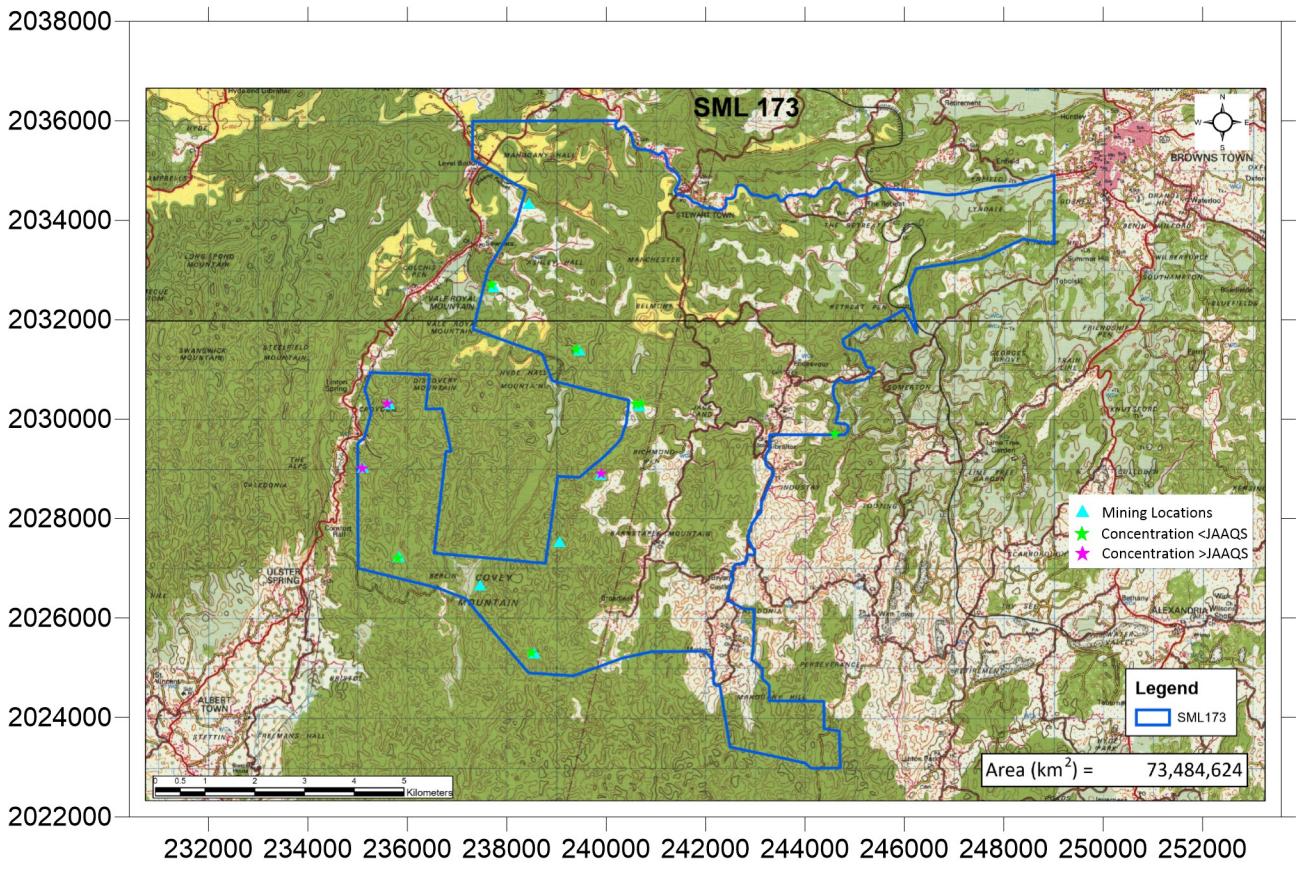


Table 3-44
2030-2033 TSP Annual Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	60.00 (Annual)	2018	235600	2030300	-	61.06	20.00	81.06	Yes	Yes	Located in ore body mine site	18tspan2.inp
			239900	2028900	-	58.75		78.75	Yes	Yes	Located in ore body mine site	
			235100	2029000	-	52.60		72.60	Yes	Yes	Located in ore body mine site	
			235800	2027200	-	30.29		50.29	No	Yes	Located in ore body mine site	
			237700	2032700	-	28.82		48.82	No	Yes	Located in ore body mine site	
			240700	2030300	-	24.65		44.65	No	No	Located in ore body mine site	
			242400	2029800	-	21.09		41.09	No	No		
			238500	2025300	-	21.03		41.03	No	No	Located in ore body mine site	
			244600	2029700	-	20.25		40.25	No	No		
			239400	2031400	-	19.86		39.86	No	No	Located in ore body mine site	

Figure 3-44
TSP
Annual Averaging Period
2018
2030-2033 Mining Sites

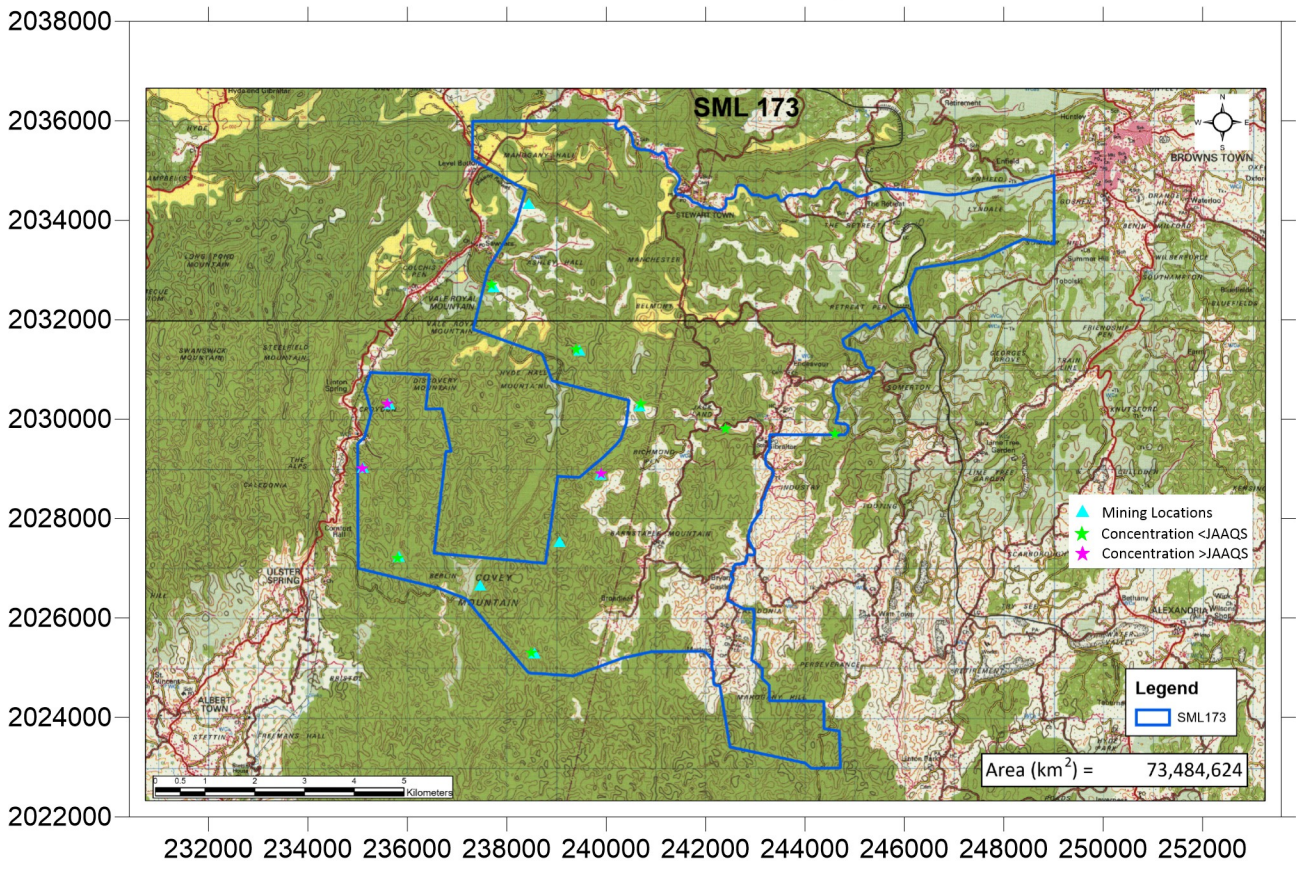


Table 3-45
2030-2033 TSP Annual Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	60.00 (Annual)	2019	239900	2028900	-	62.56	20.00	82.56	Yes	Yes	Located in ore body mine site	19tspan2.inp
			235600	2030300	-	59.88		79.88	Yes	Yes	Located in ore body mine site	
			235100	2029000	-	56.95		76.95	Yes	Yes	Located in ore body mine site	
			237700	2032700	-	32.99		52.99	No	Yes	Located in ore body mine site	
			235800	2027200	-	32.05		52.05	No	Yes	Located in ore body mine site	
			242400	2029800	-	28.10		48.10	No	Yes		
			242200	2029800	-	26.85		46.85	No	Yes		
			240700	2030300	-	26.55		46.55	No	Yes	Located in ore body mine site	
			242300	2029800	-	25.65		45.65	No	Yes		
			244600	2029700	-	25.54		45.54	No	Yes		

Figure 3-45
TSP
Annual Averaging Period
2019
2030-2033 Mining Sites

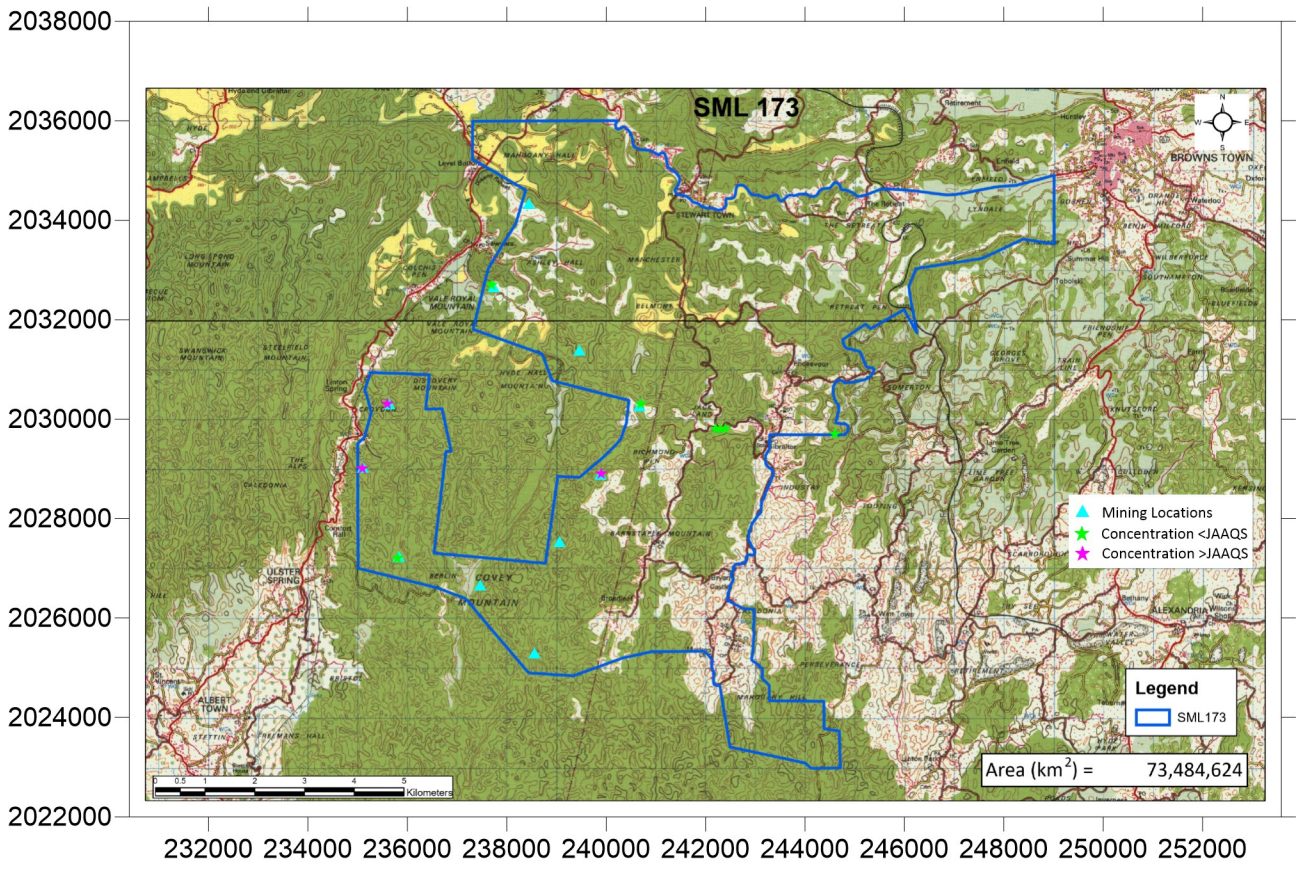


Table 3-46
2030-2033 TSP 24-hr Modeling Summary (2011)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	150.00 (24-hr)	2011	235600	2030300	11112024	216.56	14.00	230.56	Yes	Yes	Located in ore body mine site	11tsp24.inp
			235100	2029000	11031124	174.50		188.50	Yes	Yes	Located in ore body mine site	
			239900	2028900	11110124	154.83		168.83	Yes	Yes	Located in ore body mine site	
			235800	2027200	11011424	110.87		124.87	No	Yes	Located in ore body mine site	
			239400	2031400	11072624	91.11		105.11	No	No	Located in ore body mine site	
			240600	2030300	11101224	70.36		84.36	No	No	Located in ore body mine site	
			238500	2025300	11091624	66.81		80.81	No	No	Located in ore body mine site	
			237700	2032700	11020524	62.88		76.88	No	No	Located in ore body mine site	
			240700	2030300	11030624	58.31		72.31	No	No	Located in ore body mine site	
			239000	2027500	11112024	54.56		68.56	No	No	Located in ore body mine site	

Figure 3-46
TSP
24-hr Averaging Period
2011
2030-2033 Mining Sites

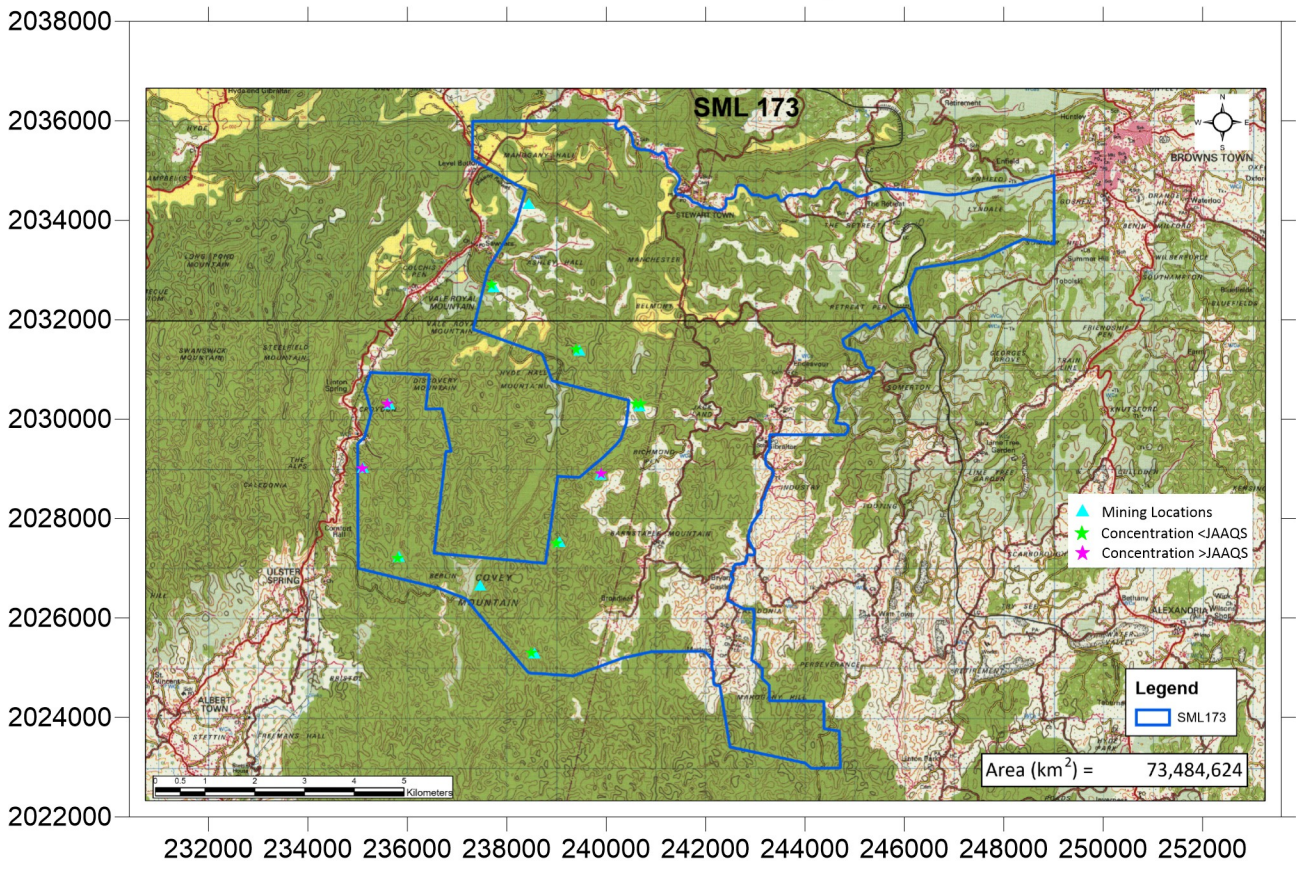


Table 3-47
2030-2033 TSP 24-hr Modeling Summary (2016)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	150.00 (24-hr)	2016	235600	2030300	16110824	304.35	14.00	318.35	Yes	Yes	Located in ore body mine site	16tsp24.inp
			235100	2029000	16101224	155.47		169.47	Yes	Yes	Located in ore body mine site	
			239900	2028900	16011224	147.45		161.45	Yes	Yes	Located in ore body mine site	
			235800	2027200	16040524	96.54		110.54	No	No	Located in ore body mine site	
			238500	2025300	16030824	81.09		95.09	No	No	Located in ore body mine site	
			239000	2027500	16110824	69.71		83.71	No	No	Located in ore body mine site	
			239400	2031400	16010924	65.98		79.98	No	No	Located in ore body mine site	
			237700	2032700	16081124	63.47		77.47	No	No	Located in ore body mine site	
			240600	2030300	16010924	62.49		76.49	No	No	Located in ore body mine site	
			240700	2030300	16011224	57.09		71.09	No	No	Located in ore body mine site	

Figure 3-47
TSP
24-hr Averaging Period
2016
2030-2033 Mining Sites

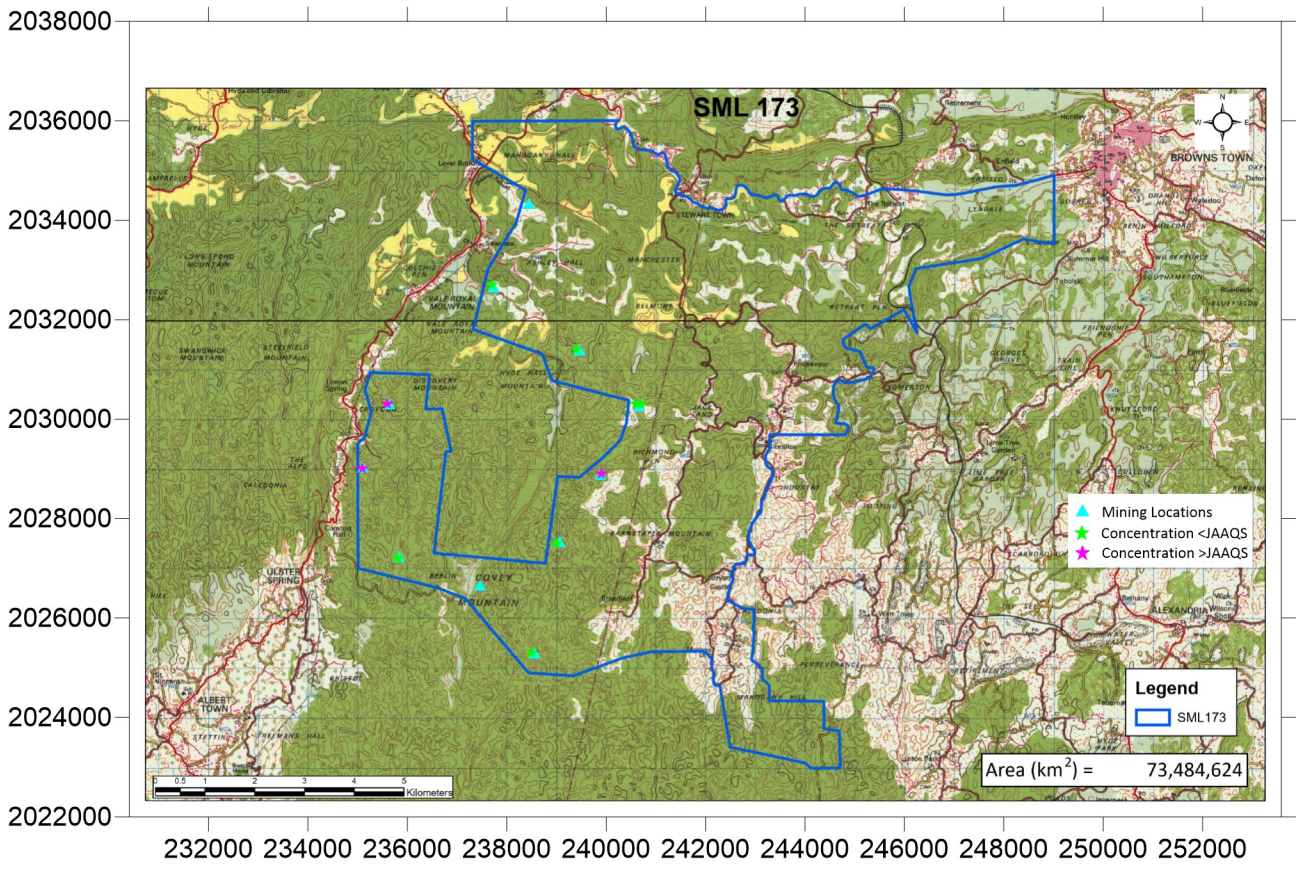


Table 3-48
2030-2033 TSP 24-hr Modeling Summary (2017)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		File
TSP	150.00 (24-hr)	2017	235600	2030300	17121724	282.15	14.00	296.15	Yes	Yes	Located in ore body mine site	17tsp24.inp
			235100	2029000	17111624	191.54		205.54	Yes	Yes	Located in ore body mine site	
			239900	2028900	17120124	158.07		172.07	Yes	Yes	Located in ore body mine site	
			235800	2027200	17092124	95.08		109.08	No	No	Located in ore body mine site	
			239000	2027500	17120324	89.34		103.34	No	No	Located in ore body mine site	
			237700	2032700	17013124	75.95		89.95	No	No	Located in ore body mine site	
			238500	2025300	17070124	74.90		88.90	No	No	Located in ore body mine site	
			239400	2031400	17120624	61.46		75.46	No	No	Located in ore body mine site	
			240700	2030300	17120124	60.89		74.89	No	No	Located in ore body mine site	
			240600	2030300	17110424	54.72		68.72	No	No	Located in ore body mine site	

Figure 3-48
TSP
24-hr Averaging Period
2017
2030-2033 Mining Sites

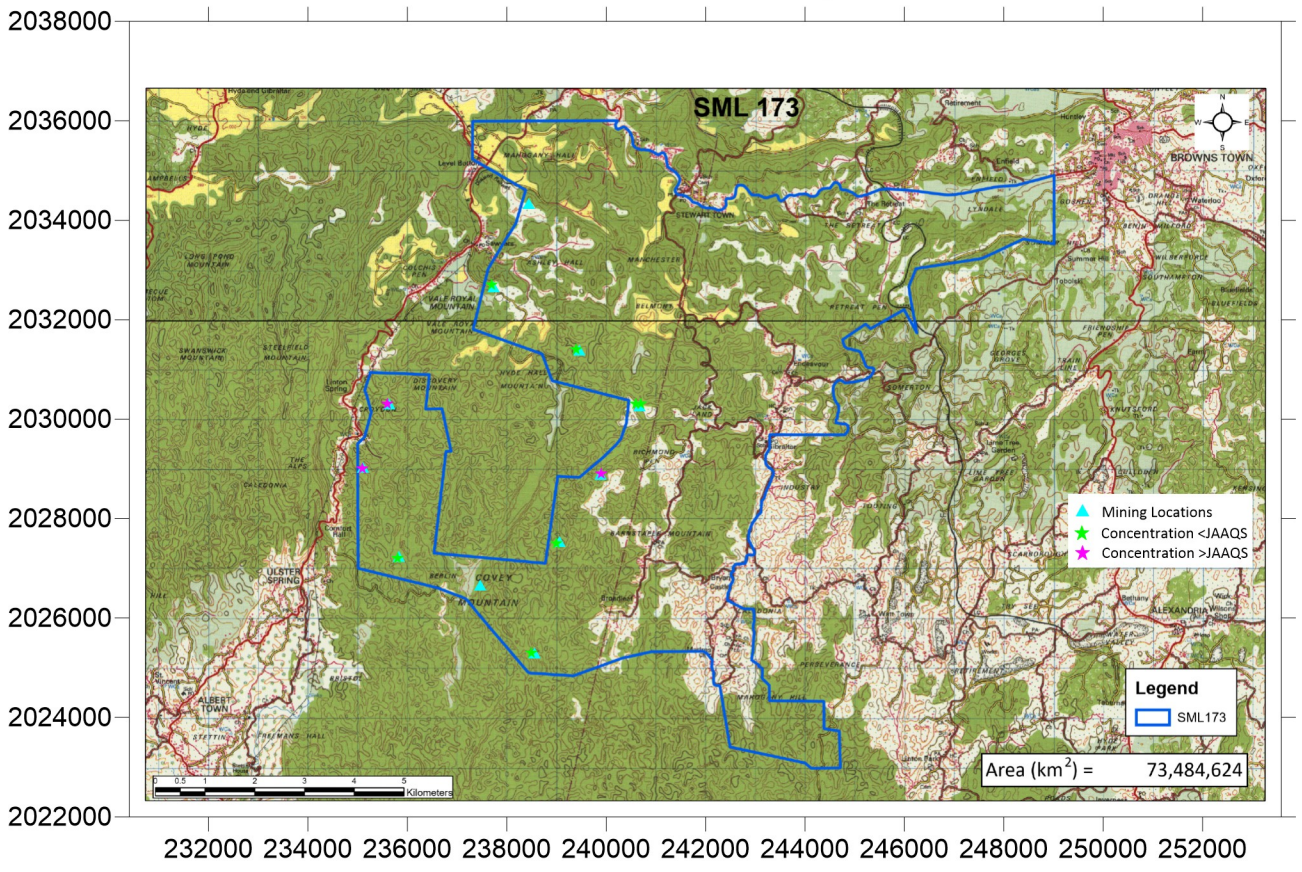


Table 3-49
2030-2033 TSP 24-hr Modeling Summary (2018)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	150.00 (24-hr)	2018	235600	2030300	18020324	226.68	14.00	240.68	Yes	Yes	Located in ore body mine site	18tsp24.inp
			235100	2029000	18032224	186.41		200.41	Yes	Yes	Located in ore body mine site	
			239900	2028900	18011624	152.87		166.87	Yes	Yes	Located in ore body mine site	
			235800	2027200	18011924	102.75		116.75	No	Yes	Located in ore body mine site	
			237700	2032700	18051024	97.69		111.69	No	No	Located in ore body mine site	
			238500	2025300	18092524	82.44		96.44	No	No	Located in ore body mine site	
			242900	2025500	18101724	60.01		74.01	No	No		
			240700	2030300	18040624	59.84		73.84	No	No	Located in ore body mine site	
			243300	2024100	18102224	58.67		72.67	No	No	Located in ore body mine site	
			239400	2031400	18012124	58.64		72.64	No	No	Located in ore body mine site	

Figure 3-49
TSP
24-hr Averaging Period
2018
2030-2033 Mining Sites

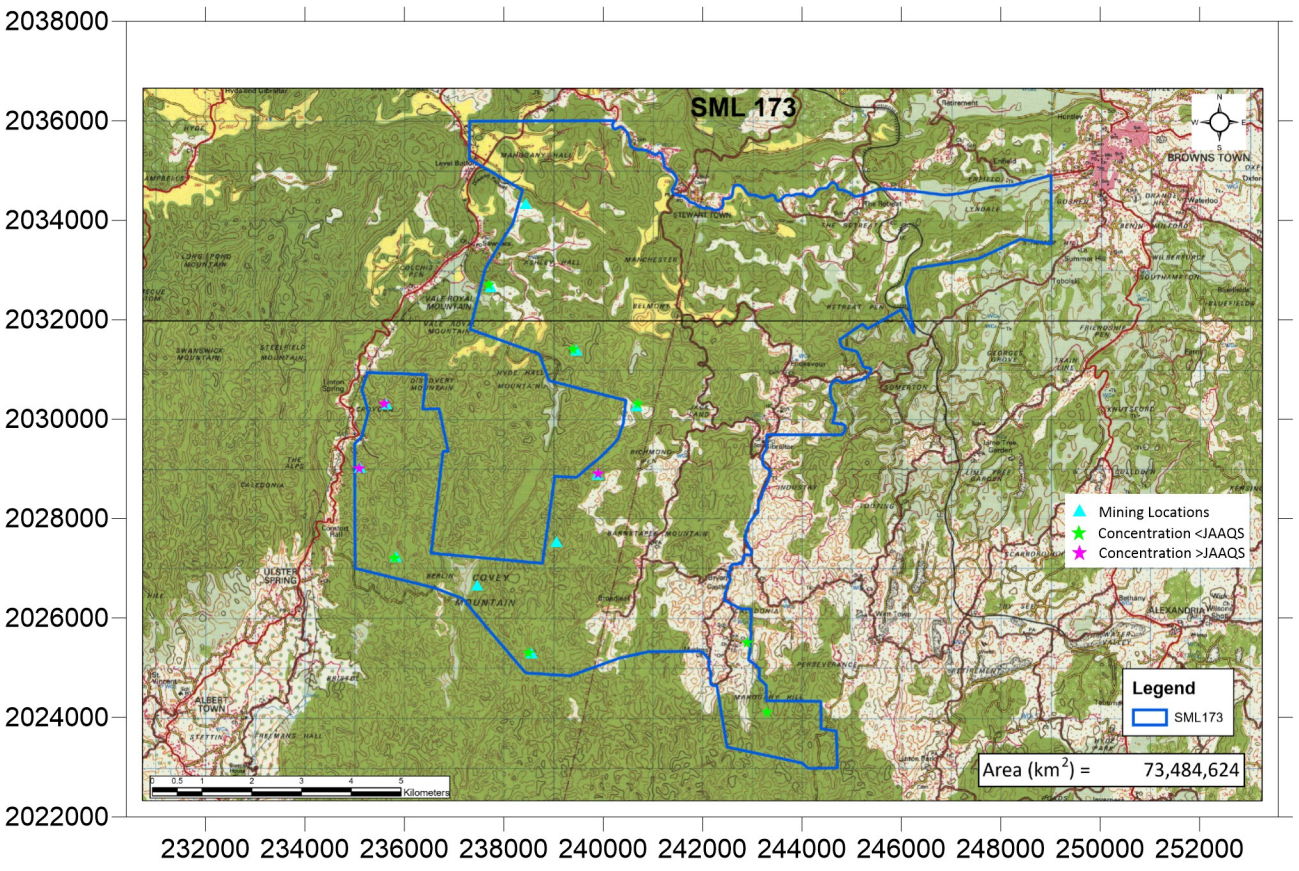


Table 3-50
2030-2033 TSP 24-hr Modeling Summary (2019)

Pollutant	JAAQS	Year	Max. Off-Site Conc.									
			UTM		Julian Date	Modeled Conc.	Default Background	Total Concentration	Above Standard	Above 75% of	Comments	Associated Runstream File
	ug/m^3		mE	mE		ug/m^3	ug/m^3	ug/m^3	> AAS?	JAAQS?		
TSP	150.00 (24-hr)	2019	235600	2030300	19121224	360.66	14.00	374.66	Yes	Yes	Located in ore body mine site	19tsp24.inp
			239900	2028900	19102824	172.60		186.60	Yes	Yes	Located in ore body mine site	
			235100	2029000	19102824	166.95		180.95	Yes	Yes	Located in ore body mine site	
			238500	2025300	19122124	103.82		117.82	No	Yes	Located in ore body mine site	
			239000	2027500	19121224	101.12		115.12	No	Yes	Located in ore body mine site	
			235800	2027200	19091824	99.86		113.86	No	Yes	Located in ore body mine site	
			237700	2032700	19100224	97.66		111.66	No	No	Located in ore body mine site	
			243100	2025000	19112724	72.30		86.30	No	No	Located in ore body mine site	
			240700	2030300	19102824	65.93		79.93	No	No		
			239400	2031400	19072024	64.51		78.51	No	No	Located in ore body mine site	

Figure 3-50
TSP
24-hr Averaging Period
2019
2030-2033 Mining Sites

