

Table MOE Air-2-1: Existing and Predicted Ambient Air Concentrations

Indicator		Baseline Concentration ^(a) (µg/m ³)	Maximum Predicted Air Concentration (µg/m ³)			
Compound	Averaging Period		Local Study Area ^(b)	LSA with 500m buffer	Regional Study Area ^(c)	Beyond Regional Study Area ^(d)
PM _{2.5}	24-hour	4.93	77.53	59.09	9.20	2.77
	Annual	—	10.72	7.47	0.82	0.63
PM ₁₀	24-hour	17.81	473.44	356.13	85.17	69.93
TSP	24-hour	35.62	1182.00	842.56	182.52	140.79
	Annual	—	168.37	113.32	11.26	9.09
NO ₂	1-hour	2.32	338.93	—	162.90	140.47
	24-hour	2.32	113.51	—	62.97	50.43
	Annual	—	53.26	—	3.38	2.59
SO ₂	1-hour	2.62	868.16	—	197.61	152.68
	24-hour	1.77	25.25	—	11.46	8.42
	Annual	—	1.56	—	0.55	0.45
CO	1-hour	1150	2039.60	—	751.42	619.16
	8-hour	1160	1139.41	—	419.77	345.89

(a) Values used in the HHERA; no baseline concentration data is available for the annual averaging period

(b) Represents the maximum ambient air concentration outside of the property boundary but within the LSA

(c) Represents the maximum ambient air concentration outside the LSA but within the RSA

(d) Represents the maximum ambient air concentration outside the RSA

Table MOE Air-2-2: Maximum Ambient Air Concentrations for the Project

Indicator		NAAQO/CAAQS ($\mu\text{g}/\text{m}^3$)	Maximum Ambient Air Concentration ($\mu\text{g}/\text{m}^3$)			
Compound	Averaging Period		Local Study Area ^(a)	LSA with 500m buffer	Regional Study Area ^(b)	Beyond Regional Study Area ^(c)
PM _{2.5}	24-hour	28*	82	64	14	8
	Annual ^(d)	10	11	7	1	1
PM ₁₀	24-hour	50 (interim AAQO)	491	374	103	88
TSP	24-hour	120 (AAQO)	1,218	878	218	176
	Annual ^(d)	70	181	116	11	9
NO ₂	1-hour	400	341	—	165	143
	24-hour	200	116	—	65	53
	Annual ^(d)	100	53	—	3	3
SO ₂	1-hour	900	871	—	200	155
	24-hour	300	27	—	13	10
	Annual ^(d)	60	2	—	1	0
CO	1-hour	35,000	3,190	—	1,901	1,769
	8-hour	15,000	2,299	—	1,580	1,506

(a) Represents the maximum ambient air concentration outside of the property boundary but within the LSA

(b) Represents the maximum ambient air concentration outside the LSA but within the RSA

(c) Represents the maximum ambient air concentration outside the RSA

(d) No baseline concentration data is available for the annual averaging period and therefore values in the table for annual averaging periods are modelled concentrations only.

*Criteria is based on the 98th percentile, however the maximum ambient air concentration for each study area is shown

Table MOE Air-2-3: Frequency above Applicable Criteria Analysis Results

Indicator		NAAQO/CAAQS (µg/m ³)	Frequency above Applicable Criteria Results			
Compound	Averaging Period		Local Study Area ^(a)	LSA with 500m buffer	Regional Study Area ^(b)	Beyond Regional Study Area ^(c)
PM _{2.5}	24-hour	28*	21%	2%	—	—
	Annual ^(d)	10	5/5	—	—	—
PM ₁₀	24-hour	50 (interim AAQO)	60%	24%	2%	1%
TSP	24-hour	120 (AAQO)	63%	39%	1%	0.3%
	Annual ^(d)	70	5/5	5/5	—	—

(a) Represents the maximum ambient air concentration outside of the property boundary but within the LSA

(b) Represents the maximum ambient air concentration outside the LSA but within the RSA

(c) Represents the maximum ambient air concentration outside the RSA

(d) Frequency above Annual Averaging Periods are expressed in terms of number of years in the 5-year AERMOD meteorological data set in which the annual average concentration is predicted to be above the NAAQO/CAAQS criteria

*Criteria is based on the 98th percentile, however the maximum ambient air concentration for each study area is shown

‘—’ means concentration is always predicted to be below the criteria

Table MOE AIR 2-4: Cumulative Air Quality Concentration at Receptor Locations for the 24-hr Averaging Period

Receptor	Easting [km]	Northing [km]	Cumulative Air Quality Concentration [$\mu\text{g}/\text{m}^3$]				
			TSP	PM10	PM2.5	SO2	NO2
Receptor 1	634.729	5,435.560	109.14	49.98	10.49	4.94	25.80
Receptor 2	621.329	5,407.827	120.29	58.94	12.02	5.56	31.65
Receptor 3	599.103	5,407.955	71.10	36.38	8.19	5.03	15.44
Receptor 4	601.019	5,401.373	103.34	52.34	10.93	5.84	26.97
Receptor 5	602.252	5,433.101	100.00	48.47	10.37	6.59	24.35
Receptor 6	606.970	5,415.292	151.11	74.06	14.89	12.03	43.95
Receptor 7	606.970	5,413.525	176.75	86.34	16.78	7.39	52.32
Receptor 8	607.976	5,417.527	216.79	113.26	21.30	12.66	71.45
Receptor 9	612.400	5,439.064	84.79	41.35	9.00	7.82	19.44
Receptor 12	610.866	5,413.196	271.14	124.44	23.66	8.72	81.17
Receptor 13	621.419	5,418.271	279.45	120.19	23.87	8.70	74.51
Receptor 14	619.206	5,411.765	177.81	79.81	15.82	6.34	46.64
Receptor 15	615.718	5,433.437	108.68	51.99	10.86	10.95	28.15
Receptor 16	606.511	5,435.326	105.75	48.13	10.19	7.11	25.02
Receptor 18	601.534	5,416.647	113.48	54.85	11.58	9.11	29.14
Receptor 20	623.275	5,422.826	195.77	88.94	17.97	11.06	51.77
Receptor 21	620.559	5,439.329	87.64	38.80	8.60	5.92	18.05
Receptor 22	606.019	5,436.032	94.20	44.39	9.56	7.08	21.98
Receptor 24	606.925	5,428.702	186.46	82.18	16.04	10.09	49.85
Receptor 25	622.015	5,428.871	161.71	79.93	15.80	7.91	48.16
Receptor 26	618.758	5,435.290	87.03	40.80	9.08	8.19	19.40
Receptor 27	621.600	5,432.857	147.07	64.25	12.88	9.91	36.84
Receptor 28	626.980	5,419.176	169.12	78.35	15.95	7.70	44.53
Receptor 29	617.283	5,426.253	277.48	120.62	23.97	13.74	79.43
Receptor 30	602.629	5,412.109	97.33	48.95	10.45	7.68	24.20
Receptor 31	613.059	5,410.973	232.69	104.51	20.13	7.49	65.09
Receptor 32	617.518	5,415.904	323.46	140.93	27.44	6.96	90.23
Receptor 33	606.883	5,432.877	104.10	50.07	10.32	9.08	25.67
Receptor 34	629.368	5,420.150	133.14	64.55	13.38	9.89	34.39
Receptor 35	616.320	5,434.785	92.53	44.52	9.71	10.01	22.32
Receptor 38	618.108	5,416.927	374.67	163.37	31.52	7.98	92.04

Receptor 39	599.386	5,413.575	82.50	41.83	9.17	7.77	19.35
Receptor 40	622.090	5,412.726	203.59	92.15	18.79	6.91	55.79
Receptor 41	616.407	5,426.925	229.82	112.06	22.35	15.92	90.57
Receptor 42	616.317	5,426.799	237.10	113.53	22.00	16.11	78.41
Receptor 43	616.460	5,426.912	234.91	113.53	23.21	16.16	98.89
Receptor 44	616.479	5,426.917	238.15	115.43	25.80	16.21	101.94
Receptor 45	616.499	5,426.921	238.70	115.45	25.78	16.23	106.42
Receptor 46	616.445	5,427.011	227.24	111.45	23.92	15.65	98.21
Receptor 47	616.464	5,427.013	230.14	113.51	26.52	15.73	99.48
Receptor 48	616.484	5,427.016	231.28	113.92	26.60	15.80	104.25
Receptor 49	616.444	5,427.115	222.37	106.61	22.03	14.96	95.42
Receptor 50	616.463	5,427.110	222.69	108.17	23.09	15.12	96.63
Receptor 51	616.482	5,427.105	221.89	109.10	25.08	15.26	100.46