Table 2.5-7
Ambient Air Dispersion Modelling Results
Maximum Boundary Concentrations 2006 (Year 10)

		Concentration at Boundary (A.A.) South of Source (μg/Nm³)			Canadian Ambient Air Quality Objectives (mg/Nm³)	
Parameter	**Averaging Period**	**Koala Area**	**Open Pits Panda, Koala, Fox, Leslie**	**Misery Site**	**Acceptable**	**Tolerable**
Sulphur Dioxide	**Annual**	**0.13**	**0.11**	**0.12**	**<60**	--
	24 hours	12.51	4.29	8.54	<300	300-800
	1 hour	15.7	15.8	16.5	<900	--
Suspended Particulate	**Annual**	**0.05**	**0.005**	**4.26**	<**70**	--
	24 hours	6.89	0.65	378	<120	120-400
	1 hour	--	--	--	--	--
Carbon Monoxide	8 hours	--	--	--	<15,000	15,000-20,000
	1 hour	16.5	22.6	26.7	<35,000	--
Nitrogen Oxide (as NO_2)	**Annual**	3.41	**1.08**	**0.58**	<**100**	--
	24 hour	309	43.5	32.5	<200	200-300
	1 hour	388	154	75.9	<400	400-1,000

A.A.: Ambient Air.

2.5.1.1 Mitigation of Air Emissions

The computer modelling predicts that the worst case, long-term ambient concentrations for each contaminant modelled are all less than the acceptable level Canadian Ambient Air Quality Objectives at or beyond the mineral claims boundary.

Nitrogen dioxide source emissions will be evaluated annually for the stationary sources (diesel genset and boiler) and used for the basis of a monitoring program. The annual monitoring will indicate whether the systems are operating to expected efficiency or require adjustment.

As part of the ongoing technology review, there is a commitment to the utilization, where appropriate, of new technology and improved formulations of fuels that will decrease the overall project impact on the environment.

2.5.1.2 Residual Effects of Air Emissions

Long-term residual effects and the area impacted by the ambient air quality should be negligible, taking into consideration the overall air emissions impact

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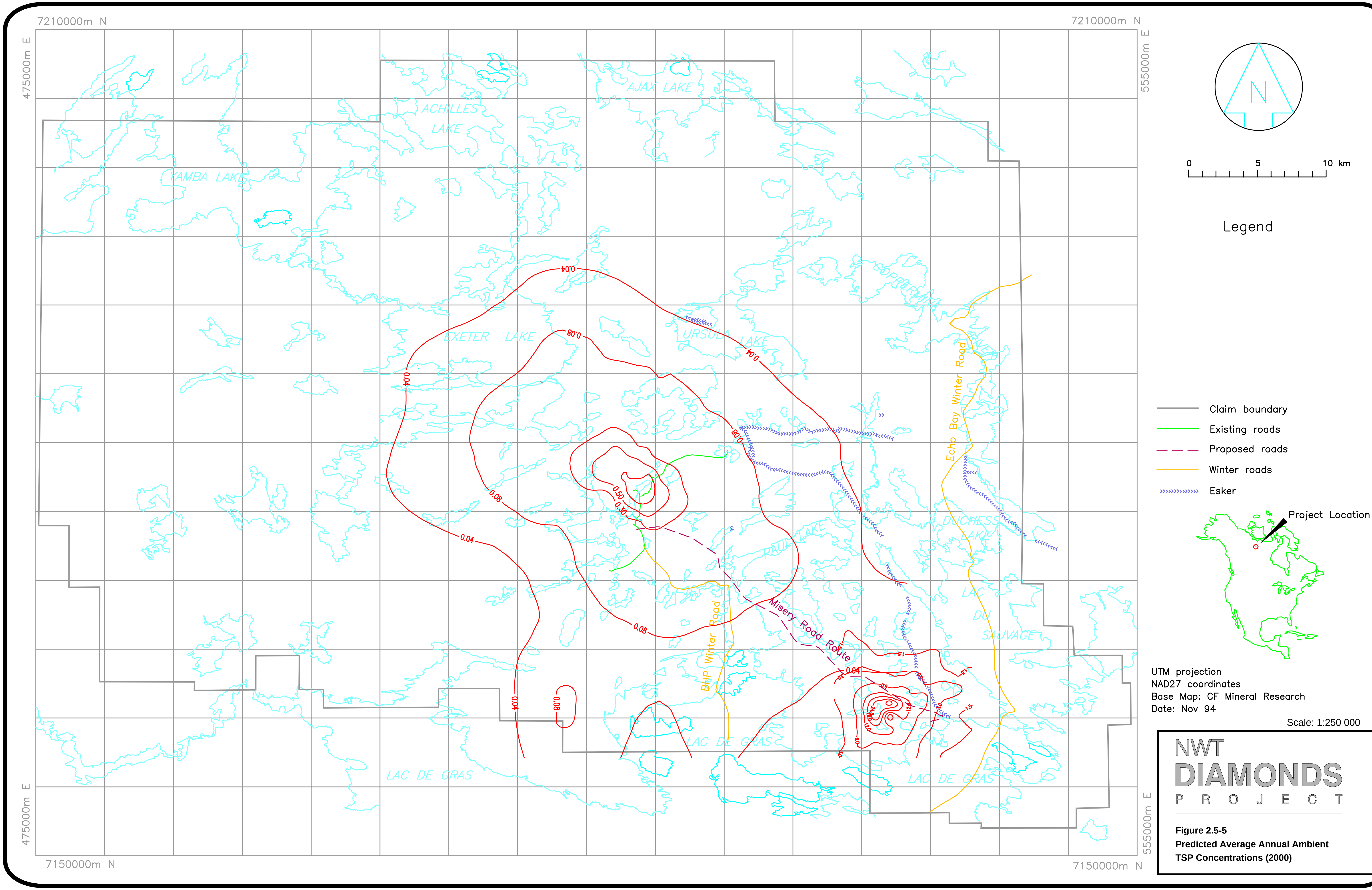

Figure 2.5-5
Predicted Average Annual Ambient TSP Concentrations (2000)

Source: Rescan

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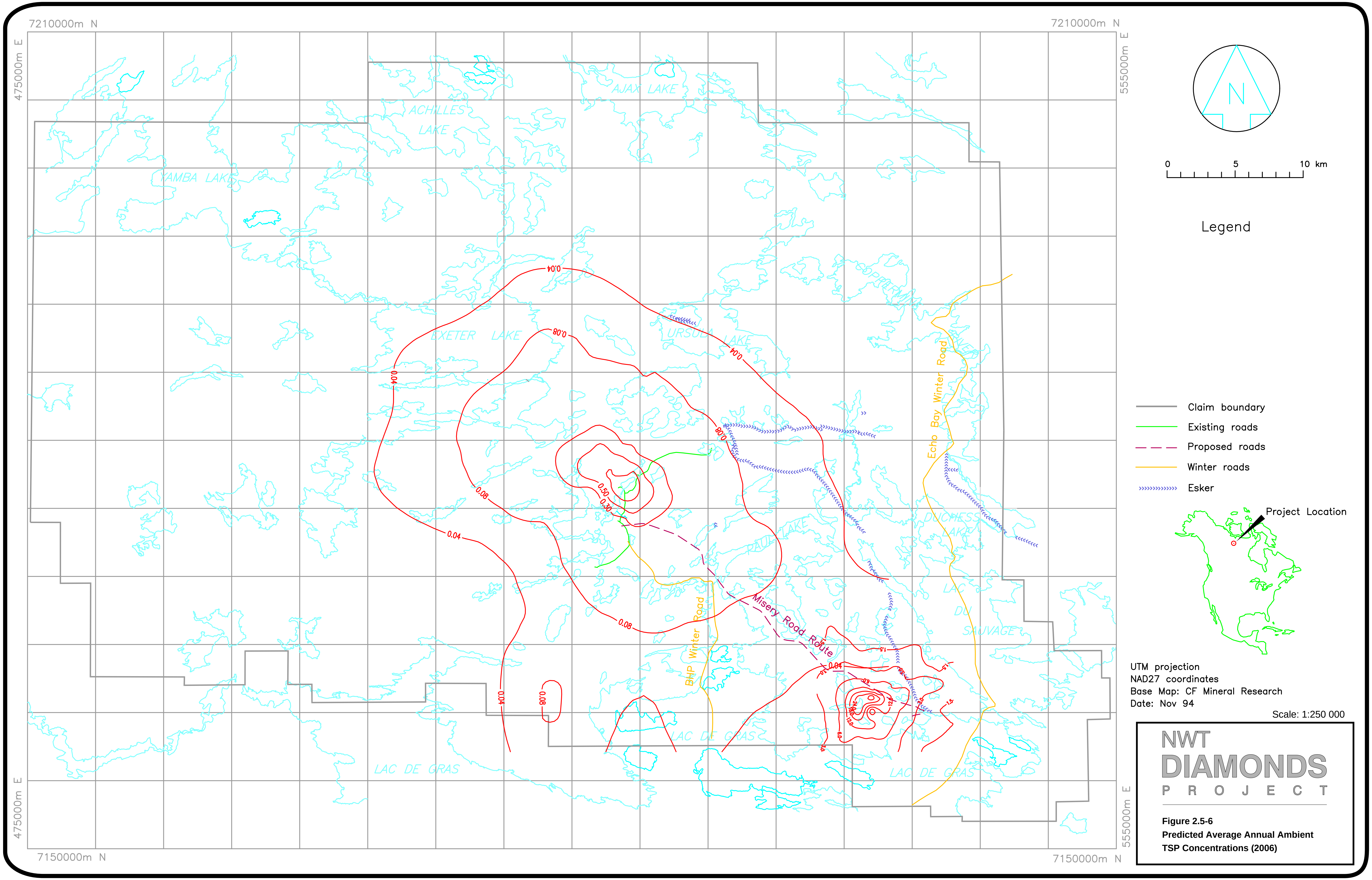

Figure 2.5-6
Predicted Average Annual Ambient TSP Concentrations (2006)

Source: Rescan

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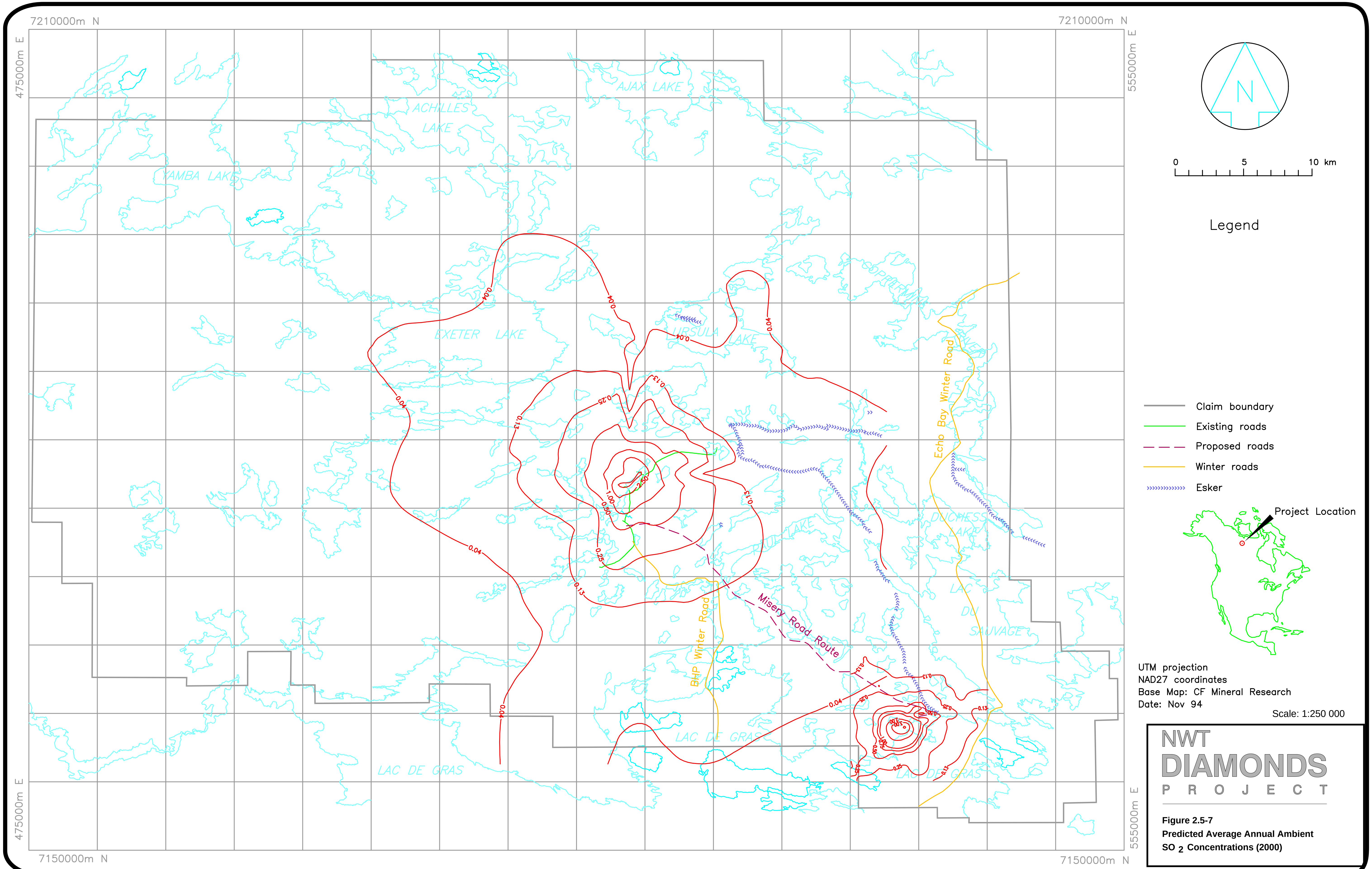

Figure 2.5-7
Predicted Average Annual Ambient SO_2 Concentrations (2000)

Source: Rescan

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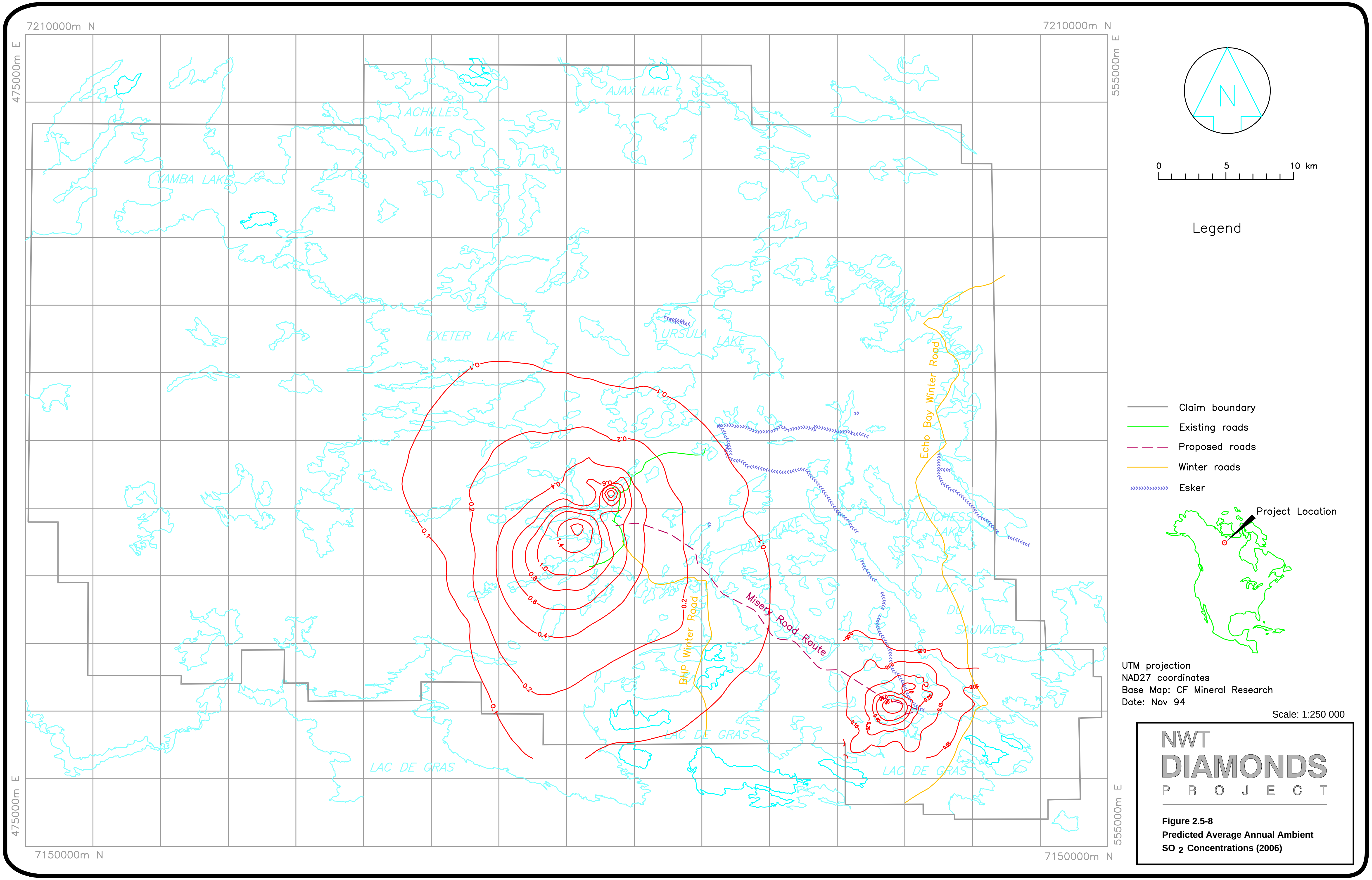

Figure 2.5-8
Predicted Average Annual Ambient SO_2 Concentrations (2006)

Source: Rescan

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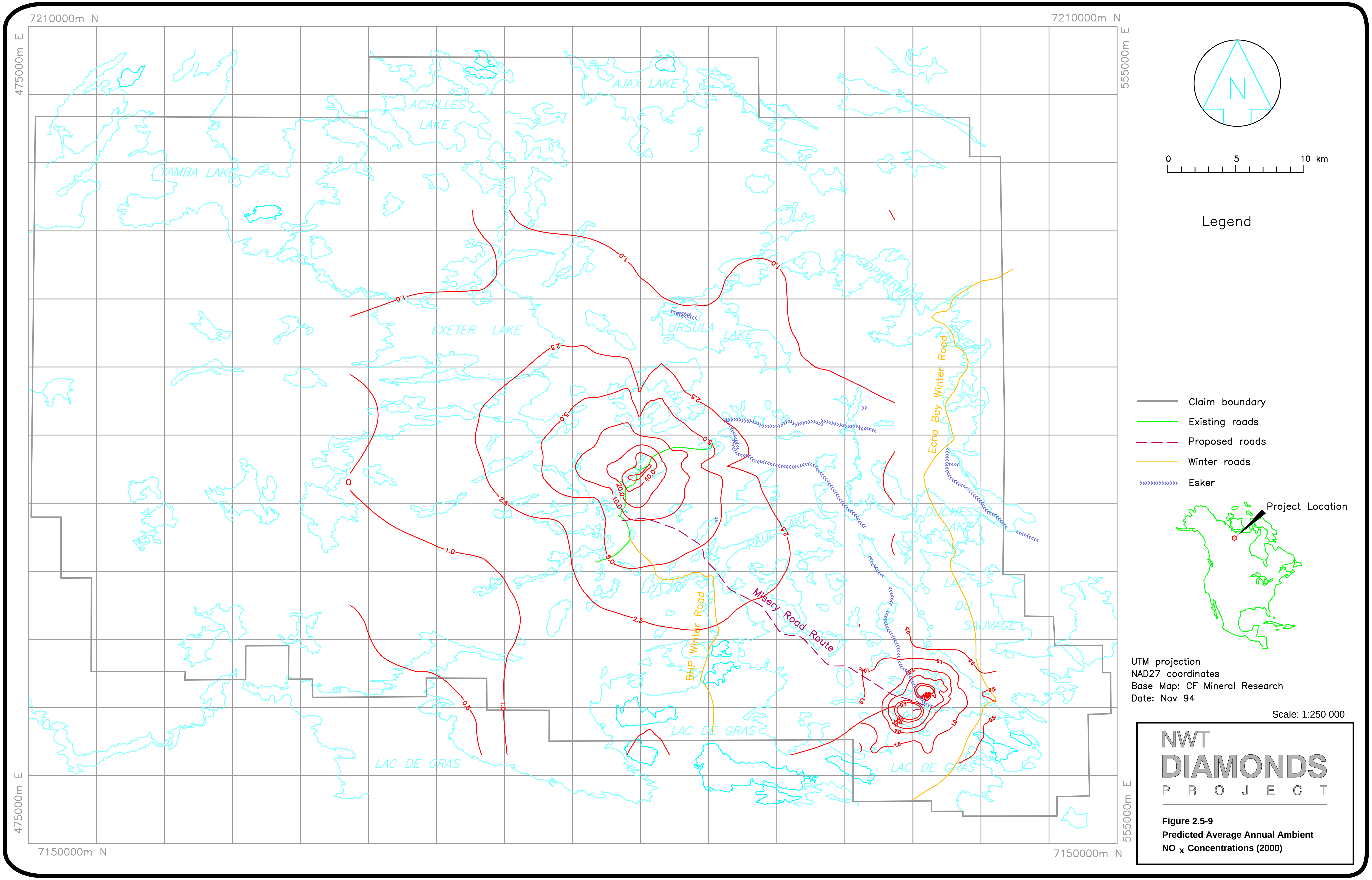

Source: Rescan

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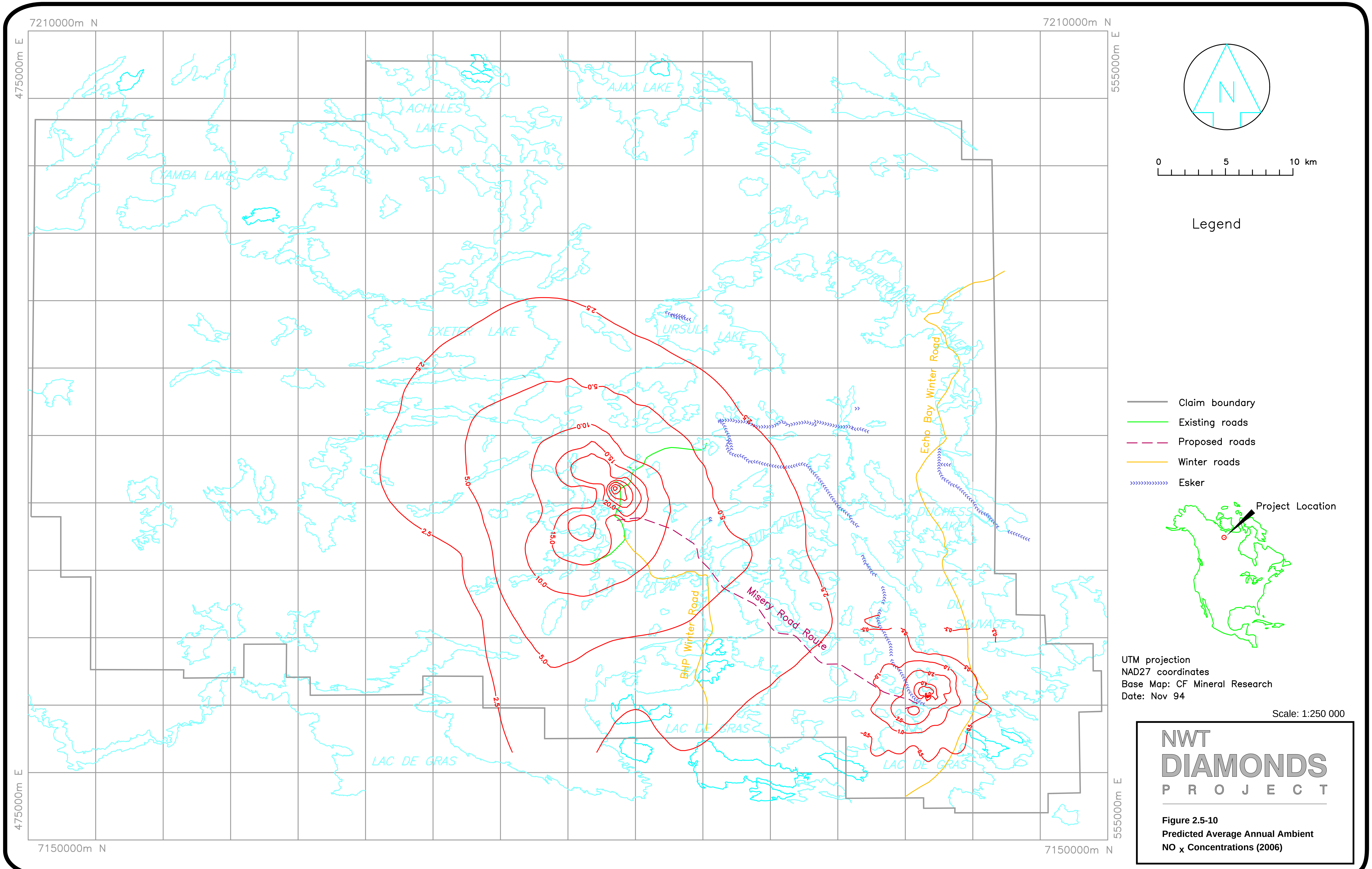

Figure 2.5-10
Predicted Average Annual Ambient NO_x Concentrations (2006)

Source: Rescan

modelling. Therefore, the future capacity of renewable resources should not be affected by the air emissions from this project.

2.5.2 Fugitive Dust

Fugitive dust is any uncontrolled particulate emissions from project activities, which could include mineral processing, the handling and crushing of ore, conveyors, blasting, wind scour of the coarse ore stockpile and waste dumps, tailings areas and road dust. Fugitive dust will be created during all five major project phases, including exploration, construction, operation, decommissioning and post-decommissioning.

The highest fugitive dust emissions will coincide with the peak in the hauling activity for each pit during the summer months. The amount of fugitive dust created by road traffic (hauling) depends upon many factors, such as moisture content of the surface materials, silt content, gross vehicle weight, number of wheels, velocity of the vehicles and wind speed. As the haul roads will be constructed of granite waste rock, considerably less dusting can be expected than on roads constructed of average gravel materials. The main concern for fugitive dust is its effect on visibility and the local area plants. Vegetation growing near the site for the permanent camp may be slightly affected by deposition of the dust, although wind and rainfall will likely remove most accumulations.

Since the ISC2 model is limited in its ability to handle line sources, a separate U.S. EPA air dispersion model was used to predict impacts from the fugitive dust created by haul roads. The Fugitive Dust Model (FDM) was implemented to predict particulate concentrations near ore and waste haul roads for both model scenarios during the operational phase of the project. For 2000, ore haulage from Panda, Misery and the ROM stockpile was included along with waste rock haulage from Panda, Misery and Koala open pits. For 2006 ore haulage from the Misery, Fox, Koala and Leslie pits to the ROM stockpile was included along with waste haulage to their respective waste rock piles. The parameters used to generate the emission rates needed by FDM are summarized in Table 2.5-8.

The predicted particulate concentrations for 498 receptors have been plotted to provide an overall prediction of air quality near the mineral claims boundary (Figures 2.5-11 and 2.5-12). The input files for FDM are included in Appendix IV-B2.

There is a high probability that fugitive dust emissions will cause a short-term localized increase in ambient dust concentrations. The dust plume will quickly be transported and dispersed by the prevailing winds. The geographical area affected by the dust will be approximately 1 km on either side of each ore/waste haul road, depending on the meteorological conditions, especially wind speed.

Table 2.5-8
Fugitive Dust (External Haul Road) Emission Rates

Area	Round Trip Distance (km)	Round Trips per Year	Distance per Year (km)	Mean Vehicle Weight (Mg)	Number of Wheels	Particulate Emissions (kg/VKT)	Particulate Emission Rate (g/s*m)
2000 Ore Haulage							
Panda	4	12,560	50,240	260	6	3.66	0.0029
Koala	1	0	0	260	6	0	0
Misery	66	6,435	424,710	97	30	8.20	0.0033
ROM Stockpile	0.2	117,321	23,464	52.5	4	0.75	0.0056
2000 Waste Haulage							
Panda	4	50,028	200,112	260	6	2.44	0.0077
Koala	4	58,037	232,148	260	6	2.44	0.0090
Misery	2	139,534	279,068	105.5	6	1.30	0.011
2006 Ore Haulage							
Misery	66	1,870	123,420	97	30	8.20	0.00097
Koala	1	4,234	4,234	260	6	3.66	0.00098
Fox	12	17,679	212,148	260	6	3.66	0.0041
Leslie	8	4,146	33,168	260	6	3.66	0.00096
ROM Stockpile	0.2	234,642	46,928	52.5	4	0.75	0.011
2006 Waste Haulage							
Misery	3	233	699	105.5	6	1.30	0.0000192
Koala	4	1,023	4,092	260	6	2.44	0.00016
Fox	4	91,743	366,972	260	6	2.44	0.014
Leslie	4	80,275	321,100	260	6	2.44	0.012

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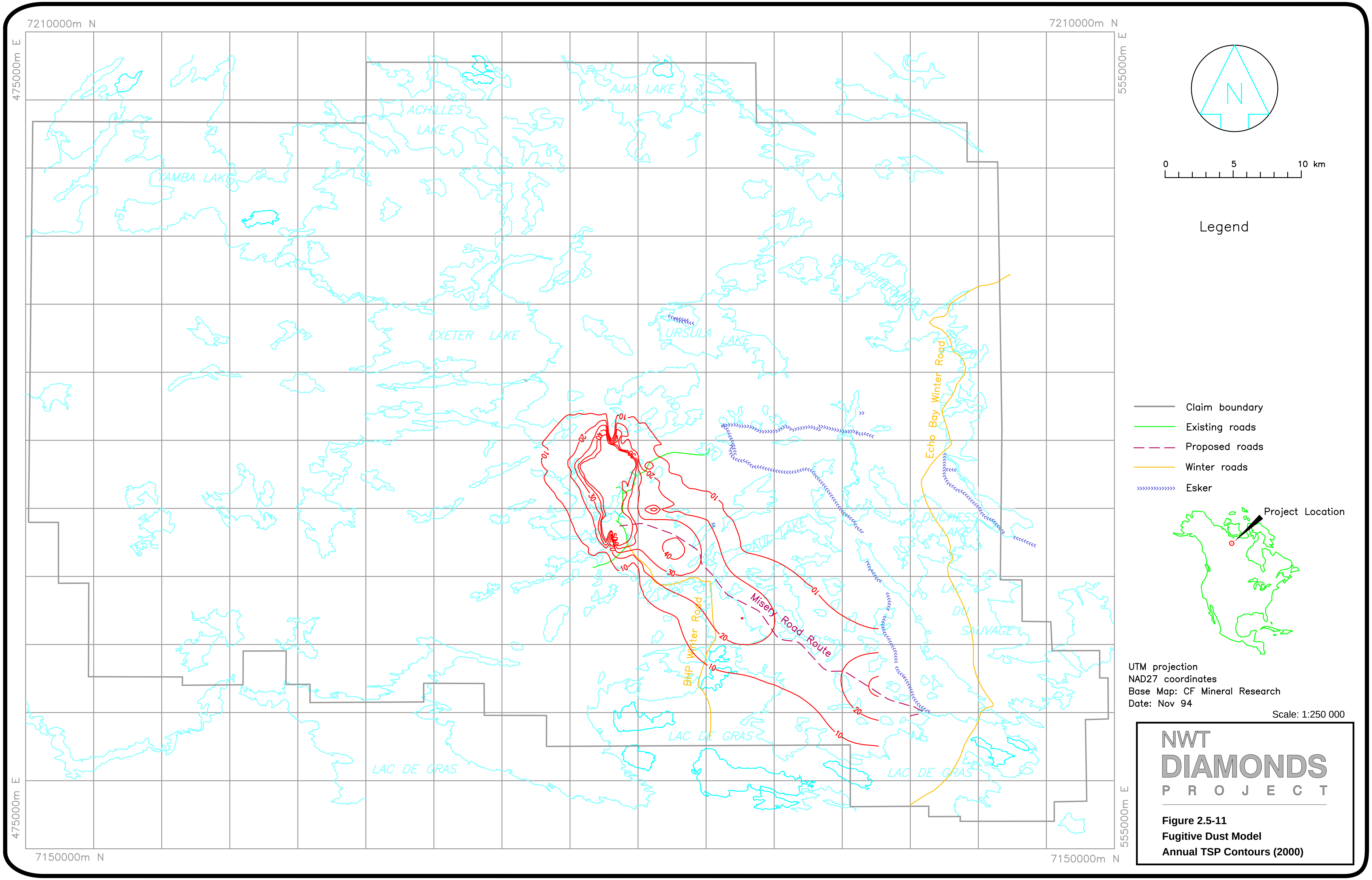

Figure 2.5-11
Fugitive Dust Model
Annual TSP Contours (2000)

Source: Rescan

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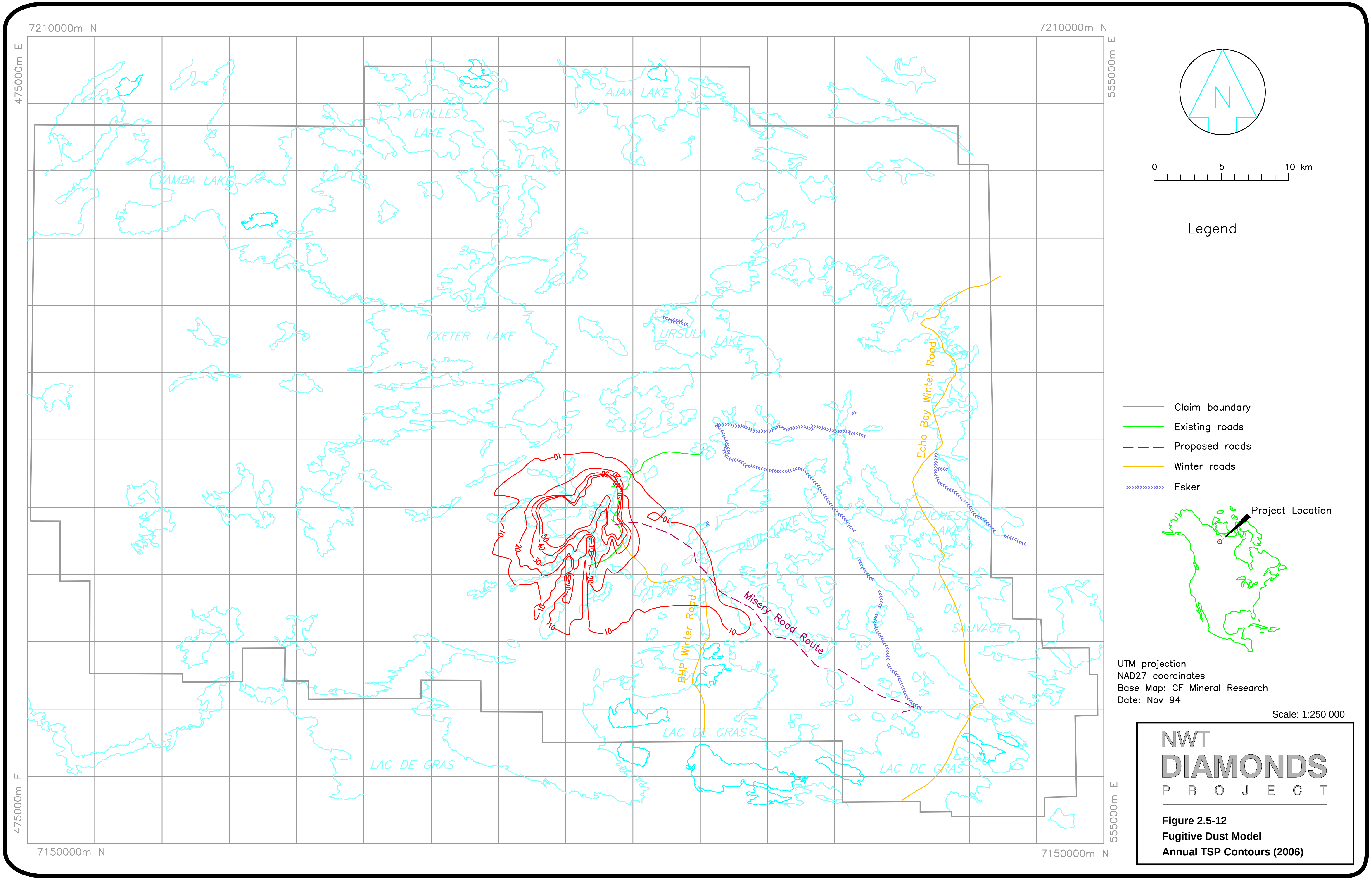

Source: Rescan

2.5.2.1 Mitigation of Fugitive Dust Emissions

Fugitive dust can be controlled in a variety of ways, including the use of granite waste rock as haul road construction material. Where deemed necessary, road dust will be controlled with road watering. Water trucks will be commissioned with the sole purpose of controlling dust levels in the open pits and along the major haul roads. If dust levels are high enough to cause visibility problems, a wetting agent will be added to the water to increase the effectiveness of the road watering. Fugitive dust will mainly be a nuisance hazard, and the mitigation measures previously described should be sufficient to control the problem. The ongoing air quality monitoring program will address this issue through use of high volume air samplers to determine ambient dust levels.

There is likely to be a small impact from wind erosion of the reclaimed waste dumps in the post decommissioning phase. Dust deposition on surrounding vegetation will be minimal. If necessary, a binder may be sprayed on the surface of the waste dumps to control fugitive dust. The effects of dust deposition are highly reversible, as the next precipitation event will remove any accumulated dust.

2.5.2.2 Residual Effects of Fugitive Dust

The residual effects from fugitive dust will be negligible, as precipitation will remove any deposited dust from the surrounding vegetation. As the haul roads will be constructed of on-site materials the dust will contain the same materials as the present surface soils, and thus should have a negligible effect. The fugitive dust will not significantly affect wildlife near the open pits or waste dumps.

2.5.3 Explosives Detonation

Explosives detonation will be a source of air emissions (CO, NO_x and SO_2) from site preparation activities taking place during construction, and open pit development during operation. No explosives are expected to be used during the decommissioning and post-decommissioning periods.

The type of explosive used at the NWT Diamonds Project will be a mixture of ammonium nitrate and fuel oil (ANFO). Generally, the emissions from explosives are roughly proportional to the weight of explosives used. Emissions factors for detonation of explosives are provided by the United States Environmental Protection Agency (U.S. EPA) in Volume I of the Compilation of Air Pollutant Emission Factors (U.S. EPA 1985). For ANFO mixtures containing 5.8% to 8% fuel oil, it is estimated that the CO emissions will be 34 kg/ tonne of explosives, the NO_x emissions will be 8 kg/tonne of explosives and the SO_2 emission will be 1 kg/tonne of explosives. Due to the absence of detailed field studies there is no emission factor for fugitive dust created by blasting. Table 2.5-9 summarizes the predicted CO, NO_x and SO_2 emissions based upon the annual ANFO consumption for Year 4 (2000) and Year 10 (2006).

Table 2.5-9
Estimated Air Emissions from Explosives Detonation

Year	Open Pit	ANFO Useage (t/a)	CO (t/a)	NO_X (t/a)	SO_2 (t/a)
2000 (Year 4)	Panda	8,161	277	65.3	8.1
	Misery	2,450	83	19.6	2.5
Total		**10,611**	**360**	**84.9**	**10.6**
2006 (Year 10)	Fox	5,578	190	45	5.6
	Leslie	4,510	153	36	4.5
	Koala	160	5.4	1.3	0.16
	Misery	27	0.92	0.22	0.027
Total		**10,275**	**349**	**82.5**	**10.3**

The air emissions from detonation of explosives are only a small fraction of the air emissions from diesel power generation, boiler operation and the diesel powered mobile mine equipment. The annual NO_x emissions from explosives detonation for Year 10 (82.5 t/a), is nearly sixty five times less than the No_x emissions from operation of eight diesel gensets at the permanent camp (4,348 t/a). The emissions from detonation of explosives are not a continuous source, therefore, they were not included in the modeling assessments.

2.5.3.1 Mitigation of Explosives Detonation Air Emissions

The air emissions from blasting are not expected to create an ambient air quality problem and the wind will dilute and carry the plume away from the open pits. Blasting technique such as limiting the number of blast sites, hole firing sequences and sufficiently stemming blastholes will minimize air emissions.

2.5.3.2 Residual Effects of Explosives Detonation Air Emissions

The residual effects from the air emissions from detonation of explosives will be negligible. The gaseous air emissions will be adequately diluted by the ambient air. There will be deposition of particulate around the open pits following a blast. The deposition of particulate will not adversely affect the vegetation or wildlife in the area. Precipitation and wind will naturally remove most of the accumulated particulate from the vegetation.

2.5.4 Thermal Inversions and Open Pit Air Quality

Several factors will affect the air quality in the open pits, including naturally occurring thermal inversions and the dispersion of vehicle exhaust. Thermal inversions are a concern in terms of occupational hygiene exposure for workers in the open pit, as they may cause a buildup of gaseous emissions, possibly to levels that exceed industrial hygiene standards or that impair visibility due to formation of ice fog.

Thermal inversions form during night time hours under light wind and clear sky conditions. An inversion exhibits an atmospheric temperature profile that warms with increasing distance from the ground. Because the cooler (more dense) air lies beneath the warmer (more buoyant) air, this condition is extremely stable.

Diamond mines in northern Russia have experienced air quality problems in deep open pits during inversion conditions. The inversion phenomenon is well documented for arctic environments and may produce a trapping layer at the crest of the open pit, preventing diesel emissions from escaping.

The pollutant concentrations within the pit will increase as the duration of the surface-level inversion increases. Therefore, the frequency and duration of extremely stable events were predicted for the NWT Diamonds site using meteorological data collected at an automated weather station near Koala camp during 1994.

As described by Zannetti (1990), atmospheric stability is categorized as follows: A, extremely unstable; B, moderately unstable; C, slightly unstable; D, neutral; E, slightly stable; F, moderately stable; and G, extremely stable. The category is usually selected using average wind speed at the 10 m height and amount of solar insolation as affected by cloud cover (Turner 1994). In general, stable conditions (i.e., E to G) only occur at night, and G categories are observed under clear skies when the wind speeds are low.

Since hourly cloud cover observations were not available for the NWT Diamonds Project site, another method for estimating extremely stable conditions had to be developed. First, an analysis was performed to examine the diurnal trends of stability at the project site and to examine the effect of cloud cover on stability during summer and during winter. For two periods, January 1 through January 3, 1994, and July 1 through July 3, 1994, the SUPL program of Turner (1994) was used to predict hourly stability categories for three scenarios: clear skies, 50% cloud cover and overcast conditions. The SUPL program requires the following input data to determine a stability category: station latitude, station longitude, year, month, day, hour, wind speed, surface roughness, cloud cover, barometric pressure and temperature.

As expected, overcast conditions always resulted in neutral stability. Clear skies with wind speeds less than approximately 4 m/s produced extremely stable conditions at night and unstable conditions during daytime, and 50% cloud cover corresponded to moderate to neutral stability.

To predict the frequency and duration of extremely stable events at the NWT Diamonds Project site, wind speed measurements from January 1 through December 22, 1994, were analyzed. An extremely stable condition was then characterized as a nighttime hour with an average wind speed less than 4 m/s, and the duration of an "event" was calculated as the number of sequential hours with extremely stable conditions.

Tables 2.5-10 and 2.5-11, and Figures 2.5-13 and 2.5-14 contain the results for the periods January 1 to June 30, and July 1 to December 22, respectively. The frequency and duration of events increase in winter months and decrease in summer months. The frequency of events, ranges from 12 in June to 68 in January, while duration ranges from one hour to 20 hours. The overall probability of experiencing an extremely stable condition for January 1 to December 22 is 21.8% (1,685 h/7,744 h). There were several days when wind and temperature data were not available due to sensor failure, thus inversions could not be predicted for those periods. The frequency of extremely stable events are summarized in Table 2.5-12.

Over 60% of all stable events are four hours or less while over 91% are 12 hours or less. The frequency of the worst case, a 20-hour event, is only 0.29%. To assess the worst case, the 20-hour event has been modelled. It is important to note that the length of the event is rare and as such these results have been compared with a 12-hour or less event, which occurs over 91% of the total number of events.

Regarding uncertainties of these results, a worst-case situation of "always clear skies" was assumed. Cloudy and overcast conditions were reported occasionally in the daily logbook compiled at the Koala airport. Thus, in reality, the probability of exhibiting extremely stable conditions at Koala will be lower than predicted here.

However, according to the data for December 1 to 3, during daylight hours in winter, the amount of solar radiation (when the sun barely rises above the horizon) may not always be sufficient to produce a neutral or unstable condition. Thus, the stable events during winter may last longer than predicted in this report.

Plume rise also affects the air quality impact from vehicle exhaust emissions along the ore haul roads from the open pits to the ROM stockpile. When a vehicle enters the open pit, plume rise will determine whether the vehicle emissions will be carried away by the prevailing winds or be contained in the open pit. As the open pits get deeper, the plume rise factors become more important.

Table 2.5-10
Frequency and Duration of Extremely Stable Events
January 1 to June 30, 1994

Duration (h)	Jan	Feb	Mar	Apr	May	Jun	Total
1	25	14	1	2	5	2	49
2	7	10	5	1	4	2	29
3	9	5	0	1	1	6	22
4	5	2	2	2	1	3	15
5	5	4	1	0	2	0	12
6	1	1	2	1	4	0	9
7	1	0	1	0	2	0	4
8	3	1	3	4	0	0	11
9	1	0	0	2	0	0	3
10	0	3	0	0	0	0	3
11	2	1	1	0	0	0	4
12	0	0	1	0	0	0	1
13	0	1	0	0	0	0	1
14	1	1	1	0	0	0	3
15	2	2	0	0	0	0	4
16	0	3	0	0	0	0	3
17	1	0	0	0	0	0	1
18	0	0	0	0	0	0	0
19	5	0	0	0	0	0	5
Total	**68**	**48**	**18**	**13**	**19**	**13**	**179**

Buoyancy and momentum will cause an exhaust plume to rise following release into the atmosphere. Most of the regulatory models use the equations of Briggs (1969, 1971) to predict plume rise as functions of parameters such as exhaust temperature (Ts), ambient temperature (Ta), exit velocity (v), wind speed (u), exit diameter (d), potential temperature gradient (dQ/dz) and stability category (A-G). Briggs' equations for buoyant plumes from Turner (1994) are as follows:

$$F = g\, v\, d^2\, (T_s - T_a) / (4T_s)$$

where F is buoyancy flux (m^4/s^3)

where dh (m) is plume rise for unstable-neutral conditions when F is <55

$$dh = 38.71\, F^{3/5} / u$$

where dh (m) is plume rise for unstable-neutral conditions when F is >55

$$S = g\, d\theta/dz / T_a$$

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Table 2.5-11
Frequency and Duration of Extremely Stable Events
July 1 to December 22, 1994

Duration (h)	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	2	4	6	11	11	13	47
2	2	0	3	1	4	1	11
3	6	4	4	3	3	6	26
4	1	1	3	1	1	5	12
5	1	5	3	1	1	4	15
6	0	1	2	3	1	0	7
7	0	6	2	1	1	0	10
8	0	1	3	3	1	0	8
9	0	2	5	1	0	1	9
10	0	0	1	1	1	1	4
11	0	0	0	0	1	0	1
12	0	0	0	1	1	2	4
13	0	0	0	1	0	2	3
14	0	0	0	1	0	0	1
15	0	0	0	0	3	0	3
16	0	0	0	0	1	0	1
17	0	0	0	0	1	0	1
18	0	0	0	0	0	0	0
19	0	0	0	0	0	3	3
20	0	0	0	0	0	1	1
Total	**12**	**24**	**32**	**29**	**31**	**39**	**167**

where S (s^{-2}) a stability parameter for stable conditions only

$$dh = 2.6\,[(F / (u\,S)]^{1/3}$$

where dh (m) is plume rise for stable conditions if wind speed is >1 m/s, and

$$dh = 4\,F^{1/4}\,S^{-3/8}$$

These equations for plume rise have been incorporated into the executable program, WKBK2, as supplied by Turner (1994). For the following investigation of the diesel exhaust behaviour, WKBK2 was used to predict plume rise for a typical haul truck with an exhaust temperature of 703 K (430°C) and an exhaust velocity of 20 m/s.

For Table 2.5-13 and Figure 2.5-15, plume rise was estimated for stability categories A to G assuming a wind speed of 1 m/s. Under unstable and neutral

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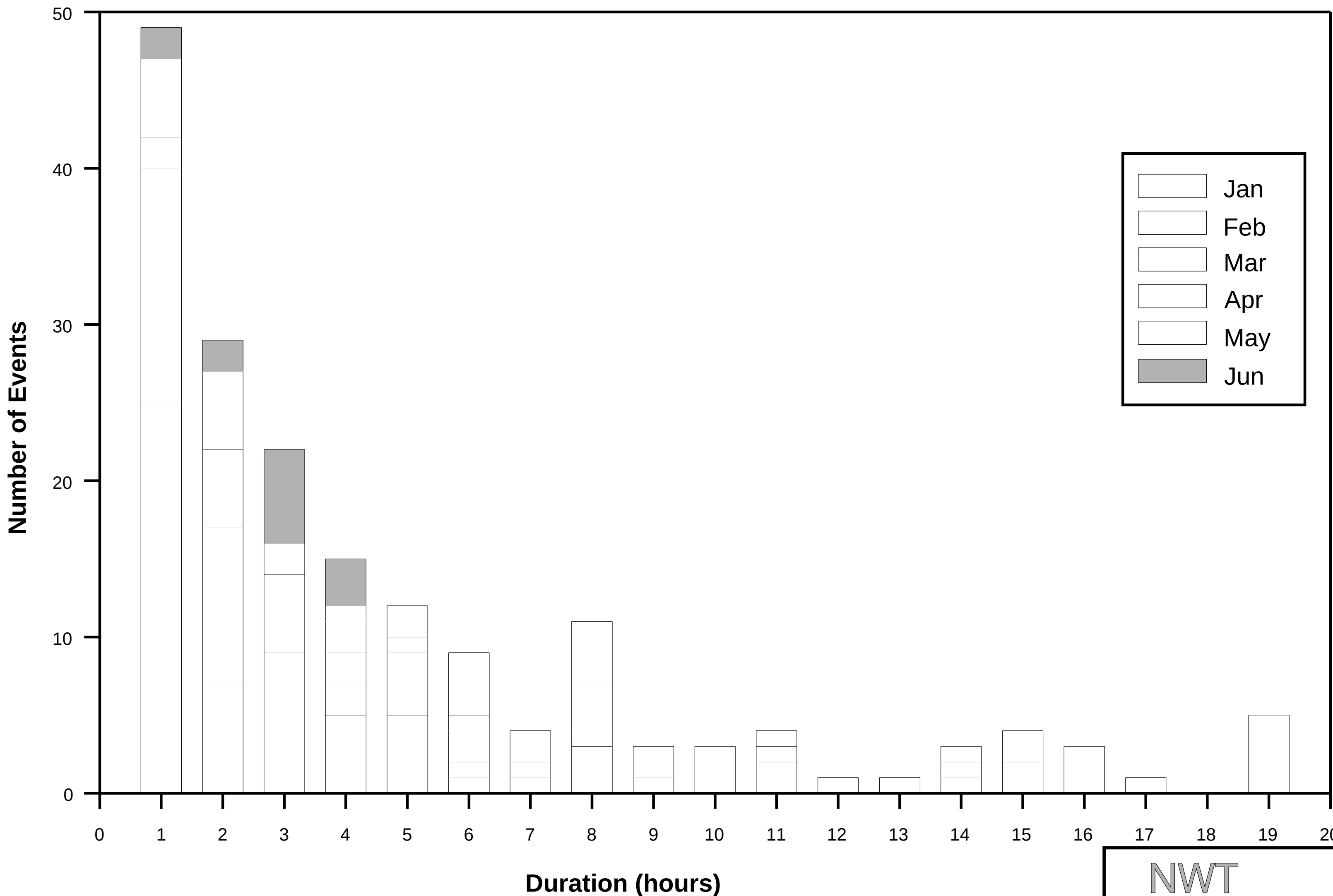

NWT DIAMONDS PROJECT

Figure 2.5-13
Stable Atmospheric Events
(January 1 to June 30)

Source: Rescan

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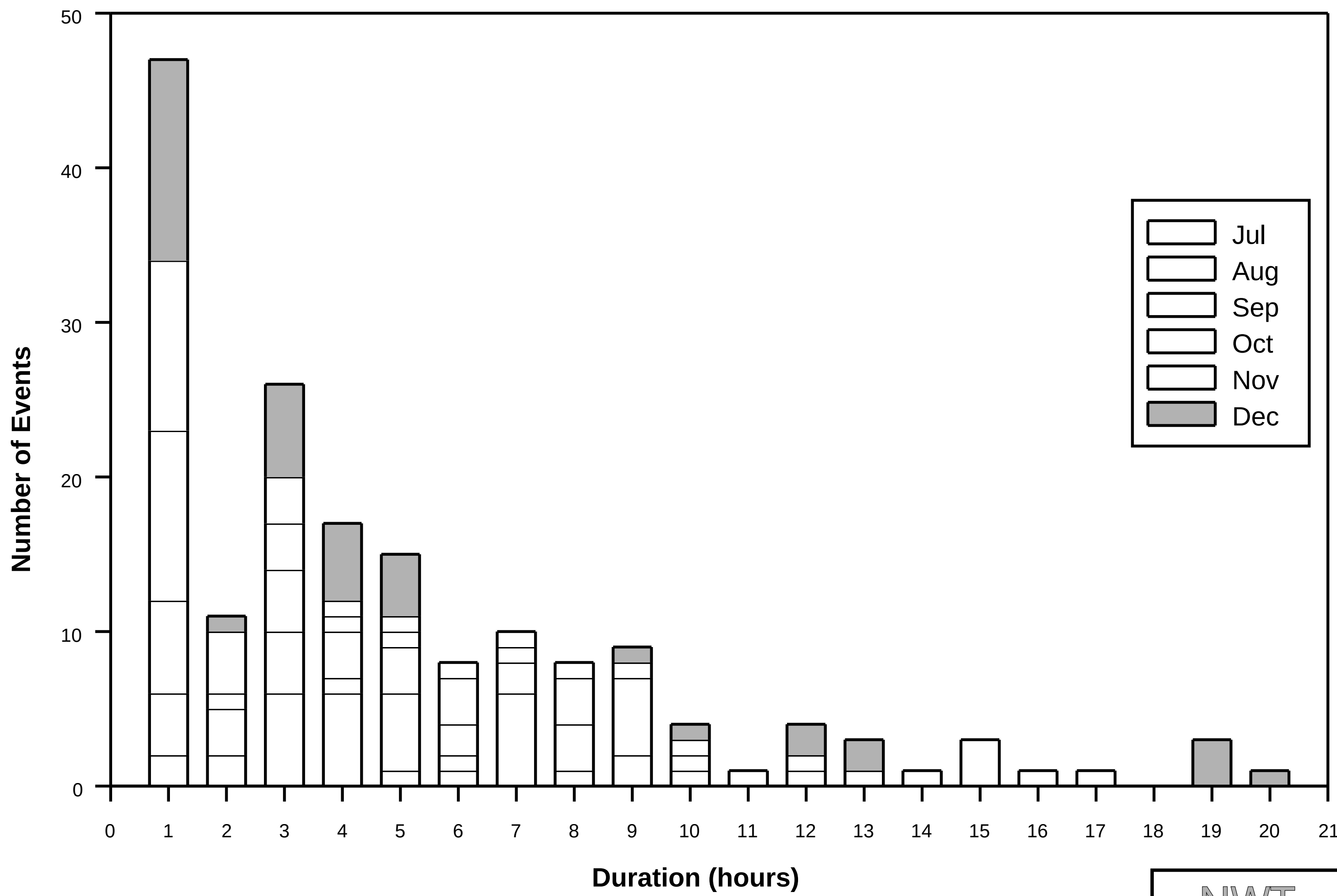


NWT DIAMONDS PROJECT

Figure 2.5-14
Stable Atmospheric Events
(July 1 to December 22)

Source: Rescan

Table 2.5-12
Frequency of Stable Atmospheric Events

Duration (h)	Number of Stable Events	Percentage of all Events	Cumulative Percentage of Events
1	96	27.75	27.75
2	40	11.56	39.31
3	48	13.87	53.18
4	27	7.80	60.98
5	27	7.80	68.79
6	16	4.62	73.41
7	14	4.05	77.46
8	19	5.49	82.95
9	12	3.47	86.42
10	7	2.02	88.44
11	5	1.45	89.88
12	5	1.45	91.33
13	4	1.16	92.49
14	4	1.16	93.64
15	7	2.02	95.66
16	4	1.16	96.82
17	2	0.58	97.40
18	0	0.00	97.40
19	8	2.31	99.71
20	1	0.29	100.00

conditions, the predicted plume rise was 136.8 m. Under stable conditions, values ranging from 44.6 m to 64.5 m were predicted. Because vertical motion is suppressed during stable conditions, it is not surprising that plume rise would be less for E to G stabilities than for A to D conditions. In every case, the plume rise was <300 m, or the crest of the proposed pit at maximum development.

The sensitivity of plume rise to wind speed is depicted in Table 2.5-14 and Figure 2.5-16. Assuming a neutral temperature profile and an ambient temperature of 250 K (-23°C), plume rise ranged from 68.4 m to 547.3 m as wind speed increased from 0.25 m/s to 2.00 m/s. Thus, extremely low wind speeds (i.e., <0.50 m/s) could result in a plume rise that would exceed the crest of the pit.

In Table 2.5-15 and Figure 2.5-17, the plume rise sensitivity to ambient temperature is examined. Once again, a neutral temperature profile was assumed, in addition to a wind speed of 1.0 m/s. As expected, plume rise decreases with

Table 2.5-13
Plume Rise for Various Stability Conditions

Stability	dt/dz (K/m)	T_{300} (K)	dq /dz (K/m)	dh (m)
A	-0.020	244.2	-0.0102	136.8
B	-0.018	244.8	-0.0081	136.8
C	-0.016	245.4	-0.0061	136.8
D	-0.010	247.1	-0.0002	136.8
E	0.010	252.9	0.0198	64.5
F	0.030	258.7	0.0398	51.1
G	0.050	264.5	0.0598	44.6

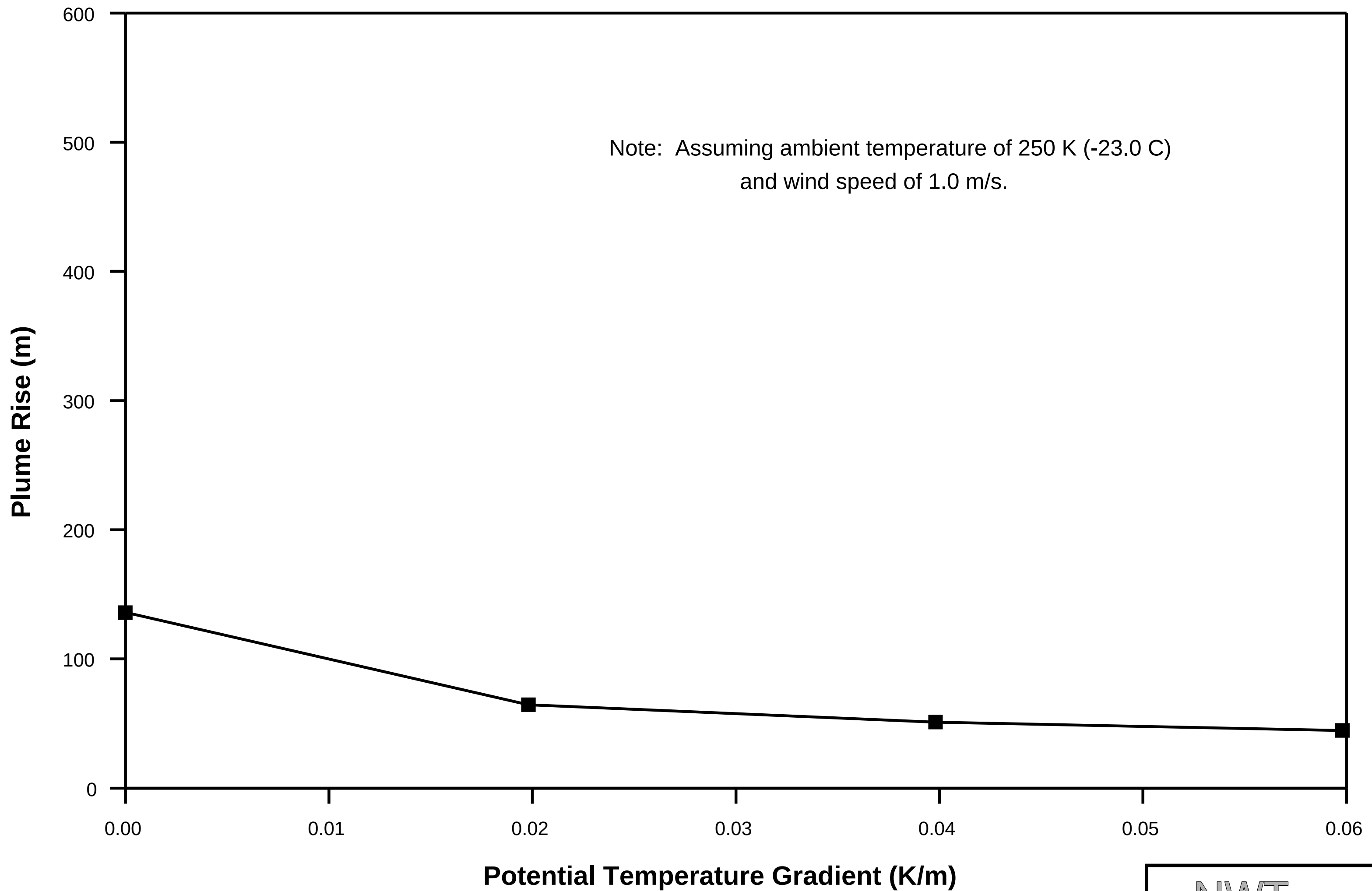
dt/dz = temperature gradient (Zanetti 1990)
T300 = temperature at crest of the pit assuming 250 K for ambient temperature at the bottom of the pit
dθ/dz = potential temperature gradient
dh = plume rise based on Briggs' equations (Turner 1994.
Stability categories: A = extremely unstable
B = moderately unstable
C = slightly unstable
D = neutral
E = slightly stable
F = moderately stable
G = extremely stable

increasing ambient temperature as a direct result of the gradient between the ambient air temperature and the exhaust air temperature. However, the range was only 13.6 m in plume rise for a change of 60 K (60°C) in temperature.

In summary, plume rise on a day-to-day basis probably will not vary significantly in response to changing ambient temperatures in the pit. Likewise, plume rise is sensitive to stability conditions such that the highest values will correspond to neutral and unstable categories, while the lowest rises will occur during stable conditions. Wind speed, however, is the parameter that will predominantly determine the probability of plume rise exceeding the crest of a 300 m pit.

If a thermal inversion forms a trapping layer at the crest of the pit, the concentration of nitrogen dioxide will exceed industrial hygiene occupational limits in approximately 23 hours. However, it has been shown that over 91% of the extremely stable events last 12 hours or less and as such the concentration should never reach this industrial hygiene limit.

Another concern is the formation of a gaseous layer (cloud) within the pit. The formation of a gaseous cloud can be reasonably modelled utilizing the emission data provided by diesel equipment suppliers. In this model, it must be assumed that the gases do not disperse within the pit but form a layer (cloud) at some elevation in it.



NWT DIAMONDS PROJECT

Figure 2.5-15
Plume Rise vs.
Atmospheric Stability

Source: Rescan

Table 2.5-14
Plume Rise Sensitivity to Wind Speed

Wind Speed (m/s)	Plume Rise (m)
0.25	547.3
0.50	273.6
0.75	182.4
1.00	136.8
1.25	109.5
1.50	91.2
1.75	78.2
2.00	68.4

Plume rise calculations assume an ambient temperature of 250 K (–23 °C) and a neutral temperature profile.

The model is based on the Panda pit in Year 5 of operation, with a pit depth of 225 m. The plume rise is assumed to be 137 m with an ambient temperature of -25°C. All of the equipment emissions are assumed to be generated at the bottom of the pit. In reality, the haul trucks, which contribute more than 50% of the emissions, would be moving from the bottom of the pit up to the top. As well, it is assumed that the layer will stretch across the pit from wall to wall. The actual emissions are based on the annual average utilization of the equipment operating in and about the pit as well as if all the equipment was operating constantly in the pit (worst case).

It is predicted that a gaseous cloud layer would be formed at the 88 m depth and grow in thickness at a rate of 0.25 m/h. Assuming average annual utilization, the cloud layer would grow in thickness at a rate of 0.16 m/h. The thickness of this layer would change depending on its elevation in the pit. If it were located deeper than 88 m, the gas cloud would be thicker (area of the layer is less).

If a stable event lasted 20 hours, the cloud is predicted to be anywhere from 3.2 m to 5.0 m thick. Since 91% of the events are 12 hours or less, and 60% of the events are four hours or less, there is a high probability that the gaseous layer will be considerably less. At four hours, the cloud layer will be between 0.64 m to 1.0 m thick.

This model did not take into consideration the effects of a vertical and/or horizontal temperature gradient within the pit. As well, the solar radition should have a considerable effect on the convection currents along the sun exposed side. It is anticipated that in reality the gaseous cloud layer will tend to be smaller than predicted and will be likely to form away from the walls of the pit, generally in the middle of the pit.

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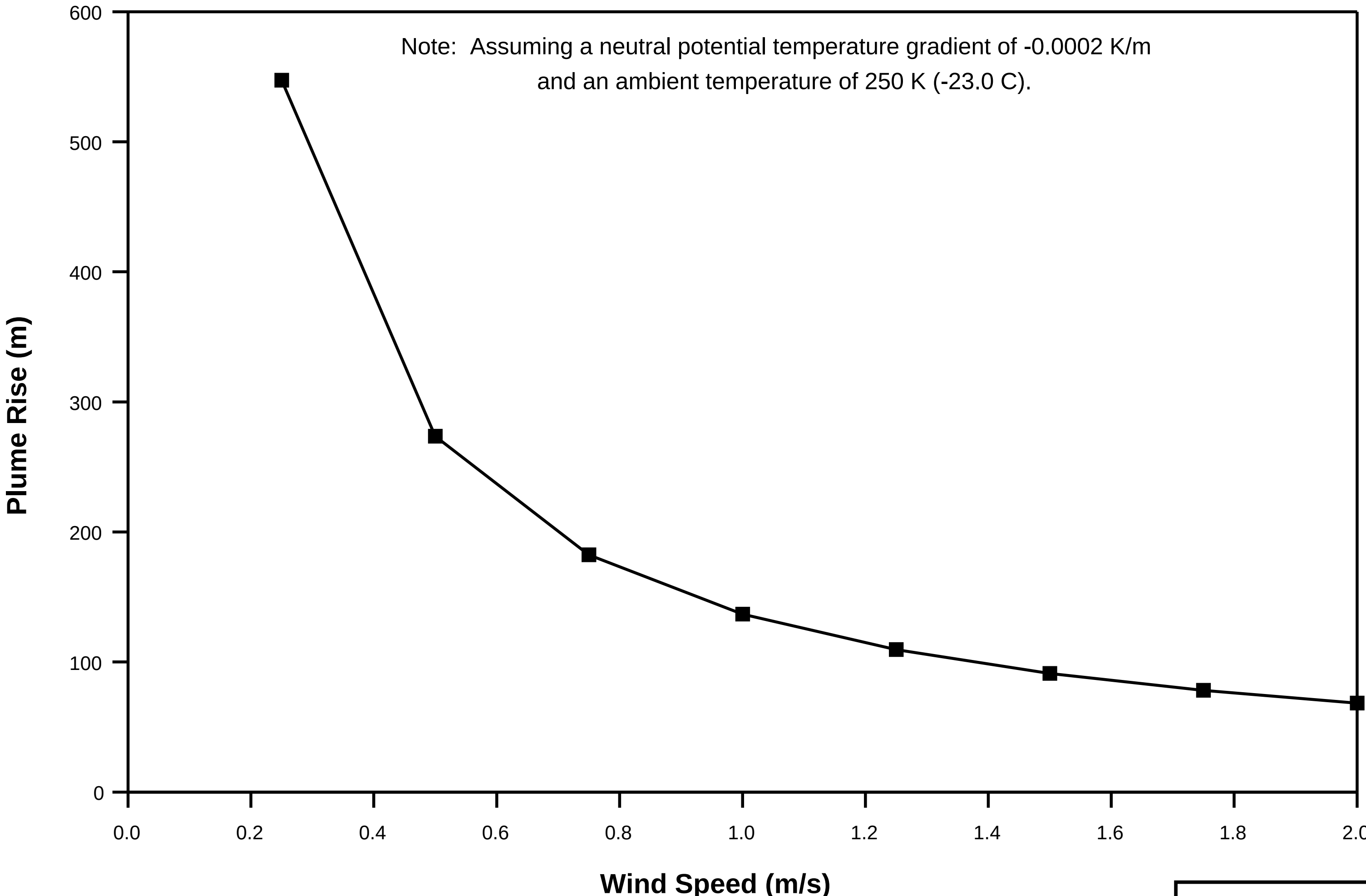

NWT DIAMONDS PROJECT

Figure 2.5-16
Plume Rise vs.
Wind Speed

Source: Rescan