Stantec

Memo

To:	Kalada Hart Environment and Compliance Lead LNG Canada Development Inc 176 Ocelot Rd Kitimat BC, V8C 2G7	From:	April Hauk and Reid Person Stantec Consulting Ltd.
Project/File:	123223170	Date:	October 27, 2025

Reference: Flaring Assessment

Stantec Consulting Ltd. (Stantec) was contracted by LNG Canada Development Inc. (LNG Canada) to complete an air quality assessment of the back burn integrity issue at the Warm Wet Flare (F-WW) as per the request of the BC Energy Regulator (BCER). Based the email to LNG Canada from the BCER, dated July 29, 2025, Stantec understands that higher than authorized gas flow rate to flare has been occurring and LNG Canada self-disclosed this issue to BCER. As a result, BCER has requested, within 90 days of the email date (i.e., October 27, 2025), the following information:

- A dispersion modelling assessment of oxides of nitrogen (NO_x) and sulphur dioxide (SO_2) emissions consistent with the Application Case that was submitted with the original Waste Discharge Authorization (WDA) application that will incorporate flaring from the F-WW at the long-term rates needed to address the Back Burn Integrity issue. Short-term effects should be assessed but the focus should be determining any changes to predicted long term impacts from the original WDA application.
- A robust analysis of the ambient air data collected in Kitimat and the LNG Canada flaring rates to determine if there is any correlation or causation between elevated measured air concentrations and flaring at LNG Canada.
- A discussion of any changes proposed to Air Quality Detailed Monitoring Plan (AQDMP) due to the increased flaring rates at the F-WW. If no changes are proposed, provide reasoning.

Below, Stantec provides a brief description of modelling methodology, a summary of the updated emission rates associated with the increased flow rates to the F-WW, the presentation of modelling results, the presentation of ambient data during the time of increased flaring rates, and reasoning for no required updates to the AQDMP.

1 Modelling Methodology

The modelling methodology for this air quality assessment is conducted in accordance with the British Columbia Air Quality Dispersion Modelling Guideline (the Guideline) (Ministry of Environment and Parks (ENVP), 2015). The original WDA application followed the 2015 Guideline as the current 2022 Guideline had not been released. For consistency in modelling methodology and understanding results this assessment follows original WDA Application methodology (LNG Canada 2023).

The dispersion modelling is conducted using the CALPUFF modelling system, with 5-years (2011 – 2015) of 1 kilometer Weather Research Forecast data used to compile the meteorology field. There are two modelling domains, 1) near-field domain equal to the CALMET domain, 55 km by 110 km; 2) a smaller nested domain 35 km by 35 km. Predicted concentrations for NO_2 and SO_2 are presented and predicted. Concentrations for $PM_{2.5}$ and CO are not updated in this assessment as per the request of the BCER (2025). Like the original WDA application methodology, NO to NO_2 conversion used is the ozone limiting method (OLM) using ozone data provided in the Guidance for NO_2 Dispersion Modelling in British Columbia (ENVP, 2022).

2 Applicable Air Quality Objectives

Effects on air quality are determined, in part, by comparing predicted ground-level concentrations of the substances modelled to the applicable air quality objectives (AQOs). The BC AQOs are used to gauge current and historical air quality and guide decisions on environmental impact assessments and authorizations. In BC, the ENVP have stated the BC AQOs are applicable beyond the facility fence line ((ENVP, 2016), (ENVP, 2020)). Where exceedances of the BC AQO are predicted through dispersion modelling, the ENVP considers the context of magnitude, frequency, timing, and proximity to sensitive receptors. Should there be exceedances of the BC AQO, the ENVP would manage these in accordance with the federal Air Zone Management Framework (Canadian Council of Ministers of Environment [CCME] (CCME, 2019)) for improvements in air quality across the affected area and would include all important sources (ENVP, 2020)). The regulatory criteria in BC for NO_2 and SO_2 applicable to this assessment are shown in Table 2.1 (ENVP, 2021).

The BC AQO for NO_2 is based on the Canadian Ambient Air Quality Standards (CAAQS), announced by the Government of Canada in 2017 (CEPA, 2017) for the year 2020. The CCME have stated that achievement of the CAAQS is determined on an airshed and air zone basis, which cover broad geographical areas (CCME, 2019). They are regional ambient standards and were not developed to be applied to individual projects and facilities as regulatory standards (CCME, 2019). Rather, they are used by provinces and territories to guide air zone management actions intended to reduce ambient concentrations below the CAAQS and prevent CAAQS exceedances. Ambient air quality monitoring stations located at or near the property (fence) line of an industrial facility should not be used for CAAQS reporting unless the monitoring station is near a populated area or a sensitive ecosystem ((CCME, 2020a), (CCME, 2020b)).

Table 2.1 BC Air Quality Objectives

CAC	Averaging Interval	Air Quality Objective ($\mu g/m^3$)
NO_2	1-hour	113 [a]
	Annual	32 [b]
SO_2	1-hour	183 [c]
	Annual	13 [d]

Notes:

a. Achievement for 1-hour NO_2 is based on 3-year average of the annual 98th percentile of daily 1-hour maximum. This requires the extraction of the highest predicted 1-hour value at each location for each day, followed by the calculation of the 98th percentile (the eighth highest) of those 365 values for each year, then average the three annual values.

b. Achievement for annual NO_2 is based on the average of all 1-hour average concentrations over a single calendar year.

c. Achievement for 1-hour SO_2 is based on 3-year average of the annual 99th percentile of daily 1-hour maximum. This requires the extraction of the highest predicted 1-hour value at each location for each day, followed by the calculation of the 99th percentile (the fourth highest) of those 365 values for each year, then average the three annual values.

d. Achievement for annual SO_2 is based on the average of 1-hour concentrations averaged over one year

SOURCE: BC ENV, 2021

3 Baseline for the Assessment

Cumulative air quality is calculated by accounting for the contribution from all sources in the modelling domain. The Guideline (Section 8.1 (ENVP, 2015)) states that baseline may be determined from air quality monitoring data or may be estimated from modelling other contributing sources or a combination of both. Choosing the appropriate baseline concentration can be critical in assessing overall air quality. In order of priority, the information sources used to establish the baseline concentration level are:

- A network of long-term ambient monitoring stations near the source under study
- Long-term ambient monitoring at a different location that is adequately representative; and
- Modelled baseline

Like in the original WDA Application, baseline is determined by directly modelling emissions from the Rio Tinto Aluminum Smelter, and applying a concentration from long-term monitoring data from representative monitoring stations at different locations to account for sources not modelled (i.e., space heating, traffic, other marine traffic). Baseline NO_2 concentrations were developed using monitoring data from Terrace Skeena Middle School monitoring station. Baseline SO_2 concentrations were recommended by ENVP and references from the Rio Tinto Environmental Effects Monitoring Program (EEMP) (ESSA 2020) comprehensive review. As summary of baseline values are provided in Table 3.1 and Table 3.2.

Table 3.1 Summary of Baseline Employed in the Assessment

CAC	Averaging Interval	Baseline (µg/m^3)
NO_2	1-hour	See Table 3
	Annual	5.1
SO_2	1-hour	14.5 (5.53 ppb)
	Annual	1.23 (0.47 ppb)

Notes:
Baseline concentrations as stated in the original WDA Application (LNG Canada 2023). Conversions from parts per billion to µg/m^3 assume Standard conditions of 25°C and 101.325 kPa.
Nitrogen Dioxide (NO_2):
Baseline NO_2 was determined using five years of data (2016-2020) from the Terrace Skeena Middle School. The 1-hour baseline NO_2 was determined using a 288 value array (Table 3). The annual baseline NO_2 was developed from the 1-hour concentrations, followed by the calculation of the average for each of the five years, averaged over the five-year time interval.
Sulphur Dioxide (SO_2):
Baseline SO_2 data is from Terrace cited in the Rio Tinto SO_2 EEMP comprehensive review. Air quality data from Terrace for baseline SO_2 levels, the 1-hour baseline SO_2 mixing ratio employed is 5.53 ppb. The Annual SO_2 baseline mixing ratio is 0.47 ppb.

Table 3.2 Summary of 1-Hour NO2 Baseline Employed in the Assessment (µg/m3)

Hour	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	26.3	35.6	34.7	15.4	11.5	8.5	7.7	9.4	9.0	12.5	17.7	26.9
1	26.1	31.2	32.9	14.4	10.0	7.3	8.5	7.6	8.6	11.9	19.9	25.8
2	24.5	34.3	30.8	13.0	10.8	7.4	7.6	9.1	8.4	11.1	18.0	24.0
3	23.5	33.4	29.0	13.4	10.2	8.3	7.5	8.9	7.4	12.3	16.3	22.2
4	23.0	32.3	30.7	14.2	10.3	9.8	6.8	6.8	8.0	11.2	16.1	21.5
5	27.5	28.5	29.9	14.4	12.3	8.9	6.8	7.9	8.6	11.7	17.3	19.9
6	25.8	37.4	32.6	20.2	15.1	9.7	7.6	9.3	10.5	13.2	17.3	22.2
7	38.0	37.7	39.8	23.2	18.5	10.7	8.3	11.4	14.3	16.2	20.2	27.5
8	39.0	44.3	40.6	24.5	15.5	12.7	9.5	11.3	17.7	21.1	25.9	29.2
9	41.5	46.3	40.8	23.5	8.2	7.3	7.9	9.2	14.8	20.0	27.2	31.3
10	39.1	41.6	34.0	17.6	7.7	4.4	5.7	8.7	12.5	18.7	25.4	35.5
11	33.0	35.9	26.9	9.6	5.0	4.1	5.2	8.7	9.4	16.5	22.8	31.5
12	34.0	27.1	21.4	7.5	3.7	5.1	3.5	5.3	6.4	12.5	21.4	28.4
13	36.1	25.3	19.1	7.8	3.9	3.8	3.1	3.9	7.2	11.1	22.3	27.7
14	29.3	25.6	13.7	5.7	4.7	3.8	2.7	4.4	6.4	11.6	21.1	25.7
15	30.6	21.3	8.9	5.8	4.3	3.8	2.7	4.1	6.4	13.8	23.1	27.4
16	33.2	27.1	6.3	4.6	4.5	4.2	3.5	3.4	6.6	11.4	22.1	35.4

Hour	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
17	33.8	30.4	9.7	4.7	3.3	3.9	3.5	5.0	6.7	14.3	29.9	38.2
18	35.8	32.8	17.4	6.1	3.9	3.5	3.1	5.4	8.5	18.1	28.7	38.0
19	42.1	41.8	26.5	6.8	5.6	4.4	3.5	5.5	16.7	21.1	30.4	37.3
20	39.0	42.4	31.5	9.1	6.9	5.2	5.5	9.0	19.0	21.6	27.3	37.3
21	33.1	46.2	34.1	15.3	10.8	7.6	6.9	11.7	17.8	17.8	25.0	35.3
22	31.4	44.3	37.3	16.3	13.5	8.3	10.6	13.2	13.3	15.8	21.7	32.3
23	26.2	38.7	37.0	15.0	13.0	8.7	10.8	11.0	12.3	14.6	17.6	28.4

Notes:
These values represent the 1st high of each hour of day over month, averaged over the Terrace Skeena Middle School 2016-2020 NO_2 dataset (LNG Canada, 2023)

4 Updated Emission Rates for Warm Wet Flare

During commissioning, LNG Canada became aware that while operating the F-WW for flaring at or below the authorized rate in WDA PA-110588 that combustion was occurring to close to the flare tips causing the piping to become very hot (i.e., backburn). LNG Canada immediately identified this as a safety and integrity issue. As a result, in December 2024, LNG Canada increased the flare rate to allow combustion to occur further from the flare tip. Table 4.1 and Table 4.2 provides a summary of the F-WW specifications and emission rates two flow rates of 140 tonnes/day, 170 tonnes/day. This corresponds to 131.9 m^3/min and 160.1 m^3/min.

Table 4.1 Flare Specifications and Emission Summary (140 tonnes/day, 131.9 m^3/min)

Unit Description		**Warm Wet Flare**
Frequency [a]		Continuous
Duration - Estimated [a]		Continuous
Operational Data [a]		
Capacity—Heat Input (LHV)	MW	80.9
Capacity—Heat Input (HHV)	MW	89.6
Fuel Type		Feed Gas Composition
Stack Location [b]		
UTM NAD 83	m E	521,140
	m N	5,985,571

Reference: Flaring Assessment

Unit Description		Warm Wet Flare
Stack Dimensions [a]		
Height	m	122
Tip Diameter	m	1.422
Stack Pseudo Parameters [c]		
Effective Height	m	135.87
Effective Diameter	m	2.93
Pseudo Flare Exhaust Parameters		
Exit Velocity	m/s	20.0
Exit Temperature	K	1,273
Emission Rates		
NOx [d]	t/y	82.6
	g/s	2.62
SO_2 [e, f]	t/y	1.15
	g/s	0.036
$PM_{2.5}$ [g]	t/y	146
	g/s	4.62
CO [d]	t/y	376
	g/s	11.94
VOC [d]	t/y	801
	g/s	25.41

Notes:

a. Provided by LNG Canada.
b. Stack locations were extracted from Facility plot plan.
c. Flare stack pseudo parameters and exhaust parameters are calculated as per the Guideline (ENVP 2015)
d. NO_X, CO, and VOC emission estimations based on U.S. EPA AP 42 emission factors (U.S. EPA 2018).
e. SO_2 emission estimations based on fuel gas sulphur content. Assumed 98% sulphur was converted to SO_2 after combustion.
f. SO_2 emission rate represents average inlet sulphur content (9 mg/m^3).
g. $PM_{2.5}$ emission estimated based on RTI International emission factor for average smoking flares (RTI International 2015).

Table 4.2 Flare Specifications and Emission Summary (170 tonnes/day, 160.1 m^3/min)

Unit Description		**Warm Wet Flare**
Frequency [a]		Continuous
Duration - Estimated [a]		Continuous
Operational Data [a]		
Capacity—Heat Input (LHV)	MW	98.2
Capacity—Heat Input (HHV)	MW	108.8
Fuel Type		Feed Gas Composition
Stack Location [b]		
UTM NAD 83	m E	521,140
	m N	5,985,571
Stack Dimensions [a]		
Height	m	122
Tip Diameter	m	1.422
Stack Pseudo Parameters [c]		
Effective Height	m	137.22
Effective Diameter	m	3.23
Pseudo Flare Exhaust Parameters		
Exit Velocity	m/s	20.0
Exit Temperature	K	1,273
Emission Rates		
NOx [d]	t/y	100.3
	g/s	3.18
SO_2 [e, f]	t/y	1.40
	g/s	0.044
$PM_{2.5}$ [g]	t/y	177
	g/s	5.61
CO [d]	t/y	457
	g/s	14.49

Unit Description		Warm Wet Flare
VOC [d]	t/y	973
	g/s	30.86

Notes:
a. Provided by LNG Canada.
b. Stack locations were extracted from Facility plot plan.
c. Flare stack pseudo parameters and exhaust parameters are calculated as per the Guideline (BC ENV 2015)
d. NO_X, CO, and VOC emission estimations based on U.S. EPA AP 42 emission factors (U.S. EPA 2018).
e. SO_2 emission estimations based on fuel gas sulphur content. Assumed 98% sulphur was converted to SO_2 after combustion.
f. SO_2 emission rate represents average inlet sulphur content (9 mg/m^3).
g. $PM_{2.5}$ emission estimated based on RTI International emission factor for average smoking flares (RTI International 2015).

5 Modelling Results

For this assessment, one of the five routine emission cases from the original WDA Application are included as per the request of the BCER. The Application Case includes the predicted concentrations for the LNG Canada facility with the updated F-WW discharge rates (i.e., 140 tonnes/day (131.6 m^3/min), 170 tonnes/day, (160.1 m^3/min)) plus the Base Case with baseline and the existing and LNG Canada marine traffic The Base Case includes the modernized Rio Tinto aluminium smelter and its existing marine traffic. No changes to the Base Case were made from the original WDA Application (LNG Canada, 2023)). Baseline for the Assessment (Table 3.1 and Table 3.2) is added to the Application Case predicted concentrations.

The dispersion modelling results for the updated Application Case are provided in Table 5.1 and Table 5.2 and spatial presented in isopleth maps in Attachment A.

Table 5.1 Maximum Predicted Ground-Level Concentrations Associated with the Updated Application Case (140 tonnes/day, 131.6 m^3/min)

CAC		Maximum Predicted Concentration (µg/m^3)		% Change from Original Application Case	BC AQO (µg/m^3)
		No Baseline	With Baseline Added		
NO_2	1-hour	79.5	103.3	0.00005%	113
	Annual	3.0	8.1	0.38%	32
SO_2	1-hour	**1,634.7**	**1,649.2**	0.00039%	183
	Annual	**54.2**	**55.4**	0.00049%	13

Note:
The BC AQO metric values and associated forms are described in Table 2.1. These results are expressed consistent with the forms as described. Values greater than the BC AQO are in boldface.

Table 5.2 Maximum Predicted Ground-Level Concentrations Associated with the Updated Application Case (170 tonnes/day, 160.1 m^3/min)

CAC		Maximum Predicted Concentration (µg/m^3)		% Change from Original Application Case	BC AQO (µg/m^3)
		No Baseline	With Baseline Added		
NO_2	1-hour	79.5	103.3	0.00056%	113
	Annual	3.0	8.1	0.38%	32
SO_2	1-hour	**1,634.7**	**1,649.2**	0.00038%	183
	Annual	**54.2**	**55.4**	0.00058%	13

Note:
The BC AQO metric values and associated forms are described in Table 2.1. These results are expressed consistent with the forms as described. Values greater than the BC AQO are in boldface.

NO_2 Results: With and without baseline added, the maximum predicted 1-hour and annual ground-level NO_2 concentrations domain-wide are less than the BC AQO (113 µg/m^3 and 32 µg/m^3). Compared to the original WDA Application, the predicted increase in NO_2 concentrations is small to negligible as a result of the increase flaring rate for the F-WW. Figure A.1 and Figure A.2 (Attachment A) shows that in the updated Application Case the maximum predicted 1-hour ground-level NO_2 concentration is located between the neighbouring industrial facility and LNG Canada jetties; however, there are areas of elevated NO_2 to the north in Kitimat. Figure A.3 and Figure A.4 shows that in the Application Case the maximum predicted annual NO_2 is on the north Facility boundary. These results are the same as the results of the original WDA Application.

SO_2 Results: With and without baseline added, the maximum predicted 1-hour and annual ground-level SO_2 concentrations domain-wide are greater than the BC AQO (183 µg/m^3 and 13 µg/m^3). Compared to the original WDA Application, the predicted increase in SO_2 concentrations is negligible (0.00038% to 0.00058% increase) as a result of the increase flaring rate for the WW-F. Figure A.5 and Figure A.6 shows that in the Application Case the maximum predicted 1-hour ground-level SO_2 concentration is on the west Facility boundary of the neighbouring industrial facility close to their two major sources of SO_2 emissions (the gas treatment centre stacks). Predicted concentrations above the BC AQO cover the valley floor some distance north and south of the neighbouring industrial facility and extend mid-way up the west valley wall. Figure A.7 and Figure A.8 shows that in the Application Case the maximum predicted annual SO_2 concentration is south of the neighbouring industrial facility a few kilometres south of their two major sources of SO_2 emissions (the gas treatment centre stacks). Predicted concentrations above the BC AQO cover the valley floor some distance north and south of the neighbouring industrial facility and extend mid-way up the west valley wall. These results are the same as the results of the original WDA Application.

Therefore, the increased flaring rate from the WW-F does not introduce new predicted exceedances for NO_2 or SO_2 or identify a new air quality risk.

6 Ambient Monitoring Data Review

The purpose of this analysis is to evaluate whether flaring activities from the F-WW show any correlation or causation with elevated ambient air concentration measurements. Ambient air quality data from September 2024 to August 2025 were analyzed for three stations located in the Kitimat area – Haisla Village (Kitamaat Village) monitoring station, Riverlodge monitoring station, and Whitesail monitoring station. This period is selected as it overlaps with commissioning and operations for the LNG Canada facility. Data from January 2021 to September 2025 was also analyzed to compare the annual statistical metrics (trends).

Figure 6.1 presents the wind roses at each monitoring station. The dominant wind direction at the Haisla Village monitoring site is from south-southwest and east direction. The dominant wind direction at the Riverlodge site is from northwest and south-southeast. The dominant wind direction at the Whitesail site is from north, north-northeast, and south.

Reference: Flaring Assessment

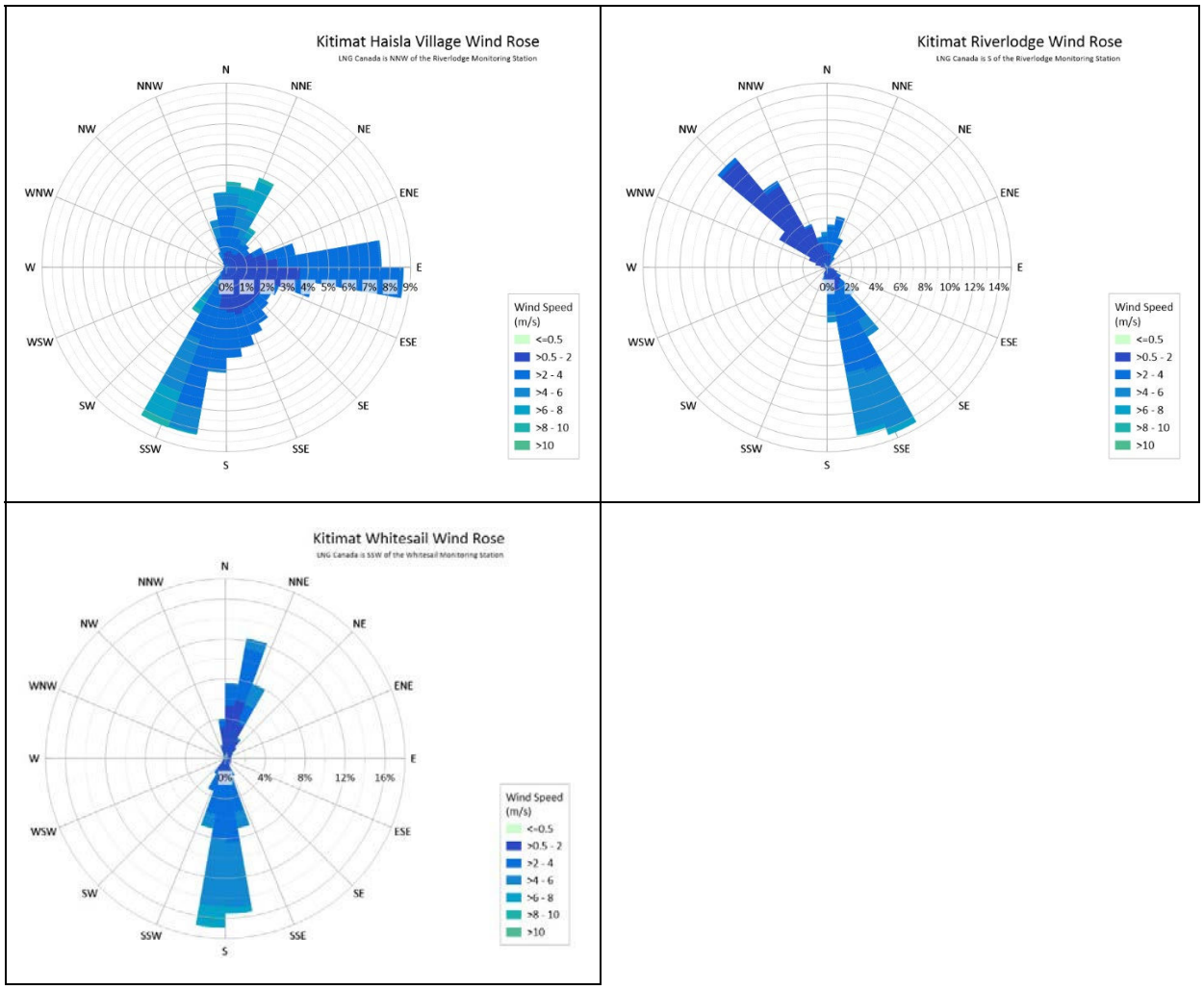

Figure 6.1 Wind Roses for September 2024 to August 2025 Period at the Haisla Village, Riverlodge, and Whitesail Monitoring Station

6.1 Haisla Village Monitoring Station

The Haisla Village monitoring station is 5.3 km east-southeast of the LNG Canada facility. Table 6.1 presents the summary of 1-hour NO_2 ambient data and comparison with BC AQO. Figure 6.2 shows a pollution rose of NO_2 concentrations at Haisla Village. The maximum 1-hour concentration during September 2024 to August 2025 period is 25.3 ppb. At 99th percentile, the 1-hour NO_2 concentrations are less than 2.1 ppb. There were no exceedances of 1-hour and annual average BC AQO for NO_2 that occurred since September 2024. The ambient concentrations above 20 ppb (three hours) occur when wind was blowing from the south southwest and east northeast which suggests emissions are associated with sources within the community or marine vessel traffic.

The NO_2 data for prior to June 2024 was not available for comparison of ambient concentrations between multiple years.

Table 6.1 Measured NO_2 Concentrations from September 2024 to August 2025 at Haisla Village Monitoring Station

Percentiles of Hourly Ambient Data	Ambient Concentrations NO_2 (ppb) [a]
100th Percentile	25.3 (47.6)
99th Percentile	2.6 (4.9)
98th Percentile	1.9 (3.6)
95th Percentile	1.3 (2.4)
90th Percentile	0.9 (1.7)
75th Percentile	0.5 (0.9)
50th Percentile	0.3 (0.6)
25th Percentile	0.2 (0.4)
10th Percentile	0.1 (0.2)
Comparison with BC AQO	
98th Percentile Daily 1-hour Maximum Concentration	10.0 (18.8)
1-hour BC AQO	60 (113)
Annual Average	0.4 (0.8)
Annual BC AQO	17 (32)

Note:
a. Concentrations in parenthesis are in µg/m^3 units

Reference: Flaring Assessment

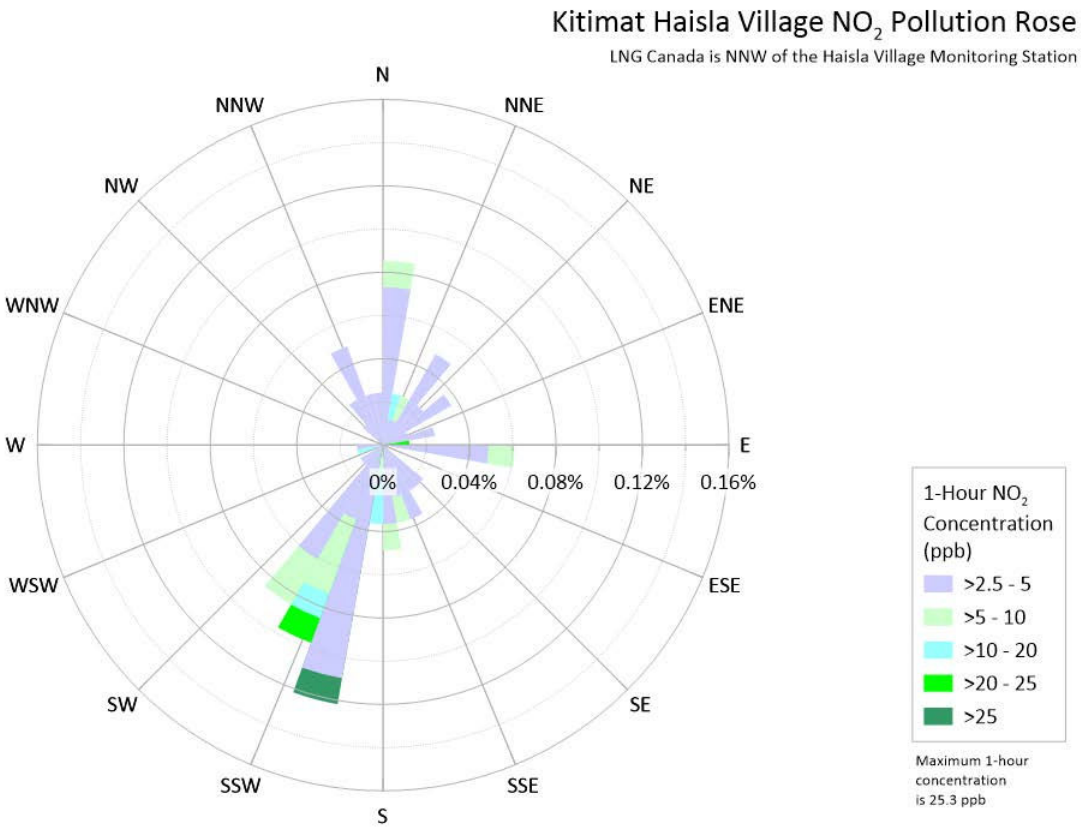

Figure 6.2 NO_2 Pollution Rose for September 2024 to August 2025 Period at Haisla Village Monitoring Station

Table 6.2 presents the summary of 1-hour SO_2 ambient data and comparison with BC AQO. Figure 6.3 shows a pollution rose of SO_2 concentrations at Haisla Village. The maximum 1-hour SO_2 concentration during September 2024 to August 2025 period is 25.9 ppb. At 99th percentile, the 1-hour SO_2 concentrations are less than 3.2 ppb. There were no exceedances of 1-hour and annual average BC AQO for SO_2 that occurred since September 2024. The ambient concentrations above 20 ppb (two hours: 14:00 on November 9, 2024, and 24:00 on January 27, 2025) occur when wind is blowing from north and northwesterly direction from the general direction of the RT and LNG Canada facilities. Emissions of SO_2 from LNG Canada facility were small to negligible during this early phase of commissioning indicating emissions from Rio Tinto likely influence these measured concentrations.

Table 6.3 presents SO_2 data from January 2021 to September 2025. The SO_2 1-hour average maximum, 99th percentile, 98th percentile, median, and annual average concentrations in 2025 were consistent with typical range observed in previous years.

Table 6.2 Measured SO_2 Concentrations from September 2024 to August 2025 at Haisla Village Monitoring Station

Percentiles of Hourly Ambient Data	SO_2 Ambient Concentrations (ppb) [a]
100th Percentile	25.9 (67.8)
99th Percentile	3.2 (8.4)
98th Percentile	2.0 (5.2)
95th Percentile	0.7 (1.8)
90th Percentile	0.3 (0.8)
75th Percentile	0.2 (0.5)
50th Percentile	0.1 (0.3)
25th Percentile	0.1 (0.3)
10th Percentile	0.0 (0.0)
Comparison with BC AAAQO	
98th Percentile Daily 1-hour Maximum Concentration	12.9 (33.9)
1-hour BC AQO	70 (183)
Annual Average	0.2 (0.6)
Annual BC AQO	5 (13)

Notes:
a. Concentrations in parenthesis are in µg/m^3 units

Table 6.3 Measured SO_2 Concentrations from September 2024 to August 2025 at Haisla Village Monitoring Station

Hourly Data Parameters	**1-hour SO_2 (ppb) [a]**				
Year	**2021**	**2022**	**2023**	**2024**	**2025 [b]**
Maximum Concentration	23.7 (62.1)	30.3 (79.4)	40.3 (105.6)	95.1 (249.1)	25.9 (67.8)
Minimum Concentration	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Median Concentration	0.1 (0.3)	0.2 (0.5)	0.2 (0.5)	0.2 (0.5)	0.1 (0.3)
Daily Average Concentration	0.2 (0.4)	0.2 (0.6)	0.4 (1.0)	0.4 (0.9)	0.2 (0.6)
99th Percentile	2.1 (5.5)	1.4 (3.7)	4.8 (12.6)	3.5 (9.2)	3.5 (9.2)
98th Percentile	1.2 (3.1)	1.0 (2.6)	2.9 (7.6)	2.0 (5.2)	2.3 (6.0)
95th Percentile	0.4 (1.0)	0.5 (1.3)	1.0 (2.6)	0.7 (1.8)	0.8 (2.1)
90th Percentile	0.2 (0.5)	0.3 (0.8)	0.5 (1.3)	0.4 (1.0)	0.3 (0.8)
75th Percentile	0.1 (0.3)	0.2 (0.5)	0.3 (0.8)	0.3 (0.8)	0.2 (0.5)
50th Percentile	0.1 (0.3)	0.2 (0.5)	0.2 (0.5)	0.2 (0.5)	0.1 (0.3)
Comparison with BC AQO					
99th Percentile of Daily 1-hour Maximum Concentration	8.7 (22.8)	8.3 (21.6)	20.6 (53.9)	21.2 (55.7)	13.0 (34.1)
1-Hour AQO	70 (183)				
Annual Average Concentration	0.2 (0.4)	0.2 (0.6)	0.4 (1.0)	0.4 (0.9)	0.2 (0.6)
Annual AQO	5 (13)				

Notes:
a. Concentrations in parenthesis are in $\mu g/m^3$ units
b. 2025 data is up to August 2025

Reference: Flaring Assessment

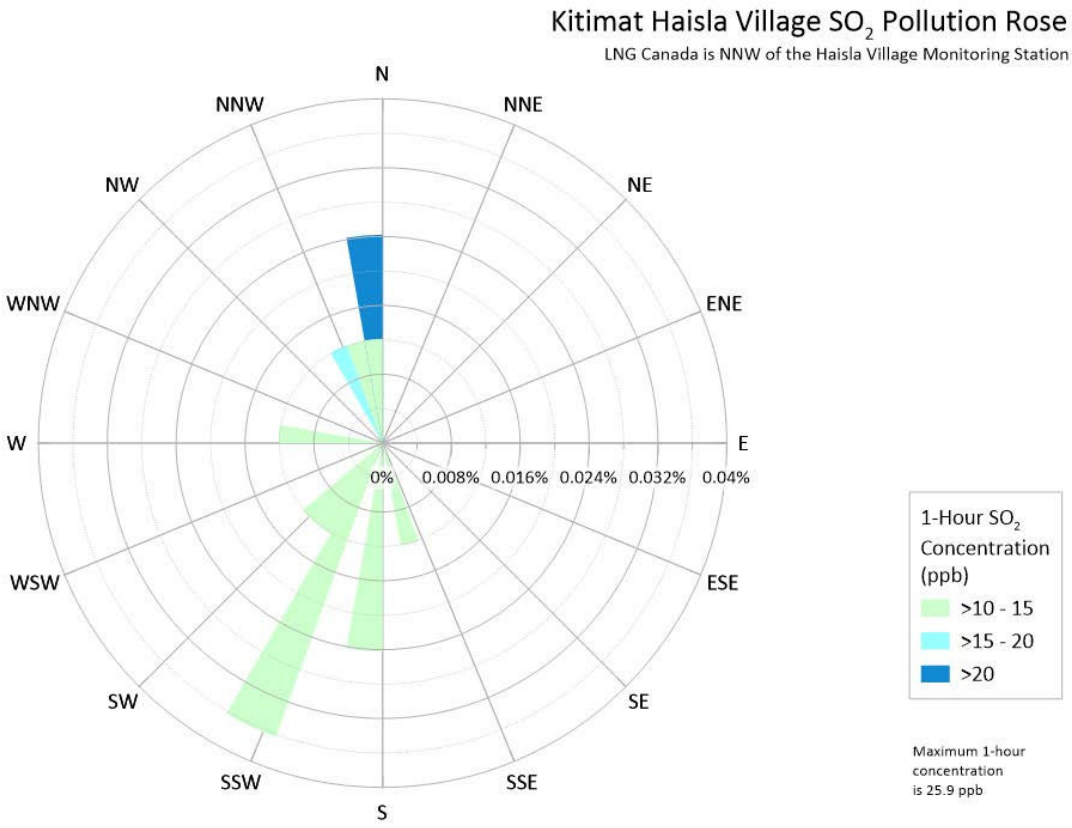

Figure 6.3 SO_2 Pollution Rose for September 2024 to August 2025 Period at Haisla Village Monitoring Station

Table 6.4 presents the summary of 1-hour $PM_{2.5}$ ambient data and comparison with BC AQO. Figure 6.4 shows a pollution rose of $PM_{2.5}$ concentrations at Haisla Village. The maximum 1-hour $PM_{2.5}$ concentration during September 2024 to August 2025 period is 26.0 µg/m^3. There were no exceedances of 24-hour and annual average BC AQO for $PM_{2.5}$ over last one year. The 1-hour ambient concentrations above 20 µg/m^3 (14 hours) occur most frequently when winds blow from the north-northeast to south-easterly sector likely indicating influence of emissions from sources within Haisla Village.

Table 6.5 presents $PM_{2.5}$ data from January 2021 to September 2025. The $PM_{2.5}$ concentrations in 2025 were consistent with typical range observed in previous years. The maximum 1-hour average and annual average concentrations in 2025 are in similar range as observed in previous years and do not show any substantial change in 2025.

Table 6.4 Measured $PM_{2.5}$ Concentrations from September 2024 to August 2025 at Haisla Village Monitoring Station

Percentiles of Hourly Ambient data	$PM_{2.5}$ Ambient Concentrations (µg/m^3)
100th Percentile	26
99th Percentile	15
98th Percentile	13
95th Percentile	10
90th Percentile	8
75th Percentile	6
50th Percentile	4
25th Percentile	2
10th Percentile	0
Comparison with BC AAAQO	
98th Percentile Daily 24-hour Average Concentration	9.4
24-hour BC AQO	27
Annual Average	4.5
Annual BC AQO	8.8

Table 6.5 Measured $PM_{2.5}$ Concentrations from September 2024 to August 2025 at Haisla Village Monitoring Station

Hourly Data Parameter	**1-hour $PM_{2.5}$ ($\mu g/m^3$)**				
Year	2021	2022	2023	2024	2025 [a]
Maximum Concentration	35.0	98.0	167	38.0	26.0
Minimum Concentration	0	0	0	0	0
Median Concentration	2	2	3	2	5
Daily Average Concentration	2.6	2.8	3.5	2.7	5.0
99th Percentile	12	16	23	14	16
98th Percentile	10	13	16	11	13
95th Percentile	7	9	9	8	11
90th Percentile	6	7	7	6	9
75th Percentile	4	4	5	4	6
50th Percentile	2	2	3	2	5
Comparison with BC AAAQO					
99th Percentile of 24-hour Average Concentration	6.7	10.3	11.2	7.2	9.6
1-Hour AQO	27				
Annual Average Concentration	2.6	2.8	3.5	2.7	5.0
Annual AQO	8.8				

Note:
a. 2025 data is up to August 2025

Reference: Flaring Assessment

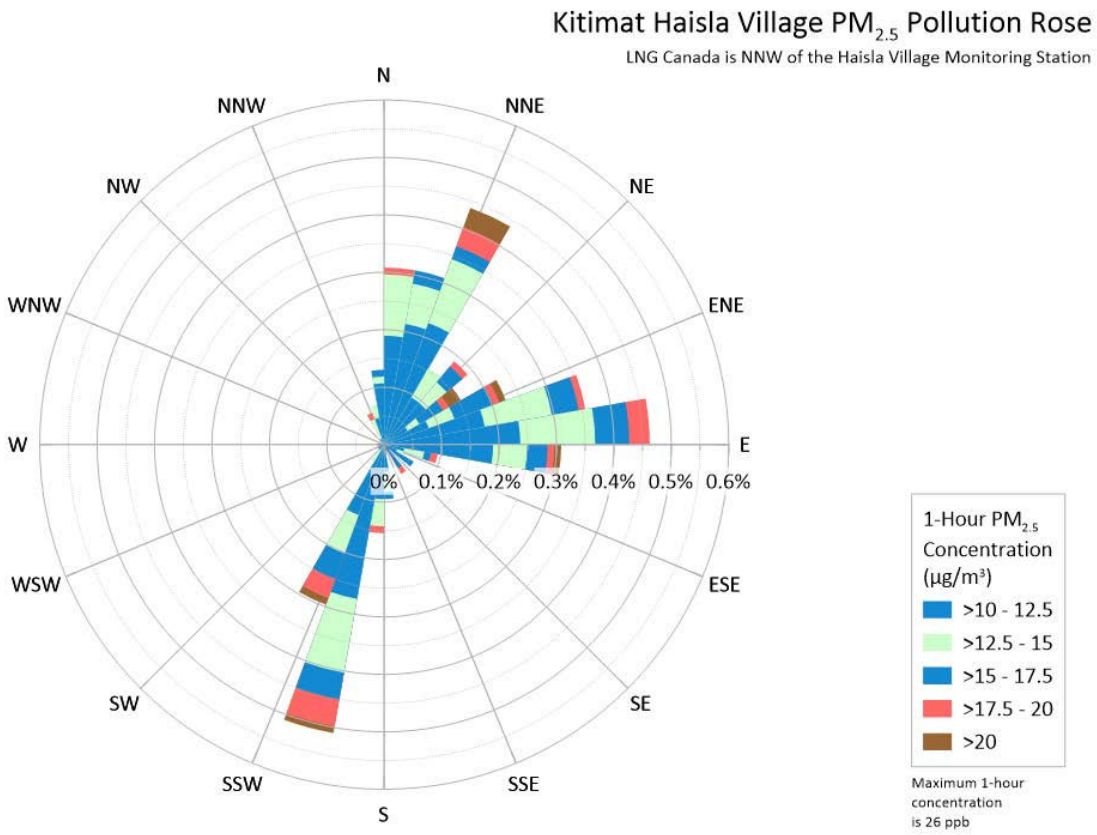

Figure 6.4 $PM_{2.5}$ Pollution Rose for September 2024 to August 2025 Period at Haisla Village Monitoring Station

6.2 Riverlodge Monitoring Station

The Riverlodge monitoring station is 4 km north of the LNG Canada facility. Table 6.6 presents the summary of 1-hour NO_2 ambient data and its comparison with BC AQO at Riverlodge monitoring station. Figure 6.5 shows a pollution rose of NO_2 concentrations at Riverlodge monitoring station. The maximum 1-hour concentration during September 2024 to August 2025 period is 14.3 ppb. There were no exceedances of 1-hour and annual average BC AQO for NO_2 that occurred since September 2024. The ambient concentrations above 10 ppb are not limited to one direction as winds from all directions show concentrations above 10 ppb; however, they most frequently occur when winds are from the northeasterly to southeasterly directions indicating likely contribution from community emission sources (vehicle traffic and home heating).

The NO_2 data prior to June 2024 was not available for comparison of ambient concentrations between multiple years.

Table 6.6 Measured NO_2 Concentrations from September 2024 to August 2025 at Riverlodge Monitoring Station

Percentiles of Hourly Ambient data	NO2 (ppb) a
100th Percentile	14.3 (26.9)
99th Percentile	7.2 (13.5)
98th Percentile	5.5 (10.3)
95th Percentile	3.9 (7.3)
90th Percentile	2.7 (5.1)
75th Percentile	1.4 (2.6)
50th Percentile	0.7 (1.3)
25th Percentile	0.4 (0.8)
10th Percentile	0.2 (0.4)
Comparison with BC AQO	
98th Percentile Daily 1-hour Maximum Concentration	10.2 (19.3)
1-hour BC AQO	60 (113)
Annual Average	1.2 (2.2)
Annual BC AQO	17 (32)

Note:
a. Concentrations in parenthesis are in $\mu g/m^3$ units

Reference: Flaring Assessment

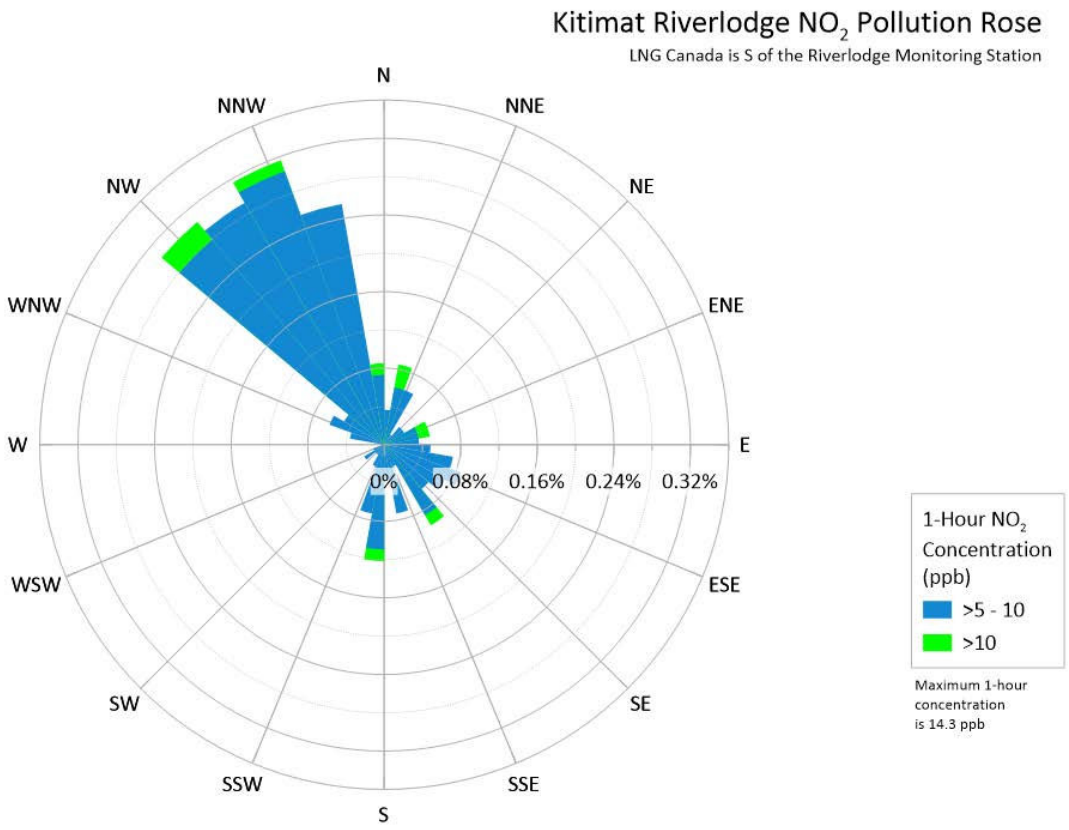

Figure 6.5 NO_2 Pollution Rose for September 2024 to August 2025 Period at Riverlodge Monitoring Station

Table 6.7 presents the summary of 1-hour SO_2 ambient data and comparison with BC AQO at Riverlodge monitoring station. Figure 6.6 shows a pollution rose of SO_2 concentrations at Riverlodge monitoring station. The maximum 1-hour SO_2 concentration during September 2024 to August 2025 period is 54.8 ppb. The 99th percentile is 6.8 ppb. There were no exceedances of 1-hour and annual average BC AQO for SO_2 that occurred since September 2024. The ambient concentrations above 10 ppb generally occur when winds are from south. The highest concentrations (greater than 20 ppb) occur under low winds speeds (less than 2 m/s). As emissions of SO_2 from LNG Canada facility were very small during commissioning and during the first two months of operation (July and August 2025), SO_2 emissions from Rio Tinto likely influence the higher measured concentrations.

Table 6.8 presents SO_2 data from January 2021 to September 2025. The SO_2 1-hour average maximum, 99th percentile, 98th percentile, and median concentrations in 2025 were consistent with typical range observed in previous years. The annual average concentration in 2025 is slightly higher than the previous year but the difference is not substantial. This could be because the 2025 data used in only up to August and do not represent the whole year.

Table 6.7 Measured SO_2 Concentrations from September 2024 to August 2025 at Riverlodge Monitoring Station

Percentiles of Hourly Ambient data	SO_2 (ppb) [a]
100th Percentile	54.8 (143.5)
99th Percentile	6.8 (17.8)
98th Percentile	4.3 (11.3)
95th Percentile	1.9 (5.0)
90th Percentile	0.9 (2.4)
75th Percentile	0.4 (1.0)
50th Percentile	0.3 (0.8)
25th Percentile	0.1 (0.3)
10th Percentile	0.1 (0.3)
Comparison with BC AQO	
98th Percentile Daily 1-hour Maximum Concentration	20.8 (54.4)
1-hour BC AQO	70 (183)
Annual Average	0.6 (1.5)
Annual BC AQO	5 (13)

Notes:
a. Concentrations in parenthesis are in µg/m^3 units

Table 6.8 Measured SO_2 Concentrations from September 2024 to August 2025 at Whitesail Monitoring Station

1-Hour Data Parameters	1-hour SO_2 (ppb) [a]				
Year	**2021**	**2022**	**2023**	**2024**	**2025 [b]**
Maximum Concentration	45.2 (118.4)	16.2 (42.4)	39.9 (104.5)	60.4 (158.2)	54.8 (143.5)
Minimum Concentration	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Median Concentration	0.1 (0.3)	0.2 (0.5)	0.2 (0.5)	0.2 (0.5)	0.3 (0.8)
Daily Average Concentration	0.4 (1.0)	0.3 (0.8)	0.6 (1.5)	0.5 (1.3)	0.7 (1.8)
99th Percentile	5.7 (14.8)	2.5 (6.5)	9.6 (25.1)	7.3 (19.1)	8.1 (21.2)
98th Percentile	3.7 (9.7)	1.6 (4.2)	5.6 (14.6)	4.6 (12.0)	5.1 (13.3)
95th Percentile	1.3 (3.4)	0.8 (2.1)	2.2 (5.8)	1.6 (4.2)	2.4 (6.3)
90th Percentile	0.5 (1.3)	0.4 (1.0)	0.9 (2.4)	0.7 (1.8)	1.1 (2.9)
75th Percentile	0.2 (0.5)	0.3 (0.8)	0.3 (0.8)	0.3 (0.8)	0.5 (1.3)
50th Percentile	0.1 (0.3)	0.2 (0.5)	0.2 (0.5)	0.2 (0.5)	0.3 (0.8)
Comparison with BC AQO					
99th Percentile of Daily 1-hour Maximum Concentration	28.4 (74.3)	9.6 (25.3)	25.6 (67.0)	23.6 (61.8)	28.5 (74.5)
1-Hour AQO	70 (183)				
Annual Average Concentration	0.4 (1.0)	0.3 (0.8)	0.6 (1.5)	0.5 (1.3)	0.7 (1.8)
Annual AQO	5 (13)				

Notes:
a. Concentrations in parenthesis are in $\mu g/m^3$ units
b. 2025 data is up to August 2025

Reference: Flaring Assessment

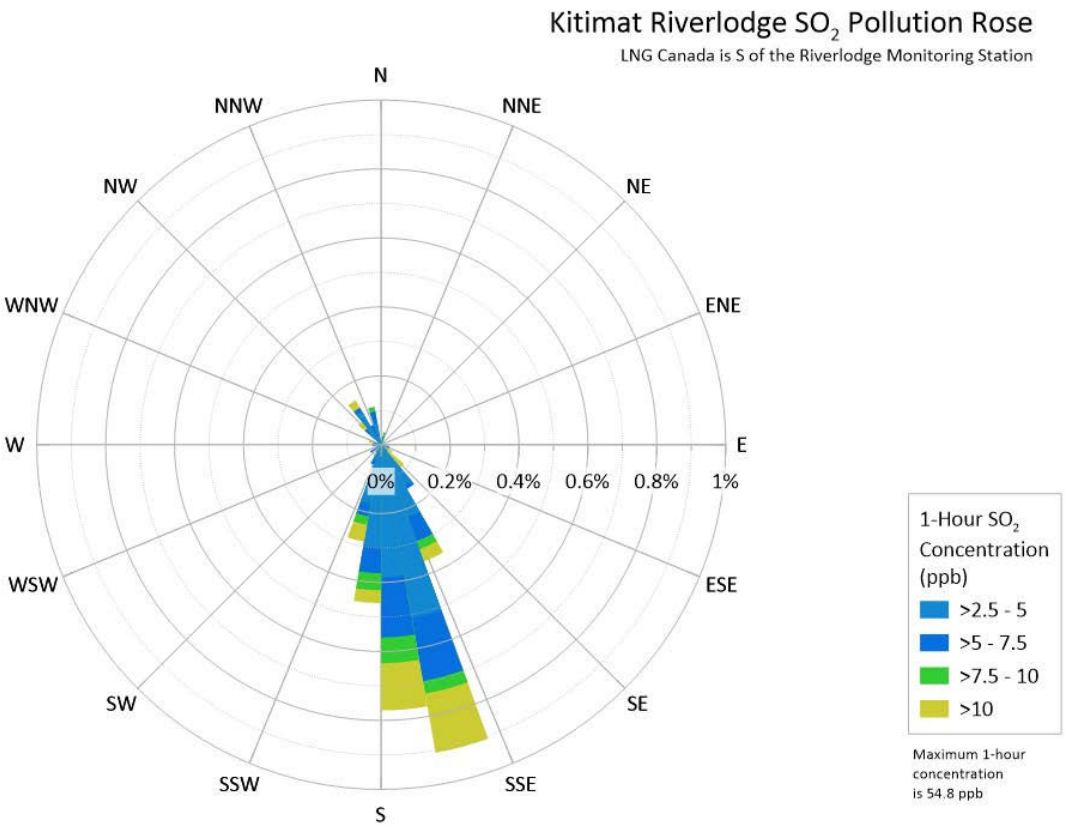

Figure 6.6 SO_2 Pollution Rose for September 2024 to August 2025 Period at Riverlodge Monitoring Station

Table 6.9 presents the summary of 1-hour $PM_{2.5}$ ambient data and comparison with BC AQO at Riverlodge monitoring station. Figure 6.7 shows a pollution rose of $PM_{2.5}$ concentrations at Riverlodge monitoring station. The maximum 1-hour $PM_{2.5}$ concentration during September 2024 to August 2025 period is 24.0 µg/m^3. There were no exceedances of 24-hour and annual average BC AQO for $PM_{2.5}$ over last one year. The higher ambient concentrations above 20 µg/m^3 occur under a wide variety of wind directions with most concentrations observed on June 21st and June 22nd, 2025 influenced by wildfire smoke.

Table 6.10 presents $PM_{2.5}$ data from January 2021 to September 2025. The $PM_{2.5}$ concentrations in 2025 were consistent with typical range observed in previous years. The maximum 1-hour average and annual average concentrations in 2025 are in similar range as observed in previous years and do not show any substantial change in 2025.

Table 6.9 Measured $PM_{2.5}$ Concentrations from September 2024 to August 2025 at Riverlodge Monitoring Station

Percentiles of Hourly Ambient data	**$PM_{2.5}$ (µg/m^3)**
100th Percentile	24
99th Percentile	13
98th Percentile	10
95th Percentile	8
90th Percentile	6
75th Percentile	5
50th Percentile	3
25th Percentile	1
10th Percentile	0
Comparison with BC AAAQO	
98th Percentile Daily 24-hour Average Concentration	8.1
24-hour BC AQO	27
Annual Average	3.3
Annual BC AQO	8.8

Table 6.10 Measured $PM_{2.5}$ Concentrations from September 2024 to August 2025 at Riverlodge Monitoring Station

1-Hour Data Parameters	**1-hour $PM_{2.5}$ ($\mu g/m^3$)**				
Year	**2021**	**2022**	**2023**	**2024**	**2025**
Maximum Concentration	230	38	74	35	24
Minimum Concentration	0	0	0	0	0
Median Concentration	2	2	4	2	3
Daily Average Concentration	2.6	3.0	4.9	2.9	3.6
99th Percentile	11.4	14	27	13	13
98th Percentile	9	12	16	10	11
95th Percentile	7	9	10	7	8
90th Percentile	6	7	8	6	7
75th Percentile	4	4	6	4	5
50th Percentile	2	2	4	2	3
Comparison with BC AAAQO					
99th Percentile of 24-hour Average Concentration	6.53	10.58	13.26	6.20	8.53
1-Hour AQO	27				
Annual Average Concentration	2.6	3.1	4.9	2.9	3.6
Annual AQO	8.8				

Notes:
[a.] 2025 data is up to August 2025

Reference: Flaring Assessment

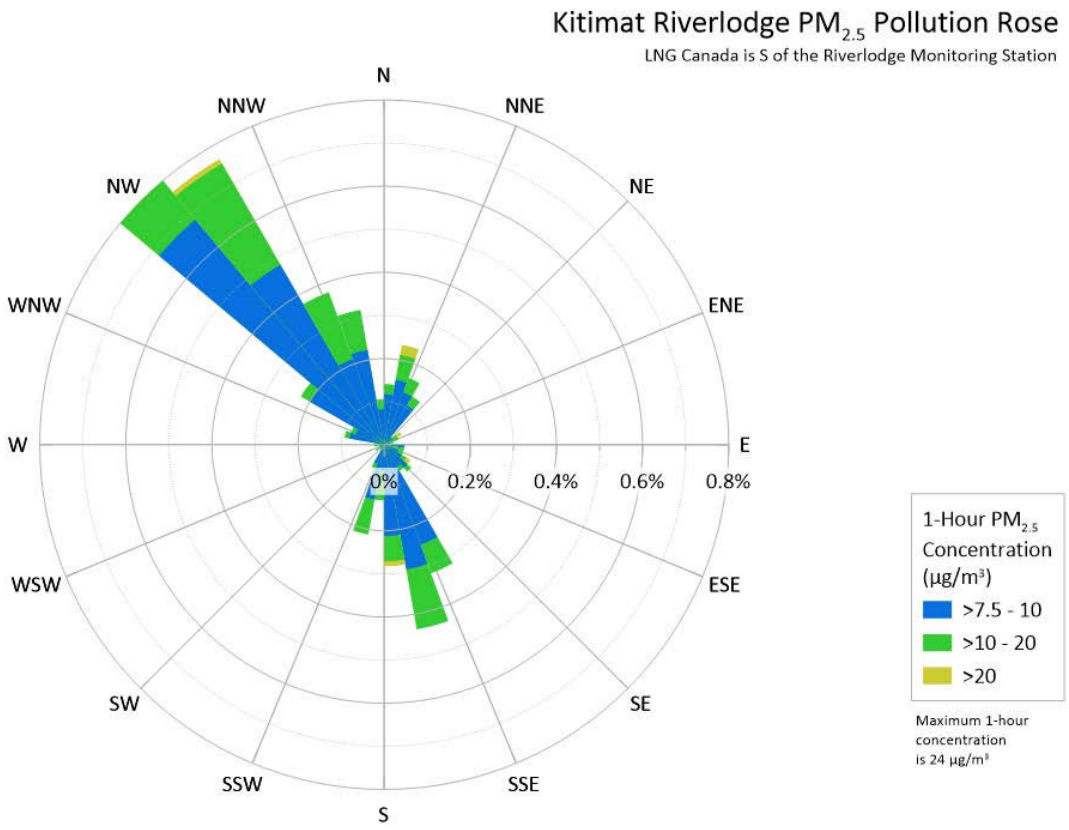

Figure 6.7 $PM_{2.5}$ Pollution Rose for September 2024 to August 2025 Period at Riverlodge Monitoring Station

6.3 Whitesail Monitoring Station

The Whitesail monitoring station is 6 km north-northeast of the LNG Canada facility. Table 6.11 presents the summary of 1-hour NO_2 ambient data and its comparison with BC AQO at Whitesail monitoring station. Figure 6.8 shows a pollution rose of NO_2 concentrations at Whitesail monitoring station. The maximum 1-hour concentration during September 2024 to August 2025 period is 14.7 ppb. There were no exceedances of 1-hour and annual average BC AQO for NO_2 that occurred since September 2024. The ambient concentrations above 10 ppb (10 hours) occur under a range of wind directions generally from the northeast, east, southeast, south and southwesterly directions suggesting contribution from a mixture of community emission sources with industry contribution when winds are from the south and southwest.

Table 6.12 presents NO_2 data from January 2021 to September 2025. The NO_2 1-hour average maximum, 99th percentile, 98th percentile, median, and annual average concentrations in 2025 were consistent with typical range observed in previous years.

Table 6.11 Measured NO_2 Concentrations from September 2024 to August 2025 at Whitesail Monitoring Station

Percentiles of Hourly Ambient data	NO_2 (ppb) [a]
100th Percentile	14.7 (27.7)
99th Percentile	5.8 (10.9)
98th Percentile	4.6 (8.7)
95th Percentile	3.0 (5.6)
90th Percentile	2.1 (4.0)
75th Percentile	1.1 (2.1)
50th Percentile	0.6 (1.1)
25th Percentile	0.3 (0.6)
10th Percentile	0.2 (0.4)
Comparison with BC AQO	
98th Percentile Daily 1-hour Maximum Concentration	8.9 (16.8)
1-hour BC AQO	60 (113)
Annual Average	0.9 (1.8)
Annual BC AQO	17 (32)

Notes:
[a] Concentrations in parenthesis are in µg/m^3 units

Table 6.12 Measured NO_2 Concentrations from September 2024 to August 2025 at Whitesail Monitoring Station

1-Hour Data Parameters	**1-hour NO_2 (ppb) [a]**				
Year	**2021**	**2022**	**2023**	**2024**	**2025 [b]**
Maximum Concentration	20.6 (38.8)	21.4 (40.3)	21.0 (39.5)	13.0 (24.5)	14.7 (27.7)
Minimum Concentration	0.2 (0.4)	0.0 (0.0)	0.1 (0.2)	0.0 (0.0)	0.0 (0.0)
Median Concentration	1.4 (2.6)	0.9 (1.7)	0.8 (1.5)	0.7 (1.3)	0.5 (0.9)
Daily Average Concentration	1.8 (3.4)	1.3 (2.5)	1.4 (2.6)	1.0 (2.0)	0.9 (1.7)
99th Percentile	8.6 (16.2)	8.5 (16.0)	8.9 (16.8)	6.4 (12.0)	5.7 (10.7)
98th Percentile	6.8 (12.8)	6.3 (11.9)	6.9 (13.0)	5.0 (9.4)	4.5 (8.5)
95th Percentile	4.4 (8.3)	3.8 (7.1)	4.5 (8.5)	3.1 (5.8)	2.9 (5.5)
90th Percentile	3.0 (5.6)	2.5 (4.7)	2.9 (5.5)	2.2 (4.1)	2.0 (3.8)
75th Percentile	2.0 (3.8)	1.4 (2.6)	1.5 (2.8)	1.1 (2.1)	1.0 (1.9)
50th Percentile	1.4 (2.6)	0.9 (1.7)	0.8 (1.5)	0.7 (1.3)	0.5 (0.9)
Comparison with BC AQO					
98th Percentile of Daily 1-hour Maximum Concentration	13.3 (25.1)	13.3 (25.1)	12.7 (23.8)	9.3 (17.4)	9.2 (17.3)
1-Hour AQO	60 (113)				
Annual Average Concentration	1.8 (3.4)	1.3 (2.4)	1.4 (2.6)	1.0 (2.0)	0.9 (1.7)
Annual AQO	17 (32)				

Notes:
a. Concentrations in parenthesis are in µg/m^3 units
b. 2025 data is up to August 2025

Reference: Flaring Assessment

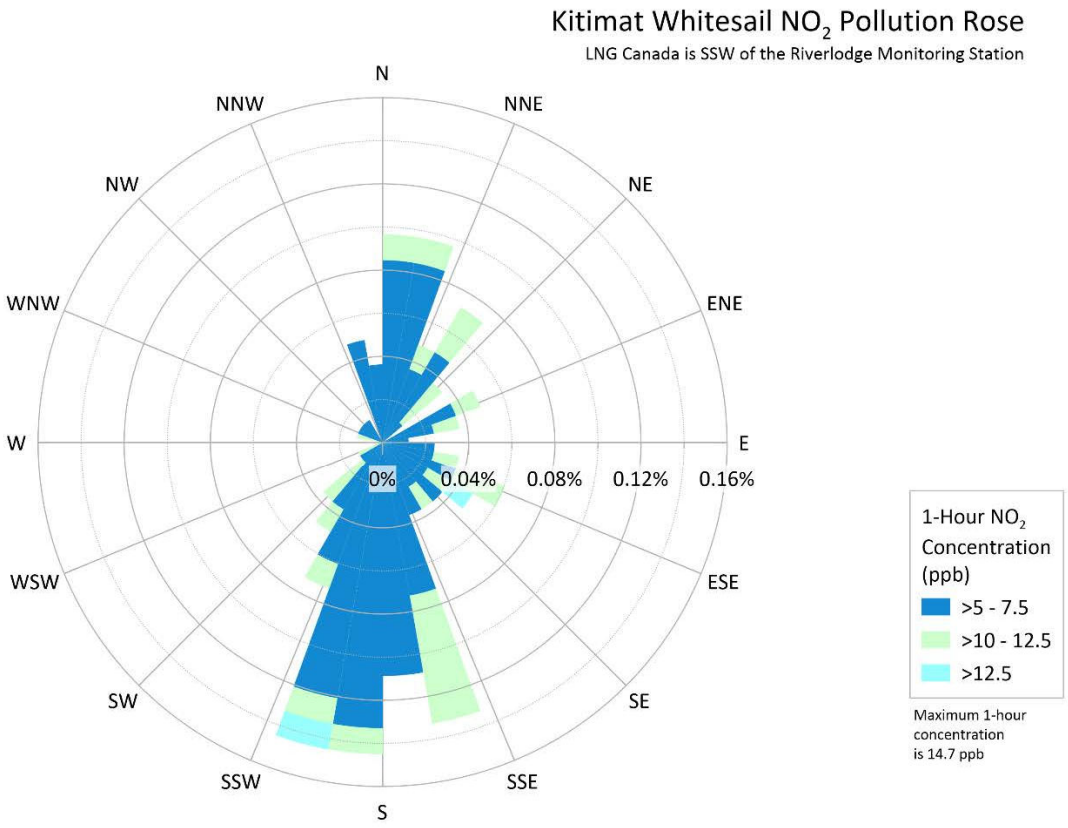

Figure 6.8 NO_2 Pollution Rose for September 2024 to August 2025 Period at Whitesail Monitoring Station

Table 6.13 presents the summary of 1-hour SO_2 ambient data and comparison with BC AQO at Whitesail monitoring station. Figure 6.9 shows a pollution rose of SO_2 concentrations at Whitesail monitoring station. The maximum 1-hour SO_2 concentration during September 2024 to August 2025 period is 34.7 ppb. The 99th percentile is 4.4 ppb. There were no exceedances of the 1-hour and annual average BC AQO for SO_2 that occurred since September 2024. The ambient concentrations above 20 ppb (8 hours) generally occur when wind is blowing from southwesterly sector. The elevated SO_2 concentrations all occur under low wind speeds (less than 2 m/s). As emissions of SO_2 from LNG Canada facility were very small during commissioning and during the first two months of operation (July and August 2025), SO_2 emissions from Rio Tinto likely influence the higher measured concentrations.

Table 6.14 presents SO_2 data from January 2021 to September 2025. The SO_2 1-hour average maximum, 99th percentile, 98th percentile, median, and annual average concentrations in 2025 were consistent with typical range observed in previous years.

Table 6.13 Measured SO_2 Concentrations from September 2024 to August 2025 at Whitesail Monitoring Station

Percentiles of Hourly Ambient data	SO_2 (ppb) [a]
100th Percentile	34.7 (90.9)
99th Percentile	4.4 (11.6)
98th Percentile	2.9 (7.6)
95th Percentile	1.1 (2.9)
90th Percentile	0.6 (1.6)
75th Percentile	0.4 (1.0)
50th Percentile	0.3 (0.8)
25th Percentile	0.2 (0.5)
10th Percentile	0.1 (0.3)
Comparison with BC AAAQO	
98th Percentile Daily 1-hour Maximum Concentration	13.5 (35.4)
1-hour BC AQO	70 (183)
Annual Average	0.5 (1.2)
Annual BC AQO	5 (13)

Notes:
a. Concentrations in parenthesis are in µg/m^3 units

Table 6.14 Measured SO_2 Concentrations from September 2024 to August 2025 at Whitesail Monitoring Station

1-Hour Data Parameters	1-hour SO_2 (ppb) [a]				
Year	**2021**	**2022**	**2023**	**2024**	**2025 [b]**
Maximum Concentration	50.3 (131.8)	11.5 (30.1)	38.7 (101.4)	25.2 (66.0)	34.7 (90.9)
Minimum Concentration	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Median Concentration	0.2 (0.5)	0.2 (0.5)	0.2 (0.5)	0.3 (0.8)	0.3 (0.8)
Daily Average Concentration	0.3 (0.8)	0.2 (0.6)	0.4 (1.2)	0.4 (1.2)	0.5 (1.3)
99th Percentile	3.7 (9.7)	1.7 (4.5)	6.0 (15.7)	5.0 (13.1)	5.1 (13.4)
98th Percentile	2.2 (5.8)	1.0 (2.7)	3.7 (9.7)	2.8 (7.3)	3.6 (9.4)
95th Percentile	0.8 (2.1)	0.6 (1.6)	1.4 (3.7)	1.1 (2.9)	1.5 (3.9)
90th Percentile	0.4 (1.0)	0.3 (0.8)	0.6 (1.6)	0.6 (1.6)	0.7 (1.8)
75th Percentile	0.2 (0.5)	0.2 (0.5)	0.3 (0.8)	0.4 (1.0)	0.4 (1.0)
50th Percentile	0.2 (0.5)	0.2 (0.5)	0.2 (0.5)	0.3 (0.8)	0.3 (0.8)
Comparison with BC AAAQO					
99th Percentile of Daily 1-hour Maximum Concentration	13.8 (36.2)	4.9 (12.8)	12.9 (33.7)	14.4 (37.6)	13.8 (36.1)
1-Hour AQO	70 (183)				
Annual Average Concentration	0.3 (0.8)	0.2 (0.6)	0.4 (1.2)	0.4 (1.2)	0.5 (1.4)
Annual AQO	5 (13)				

Notes:
a. Concentrations in parenthesis are in $\mu g/m^3$ units
b. 2025 data is up to August 2025

Reference: Flaring Assessment

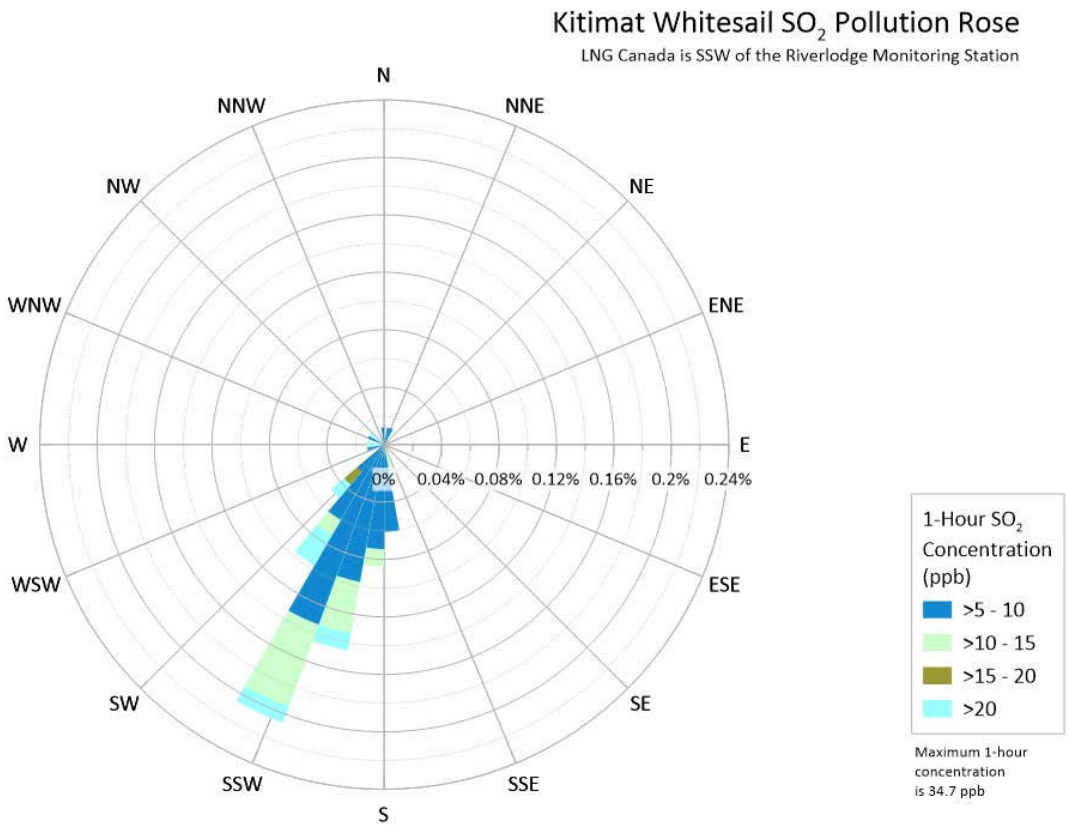

Figure 6.9 SO_2 Pollution Rose for September 2024 to August 2025 Period at Whitesail Monitoring Station

Table 6.15 presents the summary of 1-hour $PM_{2.5}$ ambient data and comparison with BC AQO at Whitesail monitoring station. Figure 6.10 shows a pollution rose of $PM_{2.5}$ concentrations at Whitesail monitoring station. The maximum 1-hour $PM_{2.5}$ concentration during September 2024 to August 2025 period is 54 µg/m^3. There were no exceedances of 24-hour and annual average BC AQO for $PM_{2.5}$ over last one year. The ambient concentrations above 30 µg/m^3 (one hour) occur when wind is blowing from south. The wind directions associated with concentrations between 20 µg/m^3 and 30 µg/m^3 (24 hours) occur under a variety of wind directions and reflect some wildfire influence.

Table 6.16 presents $PM_{2.5}$ data from January 2021 to September 2025. The $PM_{2.5}$ concentrations in 2025 were consistent with typical range observed in previous years. The maximum 1-hour average and annual average concentrations in 2025 are in similar range as observed in previous years and do not show any substantial change in 2025.

Table 6.15 Measured $PM_{2.5}$ Concentrations from September 2024 to August 2025 at Whitesail Monitoring Station

Percentiles of Hourly Ambient data	$PM_{2.5}$ (µg/m^3)
100th Percentile	54
99th Percentile	12
98th Percentile	10
95th Percentile	8
90th Percentile	6
75th Percentile	5
50th Percentile	3
25th Percentile	2
10th Percentile	0
Comparison with BC AAAQO	
98th Percentile Daily 24-hour Average Concentration	7.6
24-hour BC AQO	27
Annual Average	3.5
Annual BC AQO	8.8

Table 6.16 Measured $PM_{2.5}$ Concentrations from September 2024 to August 2025 at Whitesail Monitoring Station

1-Hour Data Parameters	**1-hour $PM_{2.5}$ ($\mu g/m^3$)**				
Year	**2021**	**2022**	**2023**	**2024**	**2025**
Maximum Concentration	37	16.4	43.1	23.3	16.8
Minimum Concentration	0	0.33	0.35	0.17	0.42
Median Concentration	2	4	4	3	3
Daily Average Concentration	2.7	9.4	9.5	7.9	7.9
99th Percentile	13	17	25	13	12
98th Percentile	10	15	14	10	10
95th Percentile	8	11	9	8	8
90th Percentile	6	8	8	6	7
75th Percentile	4	6	6	5	5
50th Percentile	2	4	4	3	3
Comparison with BC AAAQO					
99th Percentile of 24-hour Average Concentration	7.9	12.7	11.1	7.7	7.8
1-Hour AQO	27				
Annual Average Concentration	2.7	4.5	4.3	3.4	3.6
Annual AQO	8.8				

Notes:
[a.] 2025 data is up to August 2025

Reference: Flaring Assessment

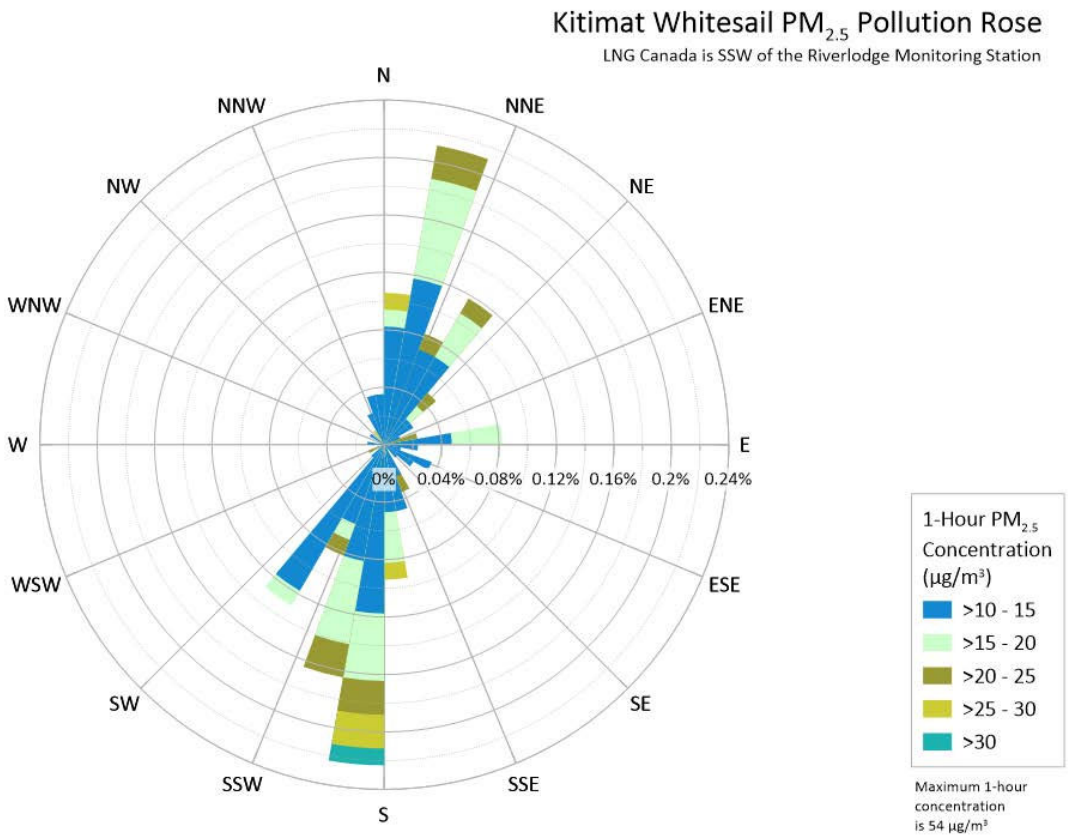

Figure 6.10 $PM_{2.5}$ Pollution Rose for September 2024 to August 2025 Period at Whitesail Monitoring Station

7 Summary

Dispersion modelling was updated for the Application Case and compared to the original WDA Application as per the request of the BCER. The Application Case includes the predicted concentrations for the LNG Canada facility with the updated F-WW discharge rates (i.e., 140 tonnes/day (131.85 m^3/min), 170 tonnes/day (160.1 m^3/min)) plus the Base Case with baseline and the existing and LNG Canada marine traffic. The Base Case includes the modernized Rio Tinto aluminium smelter and its existing marine traffic.

With and without baseline added, the maximum predicted 1-hour and annual ground-level NO_2 concentrations domain-wide are less than the BC AQO (113 µg/m^3 and 32 µg/m^3). Compared to the original WDA Application, the predicted increase in NO_2 concentrations is small to negligible as a result of the increase flaring rate for the F-WW. The maximum predicted 1-hour and annual ground-level SO_2 concentrations domain-wide are greater than the BC AQO (183 µg/m^3 and 13 µg/m^3) due to the neighbouring industrial facility. Compared to the original WDA Application, the predicted increase in SO_2 concentrations is negligible associated with the increased flaring rate for the F-WW.

The September 2024 to August 2025 ambient data at three monitoring stations were analysed to determine the potential influence of increased flaring activities on ambient concentrations in the Kitimat Valley. The measured concentrations for NO_2, SO_2, and $PM_{2.5}$ are less than the BC AQO for the September 2024 to August 2025 period. The maximum measured 1-hour and annual NO_2 concentrations are 17% and 7% of the relevant BC AQO during last one year, respectively. The measured 1-hour and annual SO_2 concentrations are 30% and 12% of the relevant BC AQO during last one year, respectively. The measured 24-hour and annual $PM_{2.5}$ concentrations are less than 35% and 51% of the relevant BC AQO during last one year, respectively. There were no unusual, elevated concentration measurements associated with flaring observed at any of the monitoring stations. The comparison of 2025 measured ambient concentrations data with 2021 to 2024 ambient data shows that the 2025 data is similar to previous years and falls within the typical ambient concentration range for the substances reviewed.

The ambient concentrations in Kitimat are influenced by a number of local sources including the neighbouring industrial facility, road traffic, marine traffic, and space heating. As the result of the backburn issue at the LNG Canada F-WW the flare rate has increased; however, based on dispersion modelling (Section 5) and the review of the ambient data (Section 6) the effect on air quality is small to negligible and is not discernible from other local sources. These results do not change the conclusions of the original WDA Application. Based on these results there are no recommended changes to the Air Quality Detailed Monitoring Plan (AQDMP).

8 Closure

This document entitled Flaring Assessment was prepared by Stantec Consulting Ltd. (“Stantec”) for the account of LNG Canada Development Inc. (the “Client”) to support the regulatory review process for its Warm-Wet Flare Backburn Flaring Event. In connection therewith, this document may be reviewed and used by the BC Energy Regulator (BCER) participating in the review process in the normal course of its duties. Except as set forth in the previous sentence, any reliance on this document by any other party or use of it for any other purpose is strictly prohibited. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The information and conclusions in the document are based on the conditions existing at the time the document was published and does not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by the Client or others, unless expressly stated otherwise in the document. Any use which another party makes of this document is the responsibility and risk of such party. Such party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other party as a result of decisions made or actions taken based on this document.

Regards,

Stantec Consulting Ltd.

Digitally signed by Hauk, April
Date: 2025.10.27 13:12:09 -07'00'

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Attachment A: Isopleth Figures

9 References

BCER. 2025. Email Re: LNGC Flaring Self-Disclosures and F-WW Impacts. From Kristofer Siriunas (BCER) to Kalada Hart (LNG Canada). July 29, 2025.

CCME. (2019). Guidance Document on Air Zone Management. Retrieved from https://ccme.ca/en/res/guidancedocumentonairzonemanagement_secured.pdf

CCME. (2020a). Guidance Document on Achievement Determination for Canadian Ambient Air Quality Standards for Nitrogen Dioxide. Retrieved from https://ccme.ca/en/res/gdadforcaaqsfornitrogendioxide_en1.0.pdf

CCME. (2020b). Guidance Document on Achievement Determination for Canadian Ambient Air Quality Standards for Sulphur Dioxide. Retrieved from https://ccme.ca/en/res/gdadforcaaqsforsulphurdioxide_en1.0.pdf

CEPA. (2017, December). Canadian Environmental Protection Act : Canadian Ambient Air Quality Standards for nitrogen dioxide. Retrieved June 2023, from Canada Gazette, Part I, Volume 151, Number 49: Government Notices: http://gazette.gc.ca/rp-pr/p1/2017/2017-12-09/html/notice-avis-eng.html

ENVP, 2015. British Columbia Air Quality Dispersion Modelling Guideline, British Columbia Ministry of Environment, Environmental Protection Division, Environmental Standards Branch, Clean Air Section. December, 2015.

ENVP. (2016, November). New National Air Quality Standards for SO2. Retrieved from https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/fs_so2_caaqs.pdf

ENVP. (2020, February). Provincial Framework for Developing Provincial Air Quality Objectives. Retrieved from https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/provincial_framework_for_developing_provincial_air_quality_objectives_-_info_sheet.pdf

ENVP, 2022a. British Columbia Air Quality Dispersion Modelling Guideline, British Columbia Ministry of Environment, Environmental Protection Division, Environmental Standards Branch, Clean Air Section. July, 2022.

ENVP, 2022b. Guidance for NO_2 Dispersion Modelling in British Columbia. July, 2022.

ENVP, 2021. British Columbia Ambient Air Quality Objectives – Updated November, 2021. BC Ministry of Environment. Environmental Standards Branch. Available at: https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/prov_air_qual_objectives_fact_sheet.pdf Accessed: November 2021.

ESSA Technologies J. Laurence, Risk Sciences International, Trent University, and Trinity Consultants. 2020. Sulphur Dioxide Environmental Effects Monitoring for the Kitimat Modernized Project Volume 1: 2019 Comprehensive Review Report, V.3 Final. Prepared October 15, 2020 for Rio Tinto, BC Works, Kitimat, BC.

LNG Canada. 2023. Technical Assessment Report – Air Emissions. Document Number: L001-09800-HE-8223-2200. September 18, 2025.

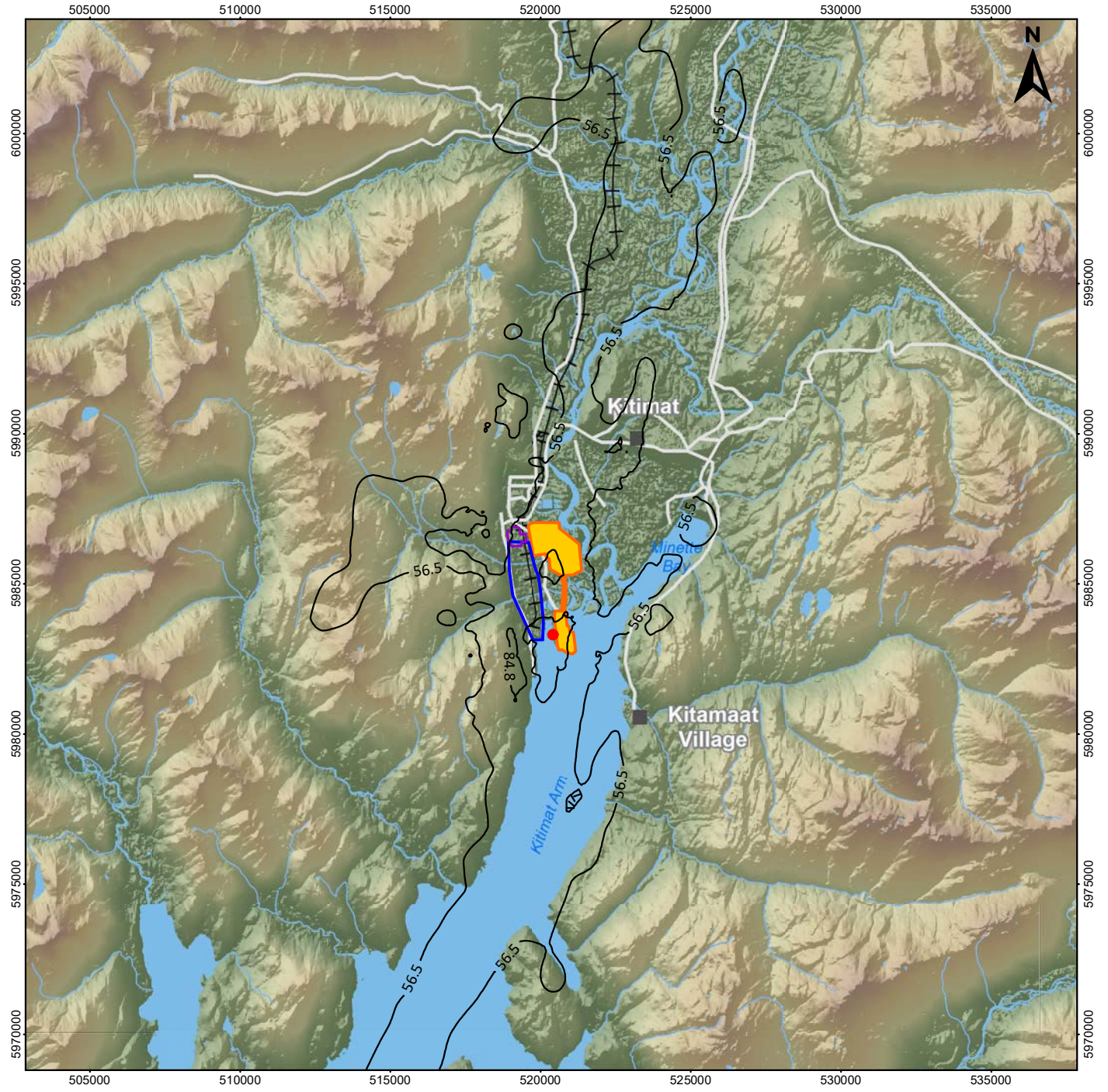
RTI International. 2015. Emissions Estimation Protocol for Petroleum Refineries. Submitted to Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711. Submitted in April 2015. Available at: https://www.epa.gov/sites/default/files/2020-11/documents/protocol_report_2015.pdf. Accessed in June 2021.

Reference: Flaring Assessment

U.S. EPA. (2018). AP42, Fifth Edition, Volume I, Chapter 13: Miscellaneous Sources. Section 13.5 Industrail Flares. https://www.epa.gov/sites/default/files/2020-10/documents/13.5_industrial_flares.pdf

Reference:Flaring Assessment

Attachment A Isopleths



- Project Boundary
- City, Town, Community, or Village
- Concentration Contour (µg/m³)
- Railway
- Waterbody
- Watercourse
- Road
- RT Plant Boundary
- Cedar Valley Lodge (CVL) Boundary

Elevation (m)

2360
2000
1500
1000
500
0

Maximum 1-hour Average 98th Daily Maximum NO_2 Concentration: 103.3 µg/m³

1-hour NO_2 BC AQO: 113 µg/m³

Contour Levels: 11.3, 28.3, 56.5, 79, 84.8, 113 µg/m³

Baseline: 288 array baseline from Terrace SMS added

Metres

0 5000 10000 15000 20000

1: 194,444

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Opportunity for British Columbia. Energy for the world

Air Quality Flaring Assessment Memo

Application Case (Warm Wet Flare - CGL_140td) Predicted Ground-Level 98th Percentile of 1-hour Daily Maximum NO_2 Concentrations (µg/m³)

LNG CANADA EXPORT TERMINAL
KITIMAT, BRITISH COLUMBIA

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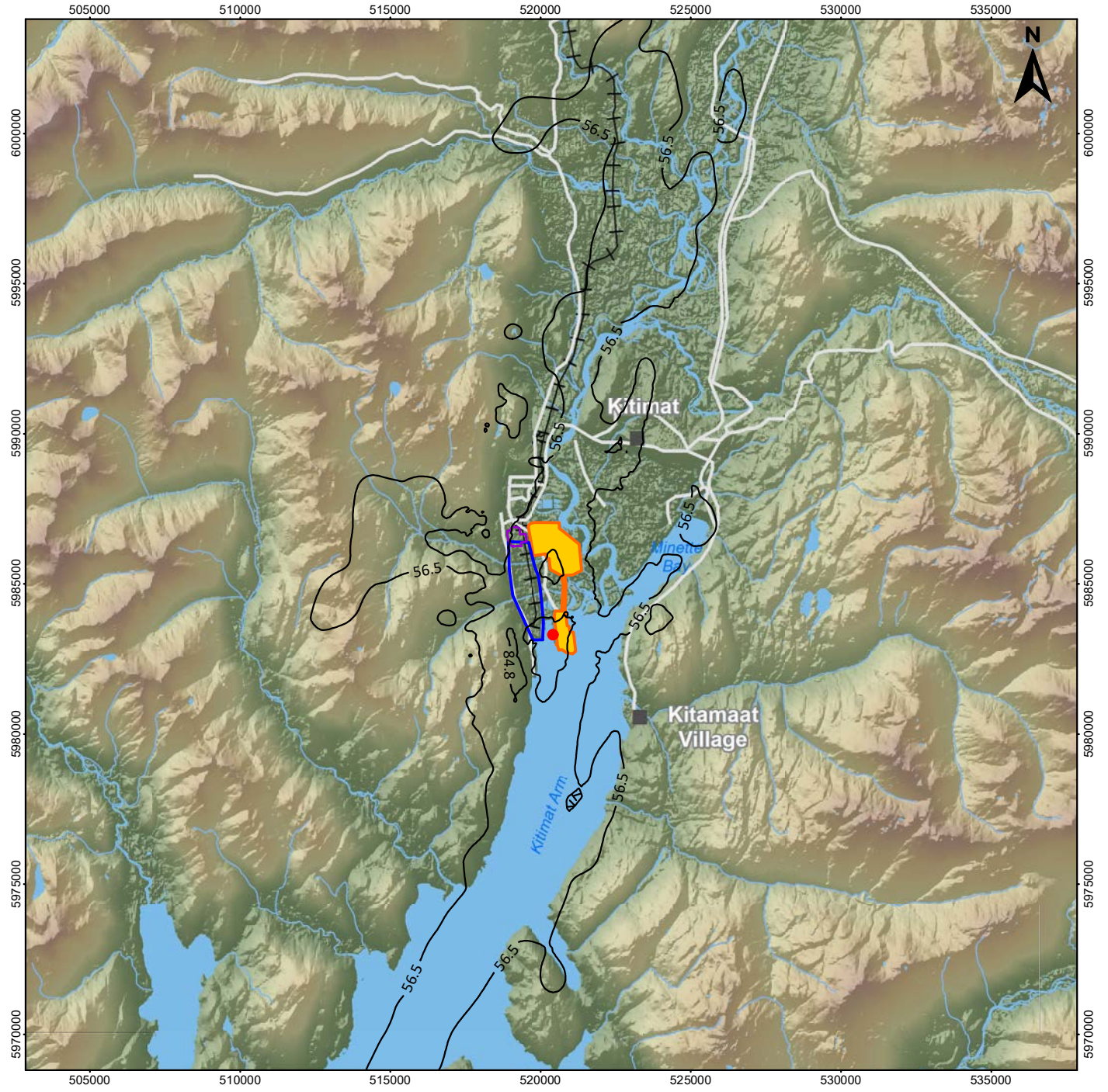
DATUM	CHECKED BY
NAD 83	AH
DATE	FIGURE NO.
20-Oct-25	A.1



- Project Boundary
- City, Town, Community, or Village
- Concentration Contour (µg/m³)
- Railway
- Waterbody
- Watercourse
- Road
- RT Plant Boundary
- Cedar Valley Lodge (CVL) Boundary

Elevation (m)

2360
2000
1500
1000
500
0

Maximum 1-hour Average 98th Daily Maximum NO_2 Concentration: 103.3 µg/m³

1-hour NO_2 BC AQO: 113 µg/m³

Contour Levels: 11.3, 28.3, 56.5, 79, 84.8, 113 µg/m³

Baseline: 288 array baseline from Terrace SMS added

Metres

0 5000 10000 15000 20000

1: 194,444

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Application Case (Warm Wet Flare - CGL_170td) Predicted Ground-Level 98th Percentile of 1-hour Daily Maximum NO_2 Concentrations (µg/m³)

LNG CANADA EXPORT TERMINAL
KITIMAT, BRITISH COLUMBIA

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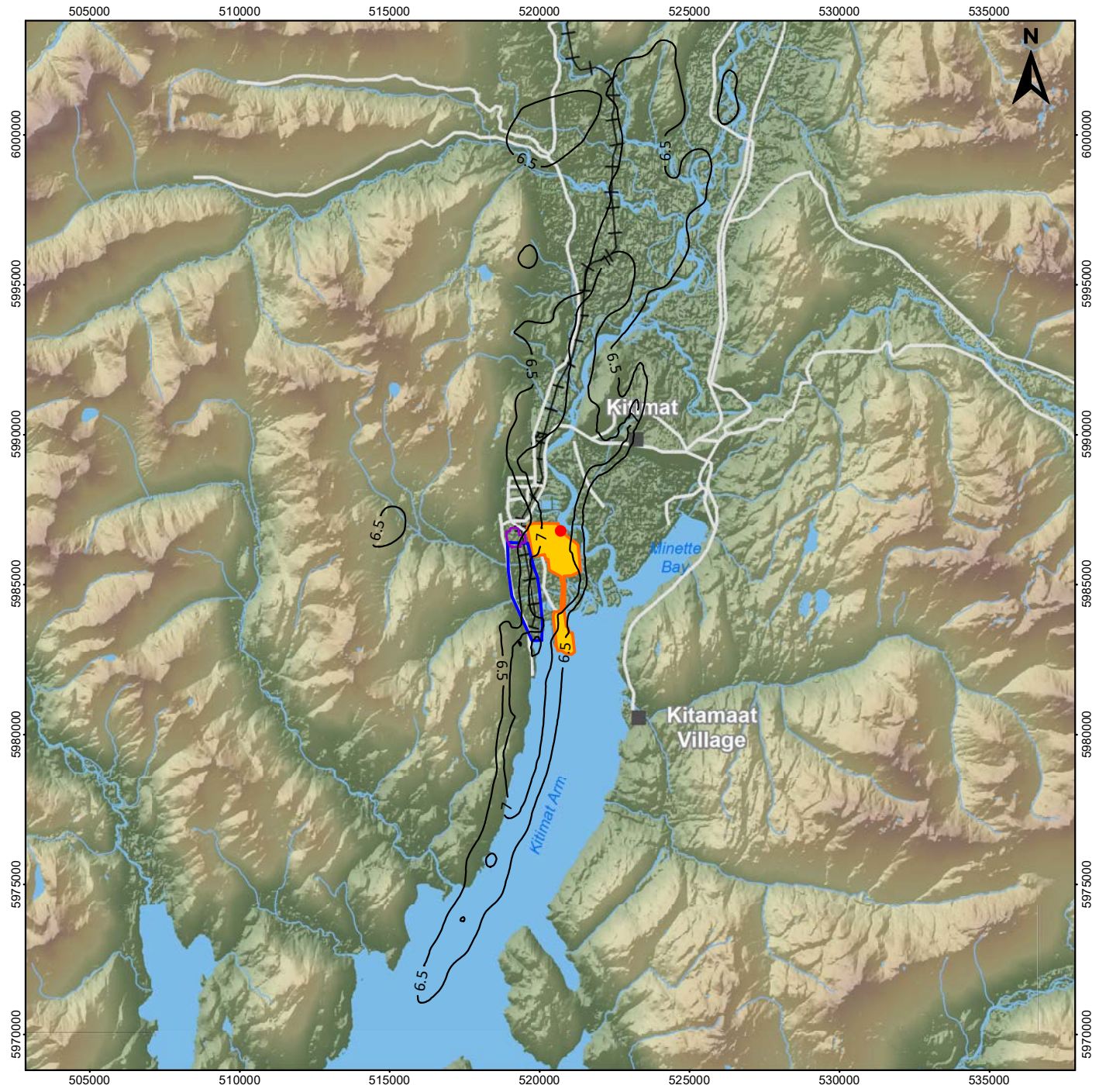
DATE: 20-Oct-25	FIGURE NO.: A.2



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Air Quality Flaring Assessment Memo

Application Case (Warm Wet Flare - CGL_140td) Predicted Annual Average Ground-level NO_2 Concentrations (µg/m³)

LNG CANADA EXPORT TERMINAL
KITIMAT, BRITISH COLUMBIA

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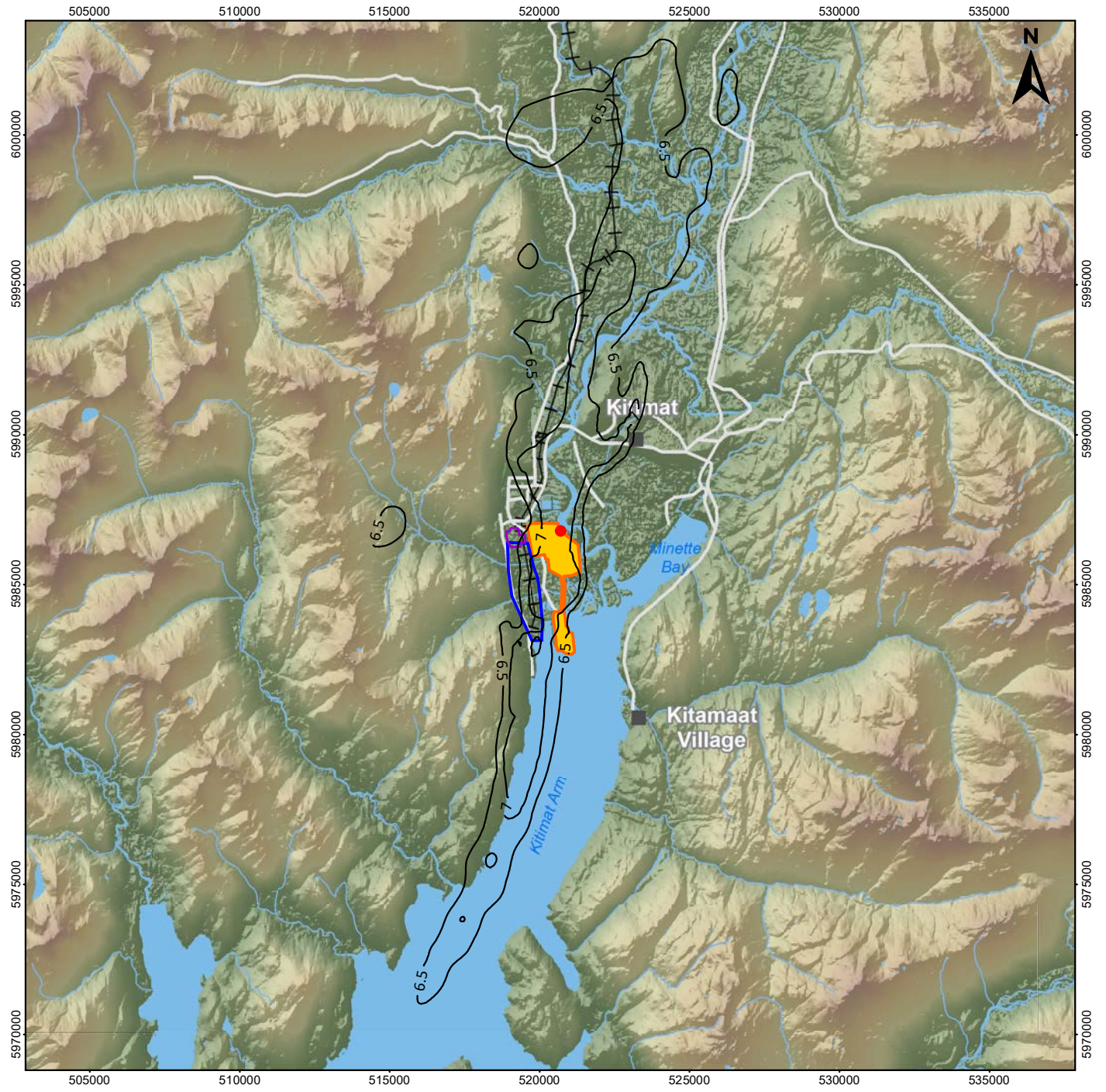
DATUM: NAD 83	CHECKED BY: AH
DATE: 20-Oct-25	FIGURE NO.: A.3



Project Boundary
City, Town, Community, or Village
Concentration Contour (µg/m³)
Railway
Waterbody
Watercourse
Road
RT Plant Boundary
Cedar Valley Lodge (CVL) Boundary

Elevation (m)
2360
2000
1500
1000
500
0

Maximum Annual Average NO_2 Concentration: 8.1 µg/m³

Annual NO_2 BC AQO: 32 µg/m³

Contour Levels: 6.5, 7 µg/m³

Baseline: 5.1 µg/m³ added

Metres
0 5000 10000 15000 20000

1: 194,444

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Application Case (Warm Wet Flare - CGL_170td) Predicted Annual Average Ground-level NO_2 Concentrations (µg/m³)

LNG CANADA EXPORT TERMINAL
KITIMAT, BRITISH COLUMBIA

PROJECTION: UTM9	DRAWN BY: YS
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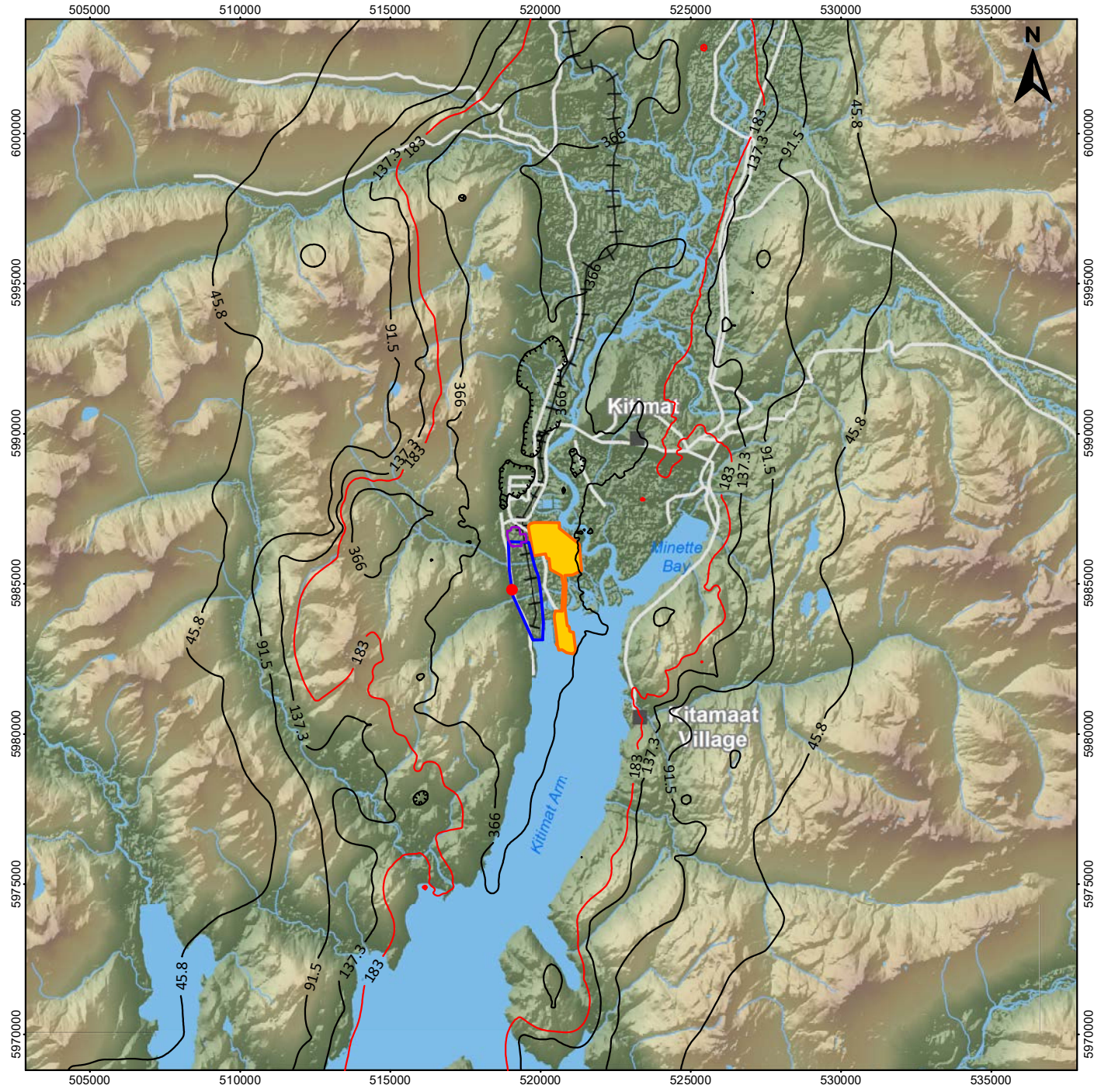
DATE: 20-Oct-25	FIGURE NO.: A.4



Project Boundary
City, Town, Community, or Village
Concentration Contour (µg/m³)
Railway
Waterbody
Watercourse
Road
RT Plant Boundary
Cedar Valley Lodge (CVL) Boundary

Elevation (m)
2360
2000
1500
1000
500
0

Maximum 1-hour Average 99th Daily Maximum SO_2 Concentration: 1,649.2 µg/m³

1-hour SO_2 BC AQO: 183 µg/m³ (——)

Contour Levels: 45.8, 91.5, 137.3, 183, 366 µg/m³

Baseline: 14.5 µg/m added

Metres

0 5000 10000 15000 20000

1: 194,444

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Application Case (Warm Wet Flare - CGL_140td) Predicted Ground-Level 99th Percentile of 1-hour Daily Maximum SO_2 Concentrations (µg/m³)

LNG CANADA EXPORT TERMINAL
KITIMAT, BRITISH COLUMBIA

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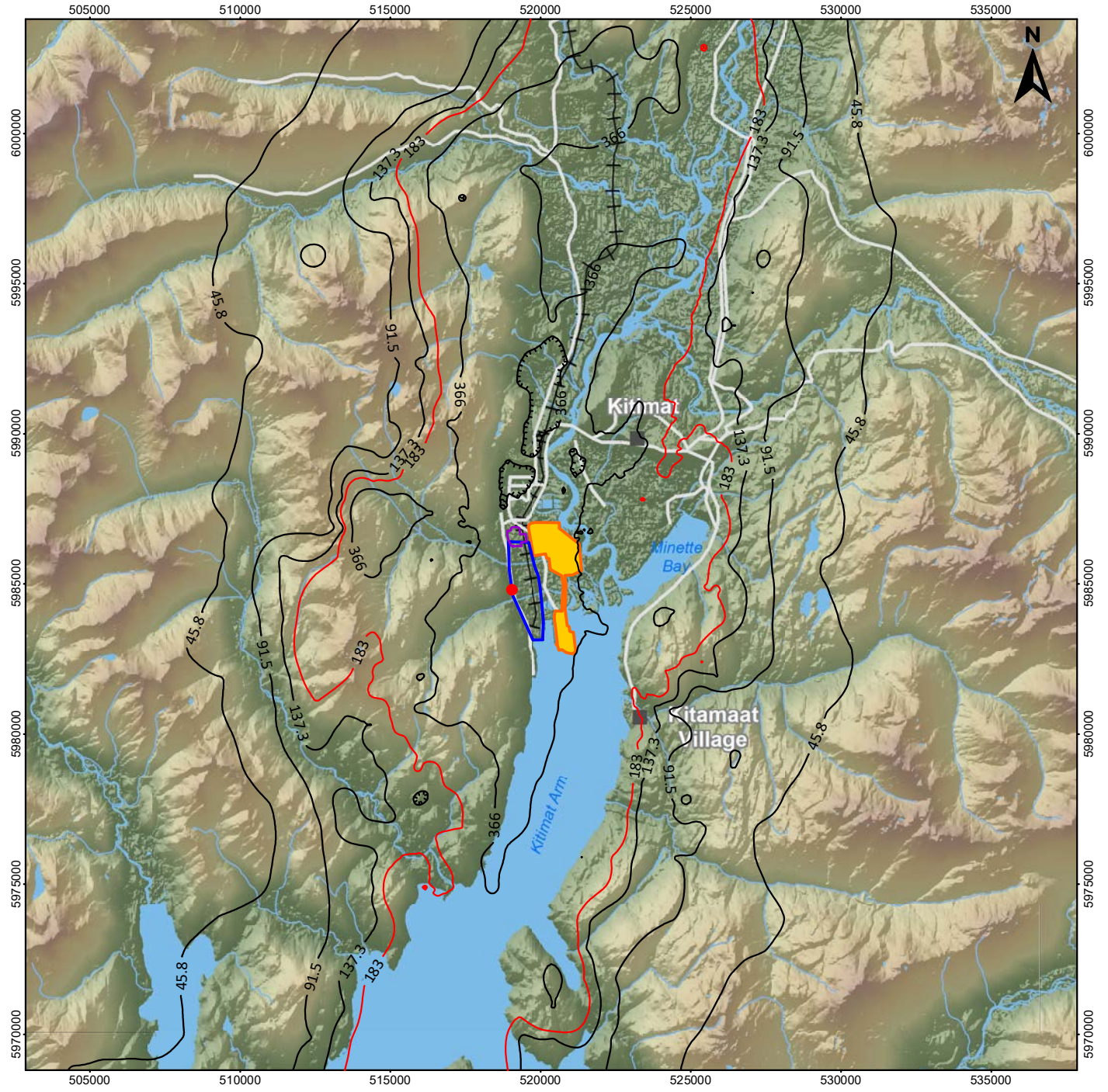
DATUM: NAD 83	CHECKED BY: AH
DATE: 20-Oct-25	FIGURE NO.: A.5



Project Boundary
City, Town, Community, or Village
Concentration Contour (µg/m³)
Railway
Waterbody
Watercourse
Road
RT Plant Boundary
Cedar Valley Lodge (CVL) Boundary

Elevation (m)
2360
2000
1500
1000
500
0

Maximum 1-hour Average 99th Daily Maximum SO_2 Concentration: 1,649.2 µg/m³

1-hour SO_2 BC AQO: 183 µg/m³ (——)

Contour Levels: 45.8, 91.5, 137.3, 183, 366 µg/m³

Baseline: 14.5 µg/m added

Metres

0 5000 10000 15000 20000

1: 194,444

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Application Case (Warm Wet Flare - CGL_170td) Predicted Ground-Level 99th Percentile of 1-hour Daily Maximum SO_2 Concentrations (µg/m³)

LNG CANADA EXPORT TERMINAL
KITIMAT, BRITISH COLUMBIA

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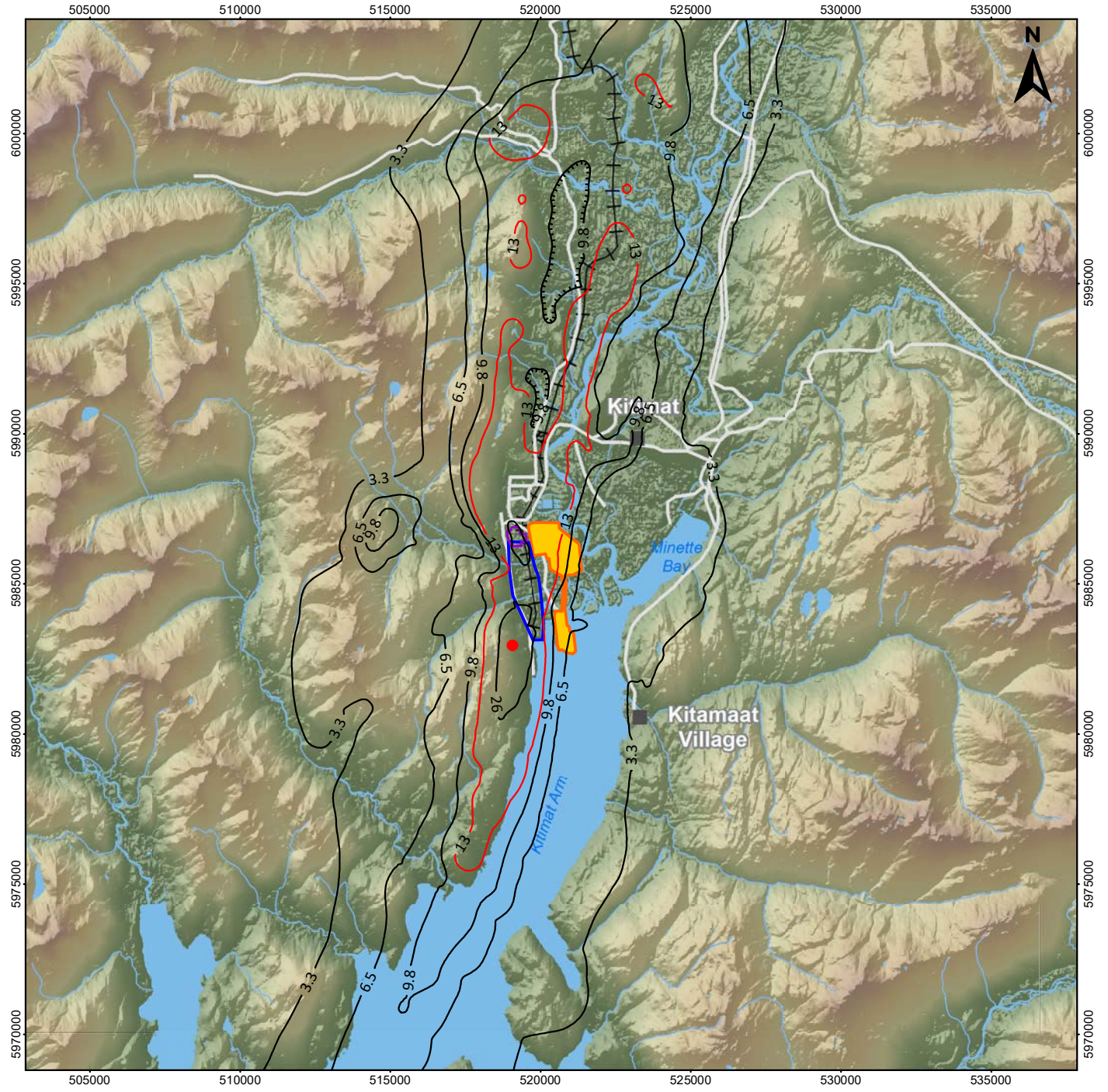
DATE: 20-Oct-25	FIGURE NO.: A.6



- Project Boundary
- City, Town, Community, or Village
- Concentration Contour (µg/m³)
- Railway
- Waterbody
- Watercourse
- Road
- RT Plant Boundary
- Cedar Valley Lodge (CVL) Boundary

Elevation (m)

2360
2000
1500
1000
500
0

Maximum Annual Average SO_2 Concentration: 55.4 µg/m³

Annual SO_2 BC AQO: 13 µg/m³

Contour Levels: 3.3, 6.5, 9.8, 13, 26 µg/m³

Baseline: 1.2 µg/m³ added

Metres

0 5000 10000 15000 20000

1: 194,444

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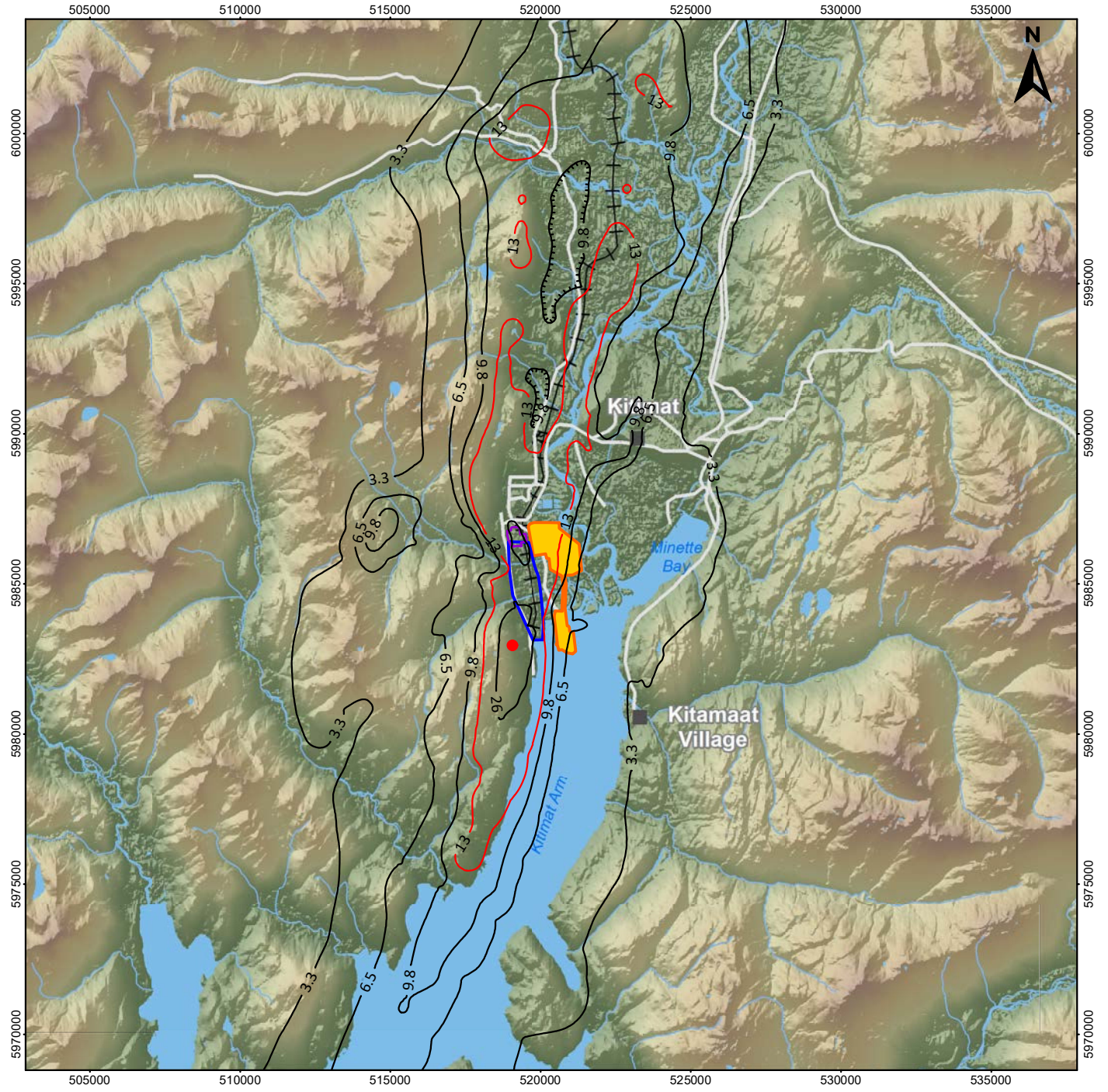
Application Case (Warm Wet Flare - CGL_140td) Predicted Annual Average Ground-level SO_2 Concentrations (µg/m³)

LNG CANADA EXPORT TERMINAL
KITIMAT, BRITISH COLUMBIA

PROJECTION: UTM9	DRAWN BY: YS
DATUM: NAD 83	CHECKED BY: AH
DATE: 20-Oct-25	FIGURE NO.: A.7



- Project Boundary
- City, Town, Community, or Village
- Concentration Contour (µg/m³)
- Railway
- Waterbody
- Watercourse
- Road
- RT Plant Boundary
- Cedar Valley Lodge (CVL) Boundary

Elevation (m)

2360
2000
1500
1000
500
0

Maximum Annual Average SO_2 Concentration: 55.4 µg/m³

Annual SO_2 BC AQO: 13 µg/m³

Contour Levels: 3.3, 6.5, 9.8, 13, 26 µg/m³

Baseline: 1.2 µg/m³ added

Metres

0 5000 10000 15000 20000

1: 194,444

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Application Case (Warm Wet Flare - CGL_170td) Predicted Annual Average Ground-level SO_2 Concentrations (µg/m³)

LNG CANADA EXPORT TERMINAL
KITIMAT, BRITISH COLUMBIA

PROJECTION: UTM9	DRAWN BY: YS
DATUM: NAD 83	CHECKED BY: AH
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