

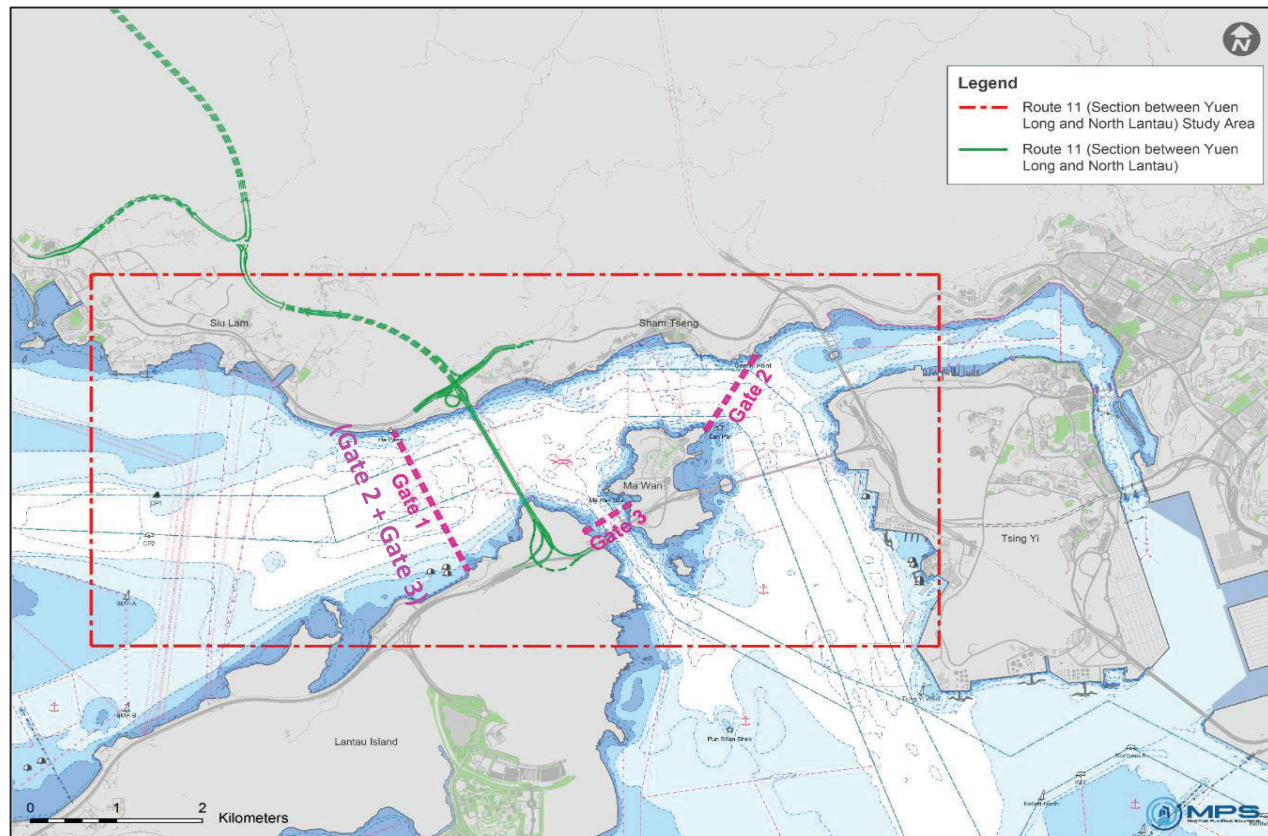
Annex I

Marine Emission Rate for Tsing Lung Tau Fairway in Year 2048

Small Crafts - pleasure vessels and sampan_Gate 2

Marine Traffic Information

Assessment Year 2048
 Assessed Vessel Type Small Crafts - pleasure vessels and sampan
 Gate 2



Marine Traffic Information from Marine Traffic Consultants

Location	Monthly Vessel Count in Dec ^[1]	Travelling Speed (knots) ^[2]	Length of Sailing Route (m) ^[3]
Gate 2	6,410	5	2,900

- Notes**
- [1] Monthly Vessel Count is advised by Marine Traffic Consultant and accepted by Marine Department.
 - [2] Average speed of 5 knot is provided by Marine Traffic Consultant.
 - [3] Possible maximum length of sailing route is estimated for conservative assessment.

Marine Emission Inventory

Total Emission Rate

Group ^[1]	Vessel Type ^[2]	Emission Rate per Trip (g/s) ^[3]		
		NO _x	RSP	FSP
1	Pleasure Vessel	0.155	0.003	0.003
2	Sampan	0.030	0.001	0.001

Notes:

[1] The vessel type is grouped according to the modelling parameter (i.e. stack height, exit temperature, exit velocity etc). Vessel types with the identical modelling parameters will be grouped.

[2] Marine traffic consultant advised the small craft is composed of pleasure vessel, sampan, work boat and tugboat.

[3] The emission rate per trip is calculated based on the following equation. Breakdown is provided and documented in "Technical Notes on Marine Emission for So Kwun Wat and Tsing Lung Tau Areas" submitted to EPD and emission rates are evenly apportioned into point sources in the model as shown in subsequent pages of this Appendix.

Engine Emission Rate per Trip = (i)Time-in-mode x (ii)Engine Load Factors x (iii) Engine Power x (iv) Emission Factor, where

(i) Time-in-mode is calculated from the average speed and possible maximum length of sailing route within assessment area provided by Marine Traffic Consultant.

(ii) Engine Load Factors are made reference to Table 3-2, Table 3-3 and Table 3-56 of USEPA (2008) – “Regulatory Impact Analysis: Control of Emissions of Air Pollution from Locomotive Engines and Marine Compression Ignition Engines Less than 30 Liters Per Cylinder”.

(iii) The average engine powers are based on desktop review.

(iv) The engine emission factors are made reference to Table 3-4 and Table 3-58 of USEPA (2008) – “Regulatory Impact Analysis: Control of Emissions of Air Pollution from Locomotive Engines and Marine Compression Ignition Engines Less than 30 Liters Per Cylinder”. Tier 2 emission factors are adopted, which assumed the age of vessels is >40 years old in Year 2048 for conservative assessment. Emission factors of FSP is assumed to be the same as those of RSP.

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height ^[1]	Exit Temperature ^[1]	Exit velocity ^[1]	Internal diameter ^[1]	Emission Rate per Trip		
				(m)	(m)		(mpd)	(m)	(K)		(m/s)	(m)	NO _x
											(g/s)	(g/s)	(g/s)
2	1	G2_SC1_001	POINTHOR	822568.9	824550.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_002	POINTHOR	822519.8	824539.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_003	POINTHOR	822470.7	824529.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_004	POINTHOR	822421.6	824518.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_005	POINTHOR	822372.5	824508	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_006	POINTHOR	822323.4	824497.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_007	POINTHOR	822283.4	824467.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_008	POINTHOR	822246.1	824431.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_009	POINTHOR	822208.9	824395.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_010	POINTHOR	822171.6	824359.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_011	POINTHOR	822133.1	824325.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_012	POINTHOR	822085.1	824310.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_013	POINTHOR	822037	824295.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_014	POINTHOR	821988.9	824280.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_015	POINTHOR	821940.9	824265.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_016	POINTHOR	821892.8	824250.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_017	POINTHOR	821844.7	824235.1	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_018	POINTHOR	821796.7	824219.9	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_019	POINTHOR	821748.6	824204.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_020	POINTHOR	821700.5	824189.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_021	POINTHOR	821652.5	824174.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height ^[1]	Exit Temperature ^[1]	Exit velocity ^[1]	Internal diameter ^[1]	Emission Rate per Trip			
				(m)	(m)		(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)		(g/s)							
2	1	G2_SC1_022	POINTHOR	821604.4	824159.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_023	POINTHOR	821556.3	824144.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_024	POINTHOR	821508.3	824129.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_025	POINTHOR	821460.2	824114.1	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_026	POINTHOR	821412.1	824098.9	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_027	POINTHOR	821364.1	824083.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_028	POINTHOR	821316	824068.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_029	POINTHOR	821268	824053.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_030	POINTHOR	821219.9	824038.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_031	POINTHOR	821171.8	824023.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_032	POINTHOR	821122.7	824013.9	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_033	POINTHOR	821072.9	824008.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_034	POINTHOR	821023.1	824003.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_035	POINTHOR	820973.2	823997.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_036	POINTHOR	823115.8	824291.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_037	POINTHOR	823074.4	824261.1	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_038	POINTHOR	823032.9	824230.9	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_039	POINTHOR	822991.4	824200.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_040	POINTHOR	822950	824170.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_041	POINTHOR	822908.5	824140.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_042	POINTHOR	822867.1	824110.1	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_043	POINTHOR	822825.6	824079.9	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_044	POINTHOR	822784.1	824049.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_045	POINTHOR	822742.7	824019.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_046	POINTHOR	822701.2	823989.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_047	POINTHOR	822659.7	823959.1	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_048	POINTHOR	822618.3	823928.9	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_049	POINTHOR	822576.8	823898.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_050	POINTHOR	822535	823869.1	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_051	POINTHOR	822492.2	823841.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_052	POINTHOR	822449.4	823813.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_053	POINTHOR	822406.6	823785.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_054	POINTHOR	822363.8	823757.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_055	POINTHOR	822321	823729.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_056	POINTHOR	822278.2	823701.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_057	POINTHOR	822235.4	823673.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_058	POINTHOR	822192.6	823645.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_059	POINTHOR	822149.8	823617.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_060	POINTHOR	822107	823589.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_061	POINTHOR	822064.2	823561.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_062	POINTHOR	822021.4	823533.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_063	POINTHOR	821978.6	823505.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_064	POINTHOR	821935.8	823477.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	
2	1	G2_SC1_065	POINTHOR	821893	823449.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05	

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)						(mpd)	(m)	(K)
				(g/s)	(g/s)	(g/s)							
2	1	G2_SC1_066	POINTHOR	821850.2	823421.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_067	POINTHOR	821807.4	823393.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_068	POINTHOR	821764.6	823365.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_069	POINTHOR	821721.8	823337.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_070	POINTHOR	821679	823309.9	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_071	POINTHOR	821636.2	823281.9	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_072	POINTHOR	821593.4	823253.9	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_073	POINTHOR	821550.6	823226	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_074	POINTHOR	821507.8	823198	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_075	POINTHOR	821465	823170.1	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_076	POINTHOR	821422.2	823142.1	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_077	POINTHOR	821379.4	823114.1	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_078	POINTHOR	821336.6	823086.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_079	POINTHOR	821293.8	823058.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_080	POINTHOR	821251	823030.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_081	POINTHOR	821208.2	823002.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_082	POINTHOR	821165.3	822974.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_083	POINTHOR	821122.5	822946.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_084	POINTHOR	821580.3	822021.1	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_085	POINTHOR	821624.6	822046.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_086	POINTHOR	821668.9	822071.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_087	POINTHOR	821713.2	822096.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_088	POINTHOR	821757.5	822121.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_089	POINTHOR	821801.8	822146.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_090	POINTHOR	821846.1	822171.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_091	POINTHOR	821867.4	822220	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_092	POINTHOR	821887.8	822269.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_093	POINTHOR	821908.3	822318.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_094	POINTHOR	821928.7	822367.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_095	POINTHOR	821954.5	822412.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_096	POINTHOR	821988.4	822452.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_097	POINTHOR	822022.2	822492.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_098	POINTHOR	822056.1	822531.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_099	POINTHOR	822090	822571.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_100	POINTHOR	822123.8	822611.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_101	POINTHOR	822161.2	822647	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_102	POINTHOR	822199.1	822682.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_103	POINTHOR	822237.1	822717.3	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_104	POINTHOR	822275	822752.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_105	POINTHOR	822313	822787.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_106	POINTHOR	822350.9	822822.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_107	POINTHOR	822389	822857.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_108	POINTHOR	822427.1	822892.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_109	POINTHOR	822465.2	822927.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height ^[1]	Exit Temperature ^[1]	Exit velocity ^[1]	Internal diameter ^[1]	Emission Rate per Trip		
				(m)	(m)		(m)	(K)	(m/s)		NOx	RSP	FSP
				(g/s)	(g/s)		(g/s)						
2	1	G2_SC1_110	POINTHOR	822503.3	822962.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_111	POINTHOR	822541.4	822997.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_112	POINTHOR	822579.4	823032.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_113	POINTHOR	822608.5	823075.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_114	POINTHOR	822632.4	823122.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_115	POINTHOR	822656.3	823170	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_116	POINTHOR	822682.9	823214.9	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_117	POINTHOR	822722	823248.5	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_118	POINTHOR	822761.2	823282.1	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_119	POINTHOR	822800.3	823315.7	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_120	POINTHOR	822839.4	823349.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_121	POINTHOR	822878.6	823382.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_122	POINTHOR	822917.7	823416.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_123	POINTHOR	822956.9	823450	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_124	POINTHOR	822996	823483.6	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_125	POINTHOR	823035.2	823517.2	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_126	POINTHOR	823074.3	823550.8	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_127	POINTHOR	823113.5	823584.4	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	1	G2_SC1_128	POINTHOR	823152.6	823617.9	0	0.5	673	8	0.3	1.21E-03	2.25E-05	2.25E-05
2	2	G2_SC2_001	POINTHOR	822568.9	824550.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_002	POINTHOR	822519.8	824539.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_003	POINTHOR	822470.7	824529.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_004	POINTHOR	822421.6	824518.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_005	POINTHOR	822372.5	824508	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_006	POINTHOR	822323.4	824497.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_007	POINTHOR	822283.4	824467.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_008	POINTHOR	822246.1	824431.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_009	POINTHOR	822208.9	824395.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_010	POINTHOR	822171.6	824359.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_011	POINTHOR	822133.1	824325.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_012	POINTHOR	822085.1	824310.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_013	POINTHOR	822037	824295.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_014	POINTHOR	821988.9	824280.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_015	POINTHOR	821940.9	824265.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_016	POINTHOR	821892.8	824250.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_017	POINTHOR	821844.7	824235.1	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_018	POINTHOR	821796.7	824219.9	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_019	POINTHOR	821748.6	824204.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_020	POINTHOR	821700.5	824189.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_021	POINTHOR	821652.5	824174.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_022	POINTHOR	821604.4	824159.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_023	POINTHOR	821556.3	824144.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_024	POINTHOR	821508.3	824129.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_025	POINTHOR	821460.2	824114.1	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height ^[1]	Exit Temperature ^[1]	Exit velocity ^[1]	Internal diameter ^[1]	Emission Rate per Trip			
				(m)	(m)		(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)		(g/s)							
2	2	G2_SC2_026	POINTHOR	821412.1	824098.9	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_027	POINTHOR	821364.1	824083.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_028	POINTHOR	821316	824068.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_029	POINTHOR	821268	824053.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_030	POINTHOR	821219.9	824038.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_031	POINTHOR	821171.8	824023.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_032	POINTHOR	821122.7	824013.9	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_033	POINTHOR	821072.9	824008.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_034	POINTHOR	821023.1	824003.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_035	POINTHOR	820973.2	823997.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_036	POINTHOR	823115.8	824291.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_037	POINTHOR	823074.4	824261.1	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_038	POINTHOR	823032.9	824230.9	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_039	POINTHOR	822991.4	824200.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_040	POINTHOR	822950	824170.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_041	POINTHOR	822908.5	824140.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_042	POINTHOR	822867.1	824110.1	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_043	POINTHOR	822825.6	824079.9	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_044	POINTHOR	822784.1	824049.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_045	POINTHOR	822742.7	824019.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_046	POINTHOR	822701.2	823989.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_047	POINTHOR	822659.7	823959.1	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_048	POINTHOR	822618.3	823928.9	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_049	POINTHOR	822576.8	823898.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_050	POINTHOR	822535	823869.1	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_051	POINTHOR	822492.2	823841.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_052	POINTHOR	822449.4	823813.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_053	POINTHOR	822406.6	823785.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_054	POINTHOR	822363.8	823757.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_055	POINTHOR	822321	823729.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_056	POINTHOR	822278.2	823701.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_057	POINTHOR	822235.4	823673.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_058	POINTHOR	822192.6	823645.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_059	POINTHOR	822149.8	823617.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_060	POINTHOR	822107	823589.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_061	POINTHOR	822064.2	823561.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_062	POINTHOR	822021.4	823533.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_063	POINTHOR	821978.6	823505.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_064	POINTHOR	821935.8	823477.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_065	POINTHOR	821893	823449.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_066	POINTHOR	821850.2	823421.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_067	POINTHOR	821807.4	823393.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_068	POINTHOR	821764.6	823365.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	
2	2	G2_SC2_069	POINTHOR	821721.8	823337.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06	

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height ^[1]	Exit Temperature ^[1]	Exit velocity ^[1]	Internal diameter ^[1]	Emission Rate per Trip		
				(m)	(m)		(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)		(g/s)						
2	2	G2_SC2_070	POINTHOR	821679	823309.9	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_071	POINTHOR	821636.2	823281.9	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_072	POINTHOR	821593.4	823253.9	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_073	POINTHOR	821550.6	823226	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_074	POINTHOR	821507.8	823198	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_075	POINTHOR	821465	823170.1	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_076	POINTHOR	821422.2	823142.1	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_077	POINTHOR	821379.4	823114.1	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_078	POINTHOR	821336.6	823086.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_079	POINTHOR	821293.8	823058.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_080	POINTHOR	821251	823030.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_081	POINTHOR	821208.2	823002.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_082	POINTHOR	821165.3	822974.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_083	POINTHOR	821122.5	822946.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_084	POINTHOR	821580.3	822021.1	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_085	POINTHOR	821624.6	822046.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_086	POINTHOR	821668.9	822071.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_087	POINTHOR	821713.2	822096.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_088	POINTHOR	821757.5	822121.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_089	POINTHOR	821801.8	822146.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_090	POINTHOR	821846.1	822171.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_091	POINTHOR	821867.4	822220	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_092	POINTHOR	821887.8	822269.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_093	POINTHOR	821908.3	822318.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_094	POINTHOR	821928.7	822367.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_095	POINTHOR	821954.5	822412.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_096	POINTHOR	821988.4	822452.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_097	POINTHOR	822022.2	822492.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_098	POINTHOR	822056.1	822531.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_099	POINTHOR	822090	822571.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_100	POINTHOR	822123.8	822611.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_101	POINTHOR	822161.2	822647	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_102	POINTHOR	822199.1	822682.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_103	POINTHOR	822237.1	822717.3	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_104	POINTHOR	822275	822752.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_105	POINTHOR	822313	822787.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_106	POINTHOR	822350.9	822822.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_107	POINTHOR	822389	822857.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_108	POINTHOR	822427.1	822892.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_109	POINTHOR	822465.2	822927.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_110	POINTHOR	822503.3	822962.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_111	POINTHOR	822541.4	822997.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_112	POINTHOR	822579.4	823032.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_113	POINTHOR	822608.5	823075.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)						(mpd)	(m)	(K)
2	2	G2_SC2_114	POINTHOR	822632.4	823122.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_115	POINTHOR	822656.3	823170	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_116	POINTHOR	822682.9	823214.9	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_117	POINTHOR	822722	823248.5	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_118	POINTHOR	822761.2	823282.1	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_119	POINTHOR	822800.3	823315.7	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_120	POINTHOR	822839.4	823349.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_121	POINTHOR	822878.6	823382.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_122	POINTHOR	822917.7	823416.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_123	POINTHOR	822956.9	823450	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_124	POINTHOR	822996	823483.6	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_125	POINTHOR	823035.2	823517.2	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_126	POINTHOR	823074.3	823550.8	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_127	POINTHOR	823113.5	823584.4	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06
2	2	G2_SC2_128	POINTHOR	823152.6	823617.9	0	6	555	8	0.3	2.33E-04	6.36E-06	6.36E-06

Notes:

[1] Modelling parameters are referred to Tuen Mun South Extension (AERIAR-236/2022) and the Examination Guidebook on Pleasure Vessel Operator Grade 2 Certificate of Competency.

Calculation of Multiplying Factor for Total Vessel Count**Monthly Vessel Count for Year 2048**

Marine Gate	Monthly Vessel Count in Dec ^[1]
Gate 2	6,410

Notes:

[1] The marine traffic data for December is provided by Marine Traffic Consultant.

Monthly Profile of Marine Traffic for Year 2019

Month	Monthly Multiplying Factor
Jan-19	1.00
Feb-19	0.90
Mar-19	1.00
Apr-19	0.97
May-19	1.00
Jun-19	0.97
Jul-19	1.00
Aug-19	1.00
Sep-19	0.97
Oct-19	1.00
Nov-19	0.97
Dec-19	1.00

Notes:

[1] No monthly profile is available from Marine Traffic Consultant and port statistics. Same number of vessel count each day is assumed.

Hourly Multiplying Factor derived from Marine Traffic in December 2048

Hour		Gate 2	
Start	End	No. of Marine Vessels ^[1]	Hourly Multiplying Factor
0	1	102	1.6%
1	2	94	1.5%
2	3	126	2.0%
3	4	101	1.6%
4	5	121	1.9%
5	6	181	2.8%
6	7	344	5.4%
7	8	362	5.6%
8	9	429	6.7%
9	10	364	5.7%
10	11	348	5.4%
11	12	398	6.2%
12	13	303	4.7%
13	14	349	5.4%
14	15	387	6.0%
15	16	376	5.9%
16	17	467	7.3%
17	18	405	6.3%
18	19	289	4.5%
19	20	228	3.6%
20	21	199	3.1%
21	22	164	2.6%
22	23	153	2.4%
23	24	120	1.9%

Notes:

[1] The number of hourly marine vessels for Dec 2048 is provided by Marine Traffic Consultant. It contains the total number of marine vessels for the 31 days in December in Year 2048 for each hour. For example, from Hour 0 to Hour 1 (i.e. first hour of 1 Dec + first hour of 2 Dec, 1st hour of 31 Dec), there are total 102 marine vessels for the first hour during the whole December.

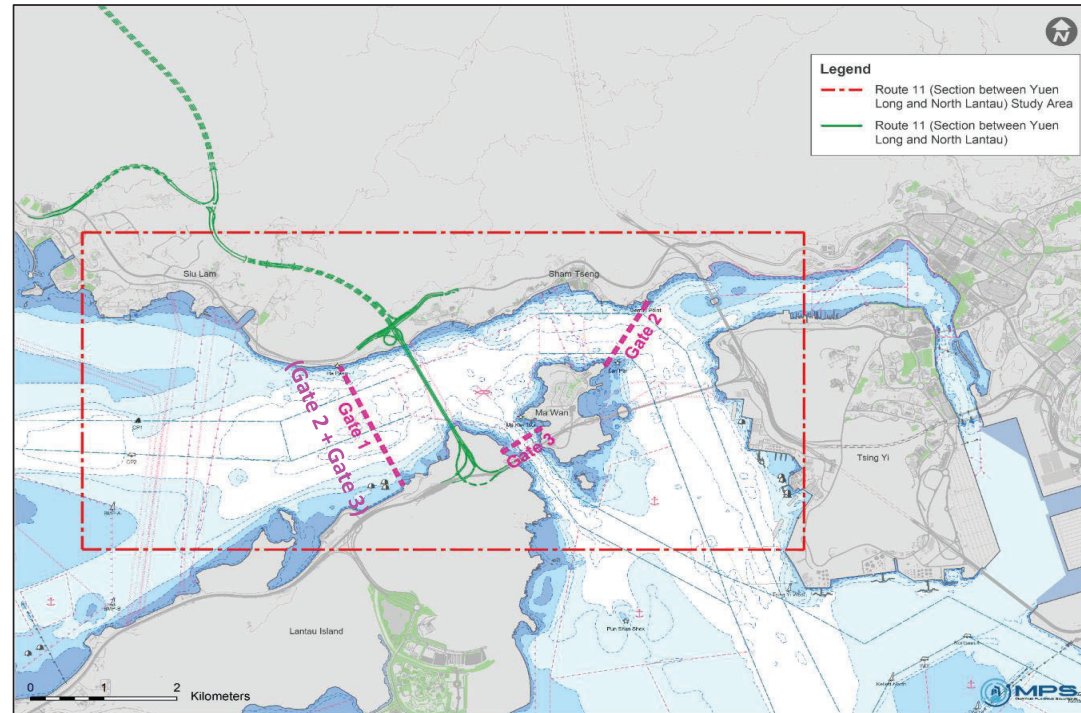
Annex II

Marine Emission Rate for Tsing Lung Tau Fairway in Year 2048

Small Crafts - pleasure vessels and sampan_Gate 3

Marine Traffic Information

Assessment Year 2048
 Assessed Vessel Type Small Crafts - pleasure vessels and sampan
 Gate 3



Marine Traffic Information from Marine Traffic Consultants

Location	Monthly Vessel Count in Dec ^[1]	Travelling Speed (knots) ^[2]	Length of Sailing Route (m) ^[3]
Gate 3	1,417	5	3,900

- Notes:**
- [1] Monthly Vessel Count is advised by Marine Traffic Consultant and accepted by Marine Department.
 - [2] Average speed of 5 knot is provided by Marine Traffic Consultant.
 - [3] Possible maximum length of sailing route is estimated for conservative assessment.

Marine Emission Inventory**Total Emission Rate**

Group ^[1]	Vessel Type ^[2]	Emission Rate per Trip (g/s) ^[3]		
		NO _x	RSP	FSP
1	Pleasure Vessel	0.209	0.004	0.004
2	Sampan	0.040	0.001	0.001

Notes:

[1] The vessel type is grouped according to the modelling parameter (i.e. stack height, exit temperature, exit velocity etc). Vessel types with the identical modelling parameters will be grouped.

[2] Marine traffic consultant advised the small craft is composed of pleasure vessel, sampan, work boat and tugboat.

[3] The emission rate per trip is calculated based on the following equation. Breakdown is provided and documented in "Technical Notes on Marine Emission for So Kwun Wat and Tsing Lung Tau Areas" submitted to EPD and emission rates are evenly apportioned into point sources in the model as shown in subsequent pages of this Appendix.

Engine Emission Rate per Trip = (i)Time-in-mode x (ii)Engine Load Factors x (iii) Engine Power x (iv) Emission Factor, where

(i) Time-in-mode is calculated from the average speed and possible maximum length of sailing route within assessment area provided by Marine Traffic Consultant.

(ii) Engine Load Factors are made reference to Table 3-2, Table 3-3 and Table 3-56 of USEPA (2008) – “Regulatory Impact Analysis: Control of Emissions of Air Pollution from Locomotive Engines and Marine Compression Ignition Engines Less than 30 Liters Per Cylinder”.

(iii) The average engine powers are based on desktop review.

(iv) The engine emission factors are made reference to Table 3-4 and Table 3-58 of USEPA (2008) – “Regulatory Impact Analysis: Control of Emissions of Air Pollution from Locomotive Engines and Marine Compression Ignition Engines Less than 30 Liters Per Cylinder”. Tier 2 emission factors are adopted, which assumed the age of vessels is >40 years old in Year 2048 for conservative assessment. Emission factors of FSP is assumed to be the same as those of RSP.

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height ^[1]	Exit Temperature ^[1]	Exit velocity ^[1]	Internal diameter ^[1]	Emission Rate per Trip		
				(m)	(m)		(mpd)	(m)	(K)	(m/s)	(m)	NO _x	RSP
											(g/s)	(g/s)	(g/s)
3	1	G3_SC1_001	POINTHOR	824152.7	822444.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_002	POINTHOR	824126.3	822490.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_003	POINTHOR	824100	822536.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_004	POINTHOR	824073.7	822582.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_005	POINTHOR	824047.4	822628	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_006	POINTHOR	824021	822673.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_007	POINTHOR	823994.7	822719.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_008	POINTHOR	823968.4	822765.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_009	POINTHOR	823942	822811.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_010	POINTHOR	823912	822854.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_011	POINTHOR	823880	822895.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_012	POINTHOR	823848	822936.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_013	POINTHOR	823816	822978.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_014	POINTHOR	823784	823019.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_015	POINTHOR	823752	823061.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_016	POINTHOR	823720	823102.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_017	POINTHOR	823690	823145.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_018	POINTHOR	823661.4	823189.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_019	POINTHOR	823632.7	823233.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_020	POINTHOR	823604	823278	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_021	POINTHOR	823575.3	823322.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height ^[1]	Exit Temperature ^[1]	Exit velocity ^[1]	Internal diameter ^[1]	Emission Rate per Trip		
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
											(g/s)	(g/s)	(g/s)
3	1	G3_SC1_022	POINTHOR	823546.6	823366.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_023	POINTHOR	823517.9	823410.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_024	POINTHOR	823474.6	823434.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_025	POINTHOR	823428.2	823455.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_026	POINTHOR	823381.8	823475.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_027	POINTHOR	823335.4	823495.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_028	POINTHOR	823289.1	823516	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_029	POINTHOR	823242.7	823536.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_030	POINTHOR	823196.3	823556.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_031	POINTHOR	823149.9	823576.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_032	POINTHOR	823103.5	823597.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_033	POINTHOR	823057.1	823617.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_034	POINTHOR	823010.8	823637.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_035	POINTHOR	822964.4	823658.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_036	POINTHOR	822918	823678.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_037	POINTHOR	822871.6	823698.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_038	POINTHOR	822825.2	823719	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_039	POINTHOR	822778.8	823739.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_040	POINTHOR	822732.5	823759.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_041	POINTHOR	822686.1	823779.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_042	POINTHOR	822639.7	823800.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_043	POINTHOR	822593.3	823820.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_044	POINTHOR	822546.9	823840.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_045	POINTHOR	822500.6	823861.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_046	POINTHOR	822454.2	823881.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_047	POINTHOR	822405.8	823894.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_048	POINTHOR	822357	823907	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_049	POINTHOR	822308.2	823919	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_050	POINTHOR	822259.4	823931	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_051	POINTHOR	822210.6	823943.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_052	POINTHOR	822161.7	823955.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_053	POINTHOR	822112.9	823967.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_054	POINTHOR	822064	823978.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_055	POINTHOR	822013.9	823978.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_056	POINTHOR	821963.8	823979.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_057	POINTHOR	821913.8	823980.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_058	POINTHOR	821863.7	823981	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_059	POINTHOR	821813.6	823981.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_060	POINTHOR	821763.5	823982.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_061	POINTHOR	821713.5	823983.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_062	POINTHOR	821663.4	823983.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_063	POINTHOR	821613.3	823984.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_064	POINTHOR	821563.2	823985.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_065	POINTHOR	821513.2	823986	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)						(mpd)	(m)	(K)
				(g/s)	(g/s)	(g/s)							
3	1	G3_SC1_066	POINTHOR	821463.1	823986.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_067	POINTHOR	821413	823987.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_068	POINTHOR	821362.9	823988.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_069	POINTHOR	821312.9	823988.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_070	POINTHOR	821262.8	823989.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_071	POINTHOR	821212.7	823990.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_072	POINTHOR	821162.6	823991.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_073	POINTHOR	821112.6	823991.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_074	POINTHOR	821062.5	823992.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_075	POINTHOR	821012.4	823993.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_076	POINTHOR	823992	822430.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_077	POINTHOR	823961.5	822472.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_078	POINTHOR	823930.9	822515.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_079	POINTHOR	823900.4	822558.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_080	POINTHOR	823869.9	822600.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_081	POINTHOR	823839.4	822643.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_082	POINTHOR	823808.8	822686.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_083	POINTHOR	823778.3	822728.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_084	POINTHOR	823747.8	822771.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_085	POINTHOR	823717.3	822814.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_086	POINTHOR	823686.7	822857	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_087	POINTHOR	823652.4	822895.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_088	POINTHOR	823613.7	822929.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_089	POINTHOR	823575.1	822964.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_090	POINTHOR	823536.4	822998.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_091	POINTHOR	823497.8	823032.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_092	POINTHOR	823459.1	823066.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_093	POINTHOR	823420.5	823101.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_094	POINTHOR	823381.8	823135.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_095	POINTHOR	823343.1	823169.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_096	POINTHOR	823304.5	823203.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_097	POINTHOR	823265.8	823238	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_098	POINTHOR	823227.2	823272.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_099	POINTHOR	823188.5	823306.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_100	POINTHOR	823147.1	823335.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_101	POINTHOR	823100.2	823354.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_102	POINTHOR	823053.3	823373.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_103	POINTHOR	823006.5	823392.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_104	POINTHOR	822959.6	823411.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_105	POINTHOR	822912.7	823430.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_106	POINTHOR	822865.9	823449.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_107	POINTHOR	822819	823468.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_108	POINTHOR	822772.1	823487.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_109	POINTHOR	822724.4	823501.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)						(mpd)	(m)	(K)
				(g/s)	(g/s)	(g/s)							
3	1	G3_SC1_110	POINTHOR	822674.3	823503.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_111	POINTHOR	822624.3	823505.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_112	POINTHOR	822574.2	823507.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_113	POINTHOR	822524.2	823509.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_114	POINTHOR	822474.1	823511	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_115	POINTHOR	822424.1	823512.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_116	POINTHOR	822374	823514.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_117	POINTHOR	822324	823516.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_118	POINTHOR	822273.9	823518.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_119	POINTHOR	822223.9	823520.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_120	POINTHOR	822173.3	823511.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_121	POINTHOR	822128	823493.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_122	POINTHOR	822080.6	823476.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_123	POINTHOR	822033.3	823458.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_124	POINTHOR	821985.9	823441.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_125	POINTHOR	821938.6	823423.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_126	POINTHOR	821891.2	823406.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_127	POINTHOR	821843.9	823388.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_128	POINTHOR	821796.5	823371.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_129	POINTHOR	821749.2	823353.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_130	POINTHOR	821701.8	823336	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_131	POINTHOR	821654.5	823318.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_132	POINTHOR	821607.1	823300.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_133	POINTHOR	821559.8	823283.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_134	POINTHOR	821512.4	823265.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_135	POINTHOR	821465.1	823248.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_136	POINTHOR	821417.7	823230.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_137	POINTHOR	821370.4	823213.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_138	POINTHOR	821323	823195.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_139	POINTHOR	821275.7	823178	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_140	POINTHOR	821228.3	823160.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_141	POINTHOR	821181	823142.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_142	POINTHOR	821133.6	823125.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_143	POINTHOR	823786.1	822441.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_144	POINTHOR	823760.5	822487.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_145	POINTHOR	823734.9	822534.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_146	POINTHOR	823709.3	822580.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_147	POINTHOR	823683.6	822626.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_148	POINTHOR	823658	822673	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_149	POINTHOR	823626.6	822714.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_150	POINTHOR	823590.3	822751.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_151	POINTHOR	823554	822788.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_152	POINTHOR	823517.7	822825.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_153	POINTHOR	823481.4	822862.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)						(mpd)	(m)	(K)
				(g/s)	(g/s)	(g/s)							
3	1	G3_SC1_154	POINTHOR	823443.5	822897.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_155	POINTHOR	823404.3	822931.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_156	POINTHOR	823365	822964.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_157	POINTHOR	823325.8	822998.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_158	POINTHOR	823286.6	823031.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_159	POINTHOR	823247.3	823065	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_160	POINTHOR	823205.9	823094.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_161	POINTHOR	823158.6	823111.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_162	POINTHOR	823111.2	823129.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_163	POINTHOR	823063.9	823146.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_164	POINTHOR	823016.5	823164.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_165	POINTHOR	822969.2	823181.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_166	POINTHOR	822921.8	823199.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_167	POINTHOR	822874.5	823217	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_168	POINTHOR	822827.1	823234.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_169	POINTHOR	822779.8	823252.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_170	POINTHOR	822733.4	823253.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_171	POINTHOR	822688.5	823229.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_172	POINTHOR	822643.7	823206	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_173	POINTHOR	822598.8	823182.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_174	POINTHOR	822553.9	823158.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_175	POINTHOR	822509	823134.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_176	POINTHOR	822464.2	823110.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_177	POINTHOR	822419.3	823086.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_178	POINTHOR	822374.4	823062.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_179	POINTHOR	822329.6	823038.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_180	POINTHOR	822284.7	823014.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_181	POINTHOR	822239.8	822990.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_182	POINTHOR	822194.9	822966.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_183	POINTHOR	822150.1	822942.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_184	POINTHOR	822105.2	822919	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_185	POINTHOR	822060.3	822895.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_186	POINTHOR	822015.4	822871.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_187	POINTHOR	821970.6	822847.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_188	POINTHOR	821925.7	822823.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_189	POINTHOR	821880.8	822799.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_190	POINTHOR	821835.9	822775.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_191	POINTHOR	821791.1	822751.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_192	POINTHOR	821746.2	822727.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_193	POINTHOR	821701.3	822703.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_194	POINTHOR	821656.4	822679.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_195	POINTHOR	821611.6	822655.9	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_196	POINTHOR	821566.7	822632	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_197	POINTHOR	821521.8	822608.1	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)						(mpd)	(m)	(K)
				(g/s)	(g/s)	(g/s)							
3	1	G3_SC1_198	POINTHOR	821476.9	822584.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_199	POINTHOR	821432.1	822560.2	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_200	POINTHOR	821387.2	822536.3	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_201	POINTHOR	821342.3	822512.4	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_202	POINTHOR	821297.4	822488.5	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_203	POINTHOR	821252.6	822464.6	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_204	POINTHOR	821207.7	822440.7	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	1	G3_SC1_205	POINTHOR	821162.8	822416.8	0	0.5	673	8	0.3	1.02E-03	1.89E-05	1.89E-05
3	2	G3_SC2_001	POINTHOR	824152.7	822444.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_002	POINTHOR	824126.3	822490.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_003	POINTHOR	824100	822536.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_004	POINTHOR	824073.7	822582.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_005	POINTHOR	824047.4	822628	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_006	POINTHOR	824021	822673.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_007	POINTHOR	823994.7	822719.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_008	POINTHOR	823968.4	822765.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_009	POINTHOR	823942	822811.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_010	POINTHOR	823912	822854.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_011	POINTHOR	823880	822895.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_012	POINTHOR	823848	822936.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_013	POINTHOR	823816	822978.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_014	POINTHOR	823784	823019.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_015	POINTHOR	823752	823061.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_016	POINTHOR	823720	823102.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_017	POINTHOR	823690	823145.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_018	POINTHOR	823661.4	823189.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_019	POINTHOR	823632.7	823233.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_020	POINTHOR	823604	823278	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_021	POINTHOR	823575.3	823322.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_022	POINTHOR	823546.6	823366.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_023	POINTHOR	823517.9	823410.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_024	POINTHOR	823474.6	823434.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_025	POINTHOR	823428.2	823455.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_026	POINTHOR	823381.8	823475.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_027	POINTHOR	823335.4	823495.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_028	POINTHOR	823289.1	823516	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_029	POINTHOR	823242.7	823536.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_030	POINTHOR	823196.3	823556.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_031	POINTHOR	823149.9	823576.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_032	POINTHOR	823103.5	823597.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_033	POINTHOR	823057.1	823617.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_034	POINTHOR	823010.8	823637.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_035	POINTHOR	822964.4	823658.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_036	POINTHOR	822918	823678.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)						(mpd)	(m)	(K)
				(g/s)	(g/s)	(g/s)							
3	2	G3_SC2_037	POINTHOR	822871.6	823698.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_038	POINTHOR	822825.2	823719	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_039	POINTHOR	822778.8	823739.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_040	POINTHOR	822732.5	823759.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_041	POINTHOR	822686.1	823779.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_042	POINTHOR	822639.7	823800.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_043	POINTHOR	822593.3	823820.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_044	POINTHOR	822546.9	823840.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_045	POINTHOR	822500.6	823861.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_046	POINTHOR	822454.2	823881.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_047	POINTHOR	822405.8	823894.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_048	POINTHOR	822357	823907	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_049	POINTHOR	822308.2	823919	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_050	POINTHOR	822259.4	823931	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_051	POINTHOR	822210.6	823943.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_052	POINTHOR	822161.7	823955.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_053	POINTHOR	822112.9	823967.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_054	POINTHOR	822064	823978.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_055	POINTHOR	822013.9	823978.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_056	POINTHOR	821963.8	823979.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_057	POINTHOR	821913.8	823980.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_058	POINTHOR	821863.7	823981	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_059	POINTHOR	821813.6	823981.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_060	POINTHOR	821763.5	823982.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_061	POINTHOR	821713.5	823983.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_062	POINTHOR	821663.4	823983.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_063	POINTHOR	821613.3	823984.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_064	POINTHOR	821563.2	823985.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_065	POINTHOR	821513.2	823986	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_066	POINTHOR	821463.1	823986.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_067	POINTHOR	821413	823987.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_068	POINTHOR	821362.9	823988.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_069	POINTHOR	821312.9	823988.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_070	POINTHOR	821262.8	823989.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_071	POINTHOR	821212.7	823990.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_072	POINTHOR	821162.6	823991.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_073	POINTHOR	821112.6	823991.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_074	POINTHOR	821062.5	823992.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_075	POINTHOR	821012.4	823993.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_076	POINTHOR	823992	822430.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_077	POINTHOR	823961.5	822472.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_078	POINTHOR	823930.9	822515.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_079	POINTHOR	823900.4	822558.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_080	POINTHOR	823869.9	822600.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)						(mpd)	(m)	(K)
				(g/s)	(g/s)	(g/s)							
3	2	G3_SC2_081	POINTHOR	823839.4	822643.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_082	POINTHOR	823808.8	822686.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_083	POINTHOR	823778.3	822728.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_084	POINTHOR	823747.8	822771.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_085	POINTHOR	823717.3	822814.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_086	POINTHOR	823686.7	822857	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_087	POINTHOR	823652.4	822895.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_088	POINTHOR	823613.7	822929.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_089	POINTHOR	823575.1	822964.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_090	POINTHOR	823536.4	822998.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_091	POINTHOR	823497.8	823032.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_092	POINTHOR	823459.1	823066.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_093	POINTHOR	823420.5	823101.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_094	POINTHOR	823381.8	823135.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_095	POINTHOR	823343.1	823169.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_096	POINTHOR	823304.5	823203.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_097	POINTHOR	823265.8	823238	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_098	POINTHOR	823227.2	823272.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_099	POINTHOR	823188.5	823306.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_100	POINTHOR	823147.1	823335.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_101	POINTHOR	823100.2	823354.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_102	POINTHOR	823053.3	823373.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_103	POINTHOR	823006.5	823392.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_104	POINTHOR	822959.6	823411.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_105	POINTHOR	822912.7	823430.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_106	POINTHOR	822865.9	823449.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_107	POINTHOR	822819	823468.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_108	POINTHOR	822772.1	823487.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_109	POINTHOR	822724.4	823501.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_110	POINTHOR	822674.3	823503.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_111	POINTHOR	822624.3	823505.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_112	POINTHOR	822574.2	823507.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_113	POINTHOR	822524.2	823509.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_114	POINTHOR	822474.1	823511	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_115	POINTHOR	822424.1	823512.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_116	POINTHOR	822374	823514.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_117	POINTHOR	822324	823516.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_118	POINTHOR	822273.9	823518.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_119	POINTHOR	822223.9	823520.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_120	POINTHOR	822175.3	823511.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_121	POINTHOR	822128	823493.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_122	POINTHOR	822080.6	823476.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_123	POINTHOR	822033.3	823458.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_124	POINTHOR	821985.9	823441.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height ^[1]	Exit Temperature ^[1]	Exit velocity ^[1]	Internal diameter ^[1]	Emission Rate per Trip		
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
											(g/s)	(g/s)	(g/s)
3	2	G3_SC2_125	POINTHOR	821938.6	823423.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_126	POINTHOR	821891.2	823406.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_127	POINTHOR	821843.9	823388.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_128	POINTHOR	821796.5	823371.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_129	POINTHOR	821749.2	823353.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_130	POINTHOR	821701.8	823336	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_131	POINTHOR	821654.5	823318.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_132	POINTHOR	821607.1	823300.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_133	POINTHOR	821559.8	823283.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_134	POINTHOR	821512.4	823265.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_135	POINTHOR	821465.1	823248.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_136	POINTHOR	821417.7	823230.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_137	POINTHOR	821370.4	823213.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_138	POINTHOR	821323	823195.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_139	POINTHOR	821275.7	823178	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_140	POINTHOR	821228.3	823160.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_141	POINTHOR	821181	823142.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_142	POINTHOR	821133.6	823125.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_143	POINTHOR	823786.1	822441.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_144	POINTHOR	823760.5	822487.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_145	POINTHOR	823734.9	822534.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_146	POINTHOR	823709.3	822580.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_147	POINTHOR	823683.6	822626.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_148	POINTHOR	823658	822673	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_149	POINTHOR	823626.6	822714.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_150	POINTHOR	823590.3	822751.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_151	POINTHOR	823554	822788.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_152	POINTHOR	823517.7	822825.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_153	POINTHOR	823481.4	822862.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_154	POINTHOR	823443.5	822897.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_155	POINTHOR	823404.3	822931.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_156	POINTHOR	823365	822964.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_157	POINTHOR	823325.8	822998.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_158	POINTHOR	823286.6	823031.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_159	POINTHOR	823247.3	823065	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_160	POINTHOR	823205.9	823094.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_161	POINTHOR	823158.6	823111.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_162	POINTHOR	823111.2	823129.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_163	POINTHOR	823063.9	823146.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_164	POINTHOR	823016.5	823164.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_165	POINTHOR	822969.2	823181.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_166	POINTHOR	822921.8	823199.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_167	POINTHOR	822874.5	823217	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06
3	2	G3_SC2_168	POINTHOR	822827.1	823234.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height ^[1]	Exit Temperature ^[1]	Exit velocity ^[1]	Internal diameter ^[1]	Emission Rate per Trip			
				(m)	(m)		(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
												(g/s)	(g/s)	(g/s)
3	2	G3_SC2_169	POINTHOR	822779.8	823252.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_170	POINTHOR	822733.4	823253.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_171	POINTHOR	822688.5	823229.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_172	POINTHOR	822643.7	823206	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_173	POINTHOR	822598.8	823182.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_174	POINTHOR	822553.9	823158.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_175	POINTHOR	822509	823134.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_176	POINTHOR	822464.2	823110.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_177	POINTHOR	822419.3	823086.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_178	POINTHOR	822374.4	823062.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_179	POINTHOR	822329.6	823038.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_180	POINTHOR	822284.7	823014.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_181	POINTHOR	822239.8	822990.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_182	POINTHOR	822194.9	822966.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_183	POINTHOR	822150.1	822942.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_184	POINTHOR	822105.2	822919	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_185	POINTHOR	822060.3	822895.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_186	POINTHOR	822015.4	822871.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_187	POINTHOR	821970.6	822847.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_188	POINTHOR	821925.7	822823.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_189	POINTHOR	821880.8	822799.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_190	POINTHOR	821835.9	822775.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_191	POINTHOR	821791.1	822751.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_192	POINTHOR	821746.2	822727.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_193	POINTHOR	821701.3	822703.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_194	POINTHOR	821656.4	822679.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_195	POINTHOR	821611.6	822655.9	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_196	POINTHOR	821566.7	822632	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_197	POINTHOR	821521.8	822608.1	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_198	POINTHOR	821476.9	822584.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_199	POINTHOR	821432.1	822560.2	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_200	POINTHOR	821387.2	822536.3	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_201	POINTHOR	821342.3	822512.4	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_202	POINTHOR	821297.4	822488.5	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_203	POINTHOR	821252.6	822464.6	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_204	POINTHOR	821207.7	822440.7	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	
3	2	G3_SC2_205	POINTHOR	821162.8	822416.8	0	6	555	8	0.3	1.95E-04	5.34E-06	5.34E-06	

Notes:

[1] Modelling parameters are referred to Tuen Mun South Extension (AERIAR-236/2022) and the Examination Guidebook on Pleasure Vessel Operator Grade 2 Certificate of Competency.

Calculation of Multiplying Factor for Total Vessel Count**Monthly Vessel Count for Year 2048**

Marine Gate	Monthly Vessel Count in Dec ^[1]
Gate 3	1,417

Notes:

[1] The marine traffic data for December is provided by Marine Traffic Consultant.

Monthly Profile of Marine Traffic for Year 2019

Month	Monthly Multiplying Factor
Jan-19	1.00
Feb-19	0.90
Mar-19	1.00
Apr-19	0.97
May-19	1.00
Jun-19	0.97
Jul-19	1.00
Aug-19	1.00
Sep-19	0.97
Oct-19	1.00
Nov-19	0.97
Dec-19	1.00

Notes:

[1] No monthly profile is available from Marine Traffic Consultant and port statistics. Same number of vessel count each day is assumed.

Hourly Multiplying Factor derived from Marine Traffic in December 2048

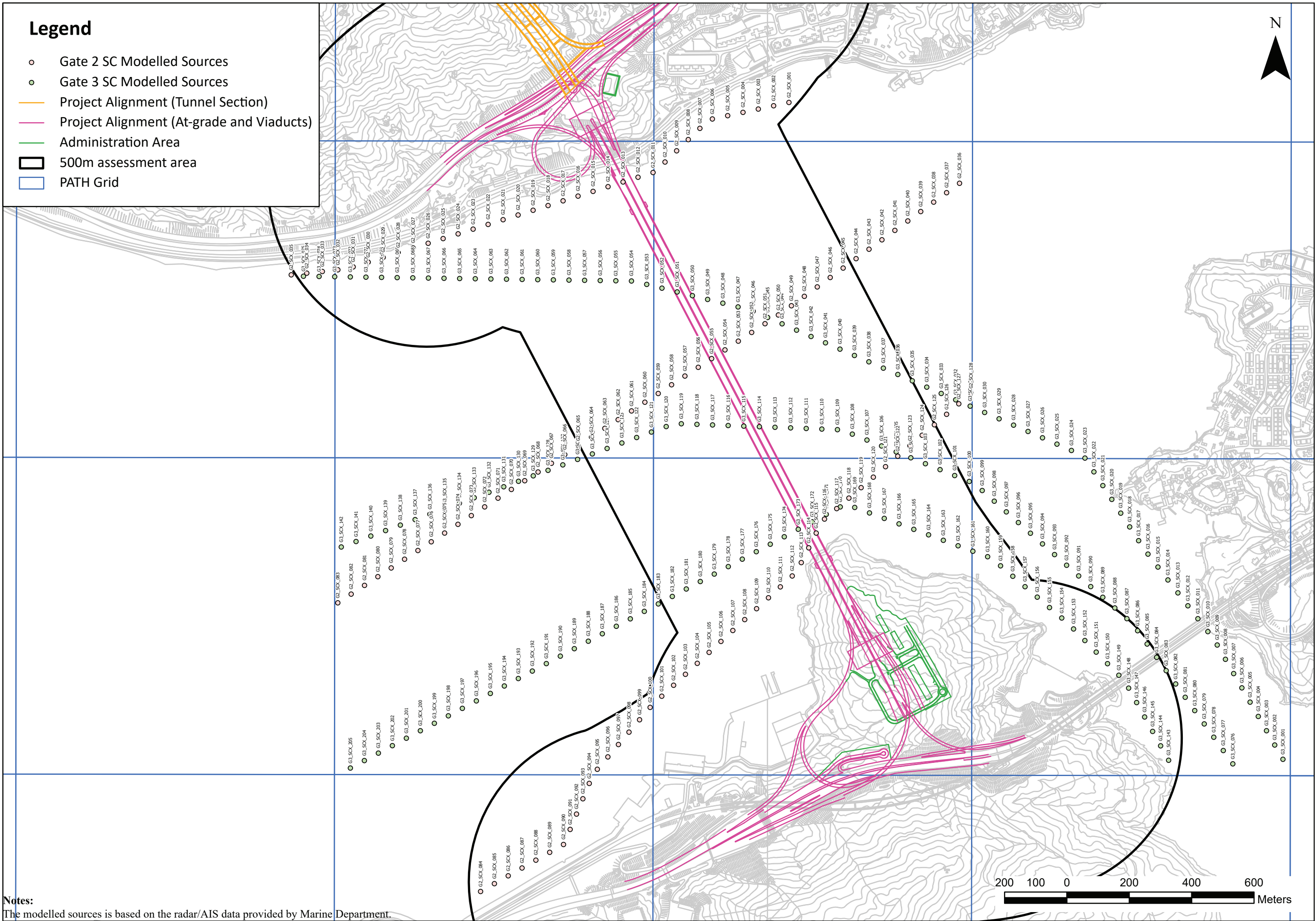
Hour		Gate 3	
Start	End	No. of Marine Vessels ^[1]	Hourly Multiplying Factor
0	1	16	1.1%
1	2	11	0.8%
2	3	13	0.9%
3	4	20	1.4%
4	5	25	1.8%
5	6	45	3.2%
6	7	68	4.8%
7	8	64	4.5%
8	9	66	4.6%
9	10	82	5.8%
10	11	115	8.1%
11	12	84	5.9%
12	13	94	6.6%
13	14	68	4.8%
14	15	90	6.4%
15	16	125	8.8%
16	17	148	10.4%
17	18	107	7.6%
18	19	53	3.8%
19	20	37	2.6%
20	21	34	2.4%
21	22	20	1.4%
22	23	10	0.7%
23	24	21	1.5%

Notes:

[1] The number of hourly marine vessels for Dec 2048 is provided by Marine Traffic Consultant. It contains the total number of marine vessels for the 31 days in December in Year 2048 for each hour. For example, from Hour 0 to Hour 1 (i.e. first hour of 1 Dec + first hour of 2 Dec, 1st hour of 31 Dec), there are total 16 marine vessels for the first hour during the whole December.

Legend

- Gate 2 SC Modelled Sources
- Gate 3 SC Modelled Sources
- Project Alignment (Tunnel Section)
- Project Alignment (At-grade and Viaducts)
- Administration Area
- ▭ 500m assessment area
- ▭ PATH Grid

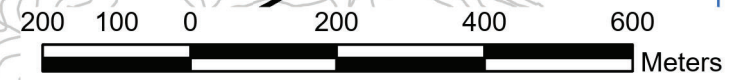
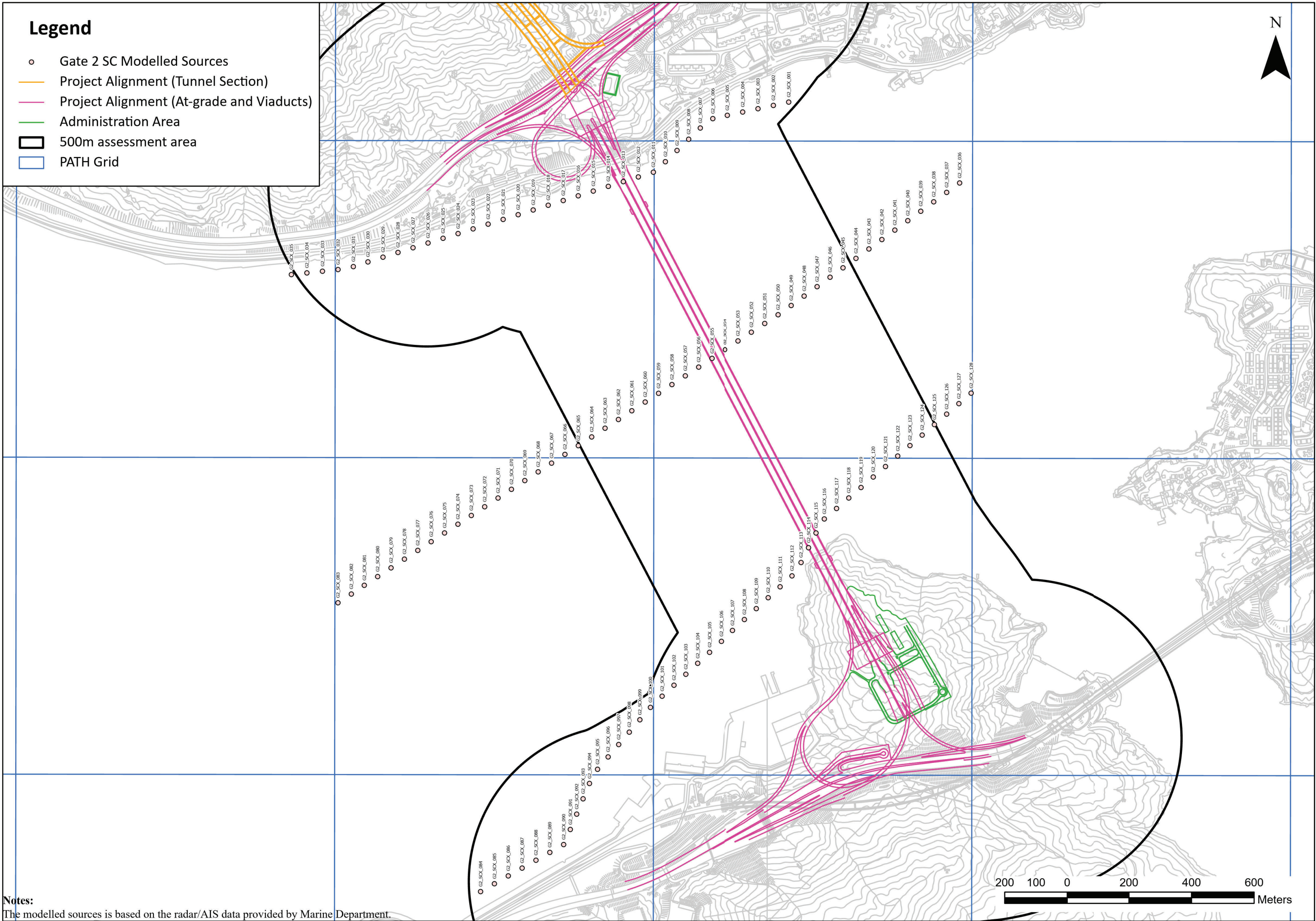


Notes:
The modelled sources is based on the radar/AIS data provided by Marine Department.



Legend

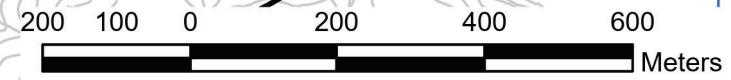
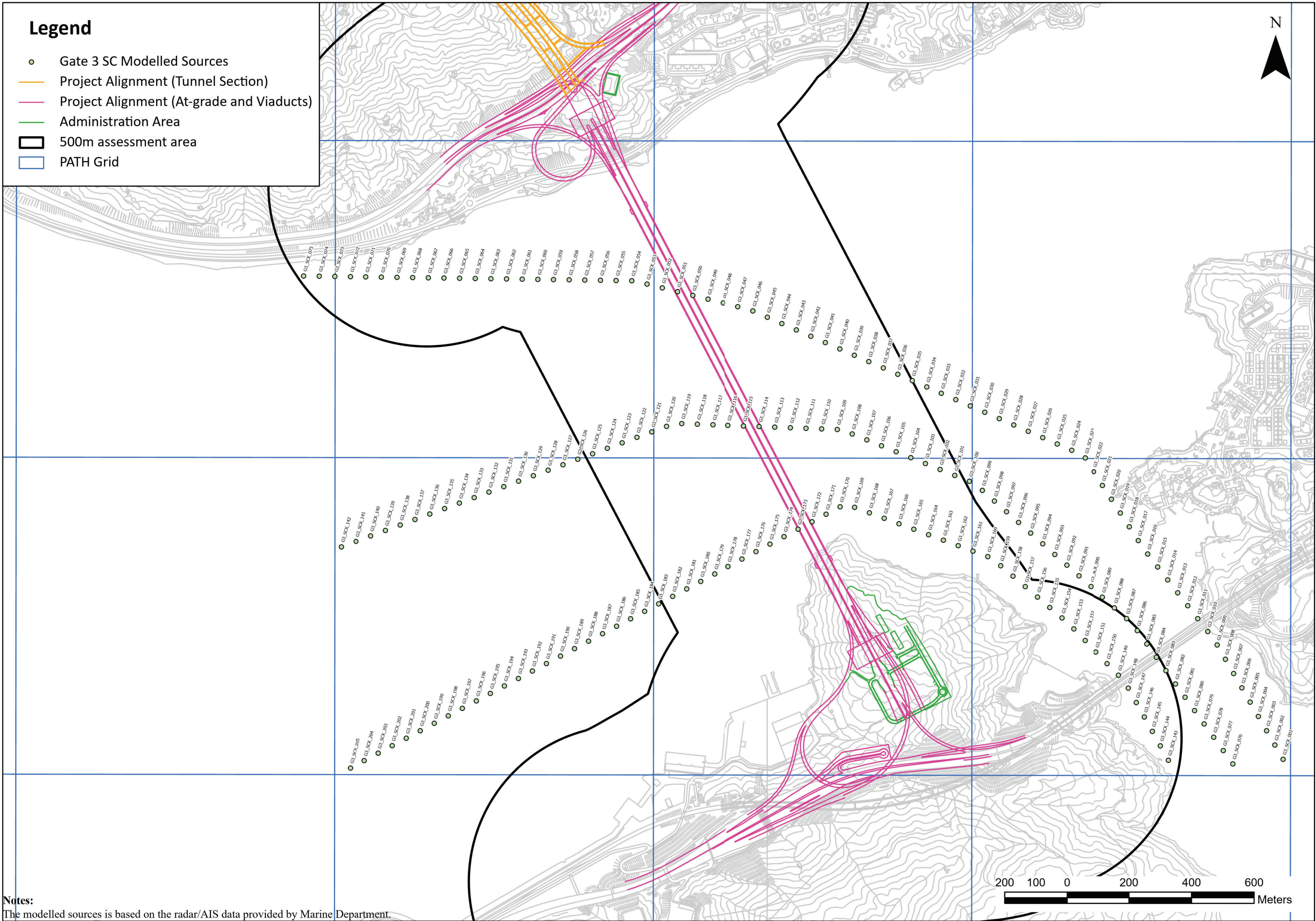
- Gate 2 SC Modelled Sources
- Project Alignment (Tunnel Section)
- Project Alignment (At-grade and Viaducts)
- Administration Area
- ▭ 500m assessment area
- ▭ PATH Grid



Notes:
The modelled sources is based on the radar/AIS data provided by Marine Department.

Legend

- Gate 3 SC Modelled Sources
- Project Alignment (Tunnel Section)
- Project Alignment (At-grade and Viaducts)
- Administration Area
- ▭ 500m assessment area
- ▭ PATH Grid



Notes:
The modelled sources is based on the radar/AIS data provided by Marine Department.