

Internet Reporting

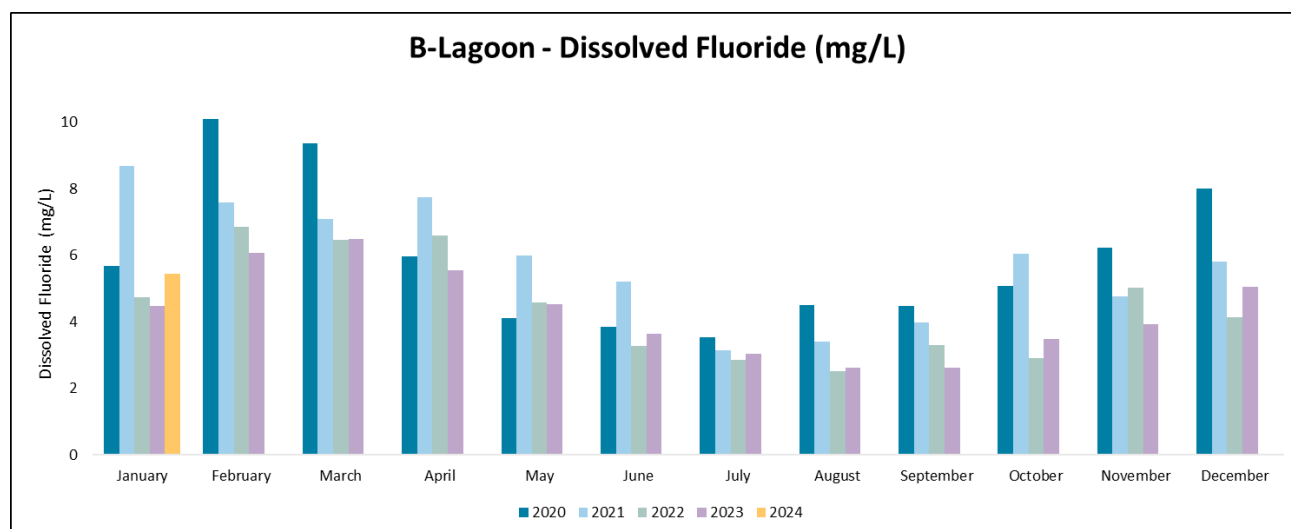
It was largely on the strength of Rio Tinto's voluntary pollution prevention (P2) planning process that the Province of British Columbia issued, in 1999, a "multimedia" environmental permit for our smelter operations. This was the first such permit ever issued in BC and establishes standards and monitoring and reporting requirements for a comprehensive range of emissions, effluents, and wastes. The P2 planning process is believed to have played a significant role in the more than 60 percent reduction in environmental permit non-compliances achieved at the Kitimat smelter since 1996.

Permit reporting

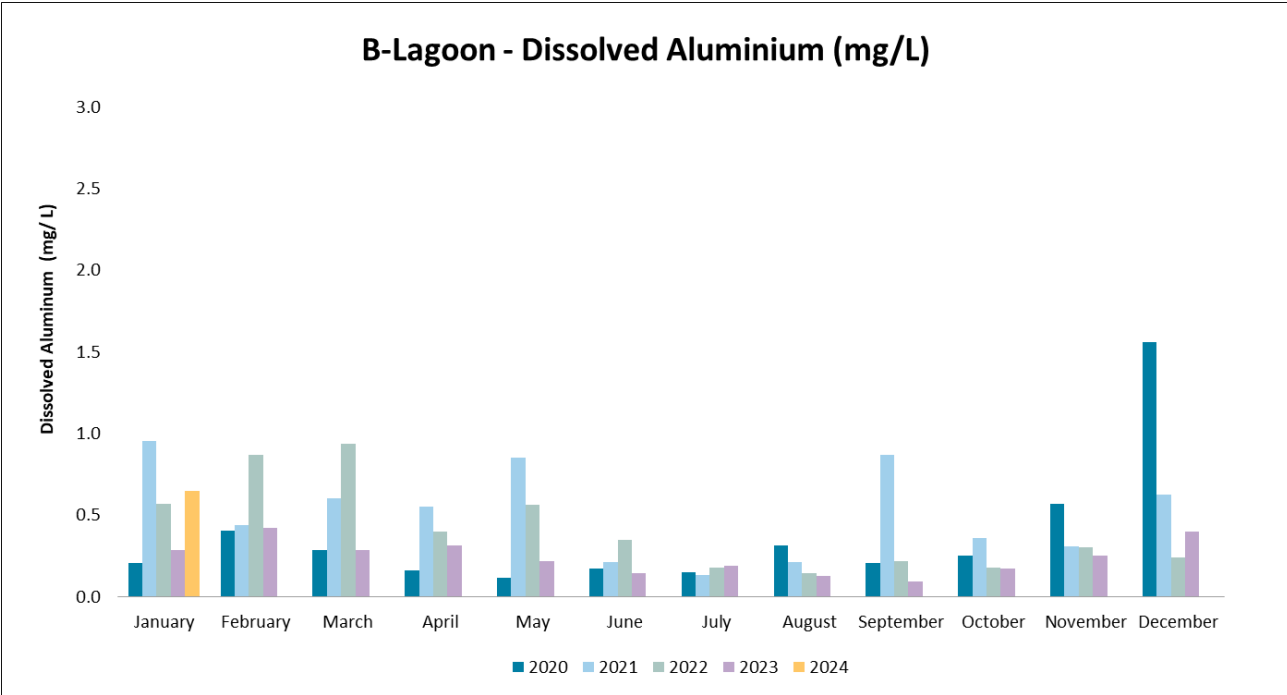
Rio Tinto's P2 Permit requires continuous reporting on several key parameters – from emissions to effluents and other wastes. The following tables and graphs satisfy the P2 Permit clause 8.1.5 for internet reporting on the B-Lagoon, Reduction Roof vent Emissions, Sulphur dioxide emissions and emission control device upsets. Additional information on our environmental performance and improvement initiatives can be found in Rio Tinto's [annual environmental report](#).

B - Lagoon

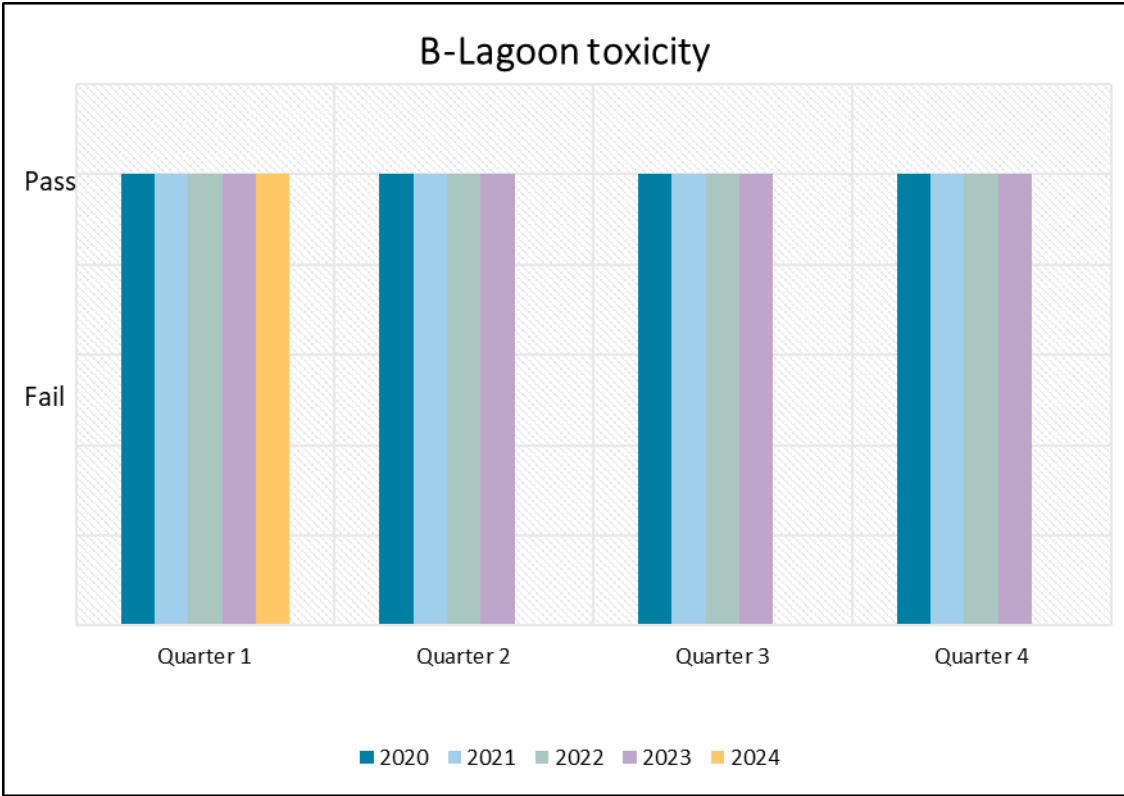
Permit section	Details
3.1 B Lagoon	<p>Dissolved fluoride originates mainly from the leaching of a legacy (no longer used) landfill, as well as from raw material losses. Ongoing housekeeping and stormwater diversion work are conducted to reduce the fluoride concentration. B lagoon is sampled daily for dissolved fluoride, and the results from the daily samples for each month are averaged and shown in the below graph.</p> <p>The permit limit for this parameter is 10.0 mg/L, and it is applied to the daily results.</p>



Permit section	Details
3.1 B Lagoon	<p>Dissolved aluminium originates when alumina comes into contact with precipitation, as well as from raw material losses. B lagoon is sampled daily for dissolved aluminium and the results from the daily samples for each month are averaged and shown on the below graph.</p> <p>The permit limit for this parameter is 3.0 mg/L, and it is applied to the daily results.</p>

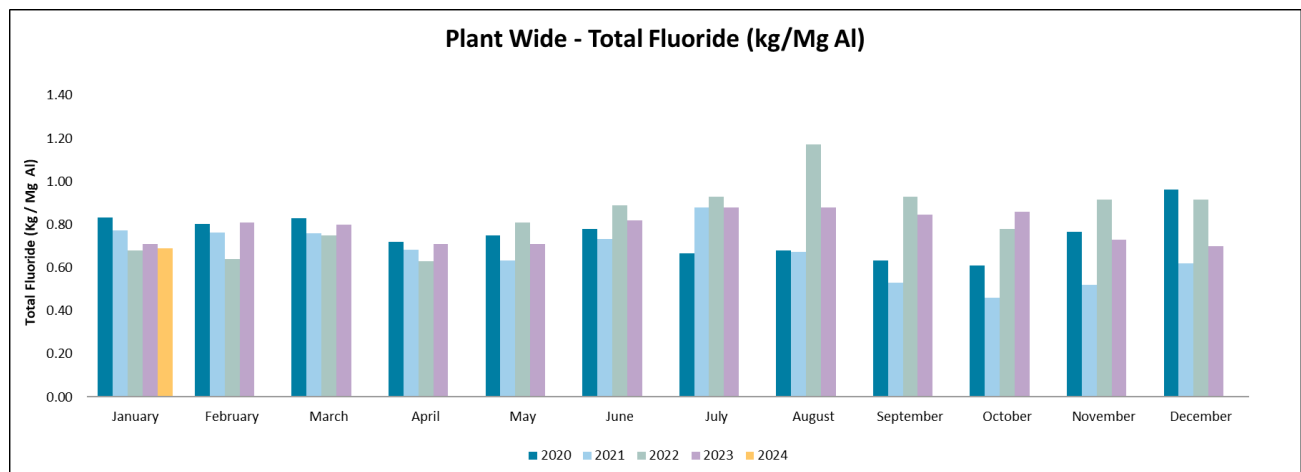


Permit section	Details
3.1 B Lagoon	The 96LC ₅₀ test measures the effect of the sampled water on rainbow trout over 96 hours. This test is completed quarterly for the discharged water from B lagoon, and the test routinely passes with 100% survivability.

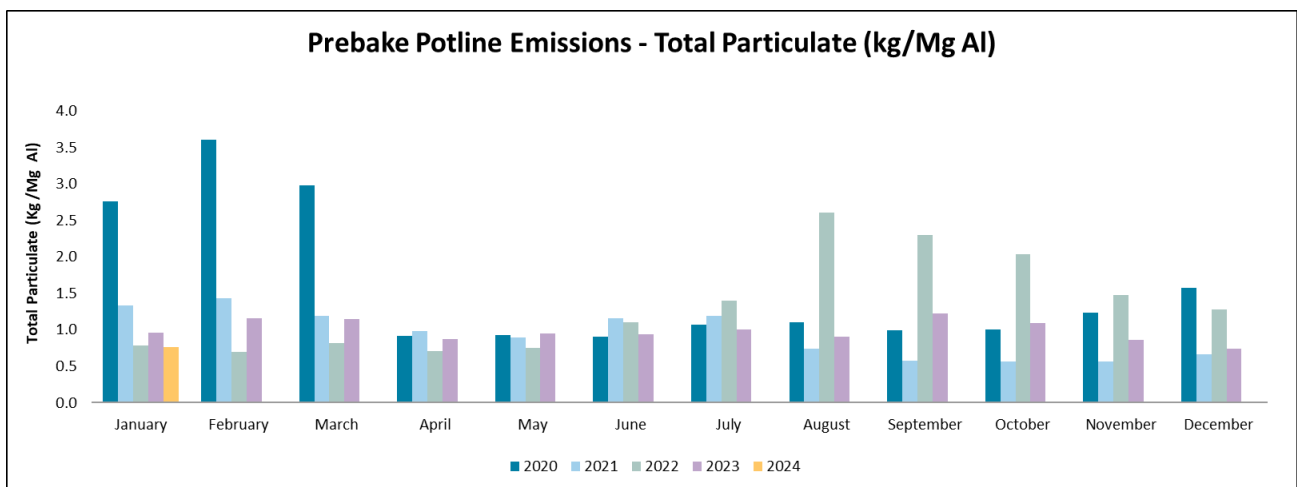


Prebake Potline Emissions

Permit section	Details
4.10 Fluoride Emissions	<p>Fluoride total (Ft) is produced during the electrolytic process. Most of the fluoride emissions are captured and treated by the two gas treatment centres. Some fugitive emissions, however, escape through roof vents in the reduction building. Our plant-wide permit limit for total fluoride includes emissions from gas treatment centers, pallet storage building, and fume treatment center. Fugitive emissions are monitored and reported monthly, with a limit of 0.9 kg of Ft/ Mg Al.</p> <p><i>Note: In July 2021, reduction operations were reduced by 75 %. From June to December 2022 and from January to October 2023, a temporary authorization was granted, which raised the permit limit up to 2.8 kg Ft / Mg Al until 96 % operational pots were achieved. 96% operational pots were achieved in August 2023, and in September 2023, the permit limit was reduced to 1.5 kg Ft / Mg Al for a stabilization phase. In November 2023, the permit limit returns to the normal operation limit of 0.9 kg Ft / Mg Al.</i></p>

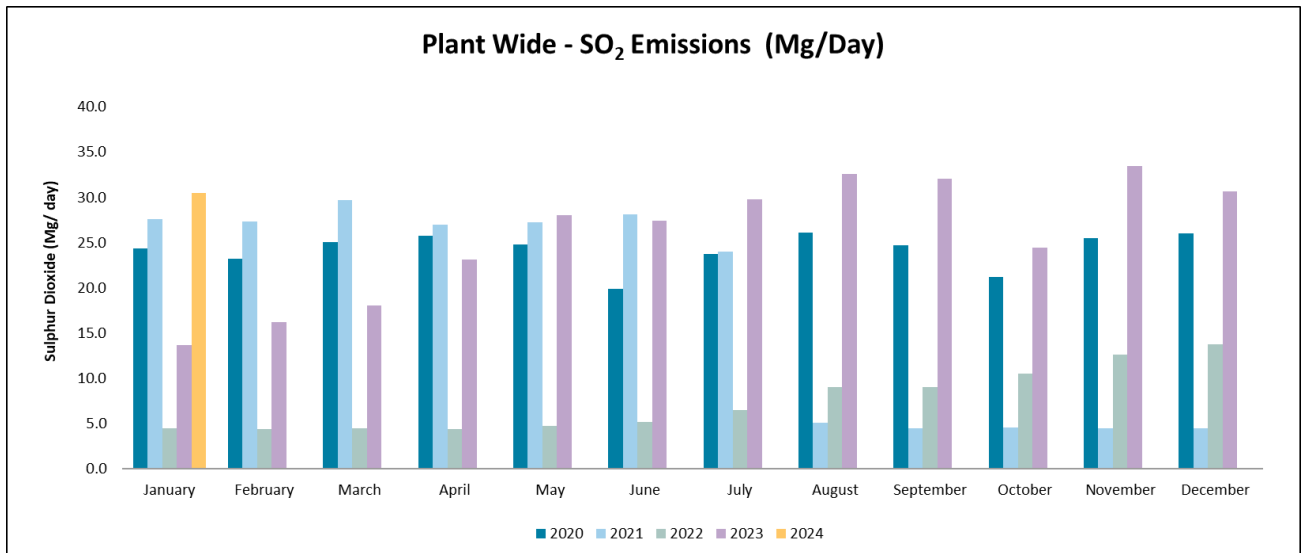


Permit section	Details
4.1.2.1 Prebake Potline Emissions	<p>Total particulates (TP) are air-borne solids that are composed mainly of alumina and are produced during the electrolytic process. Most particulate emissions are captured by the two gas treatment centres; however, some fugitive particulate emissions escape through roof vents in the reduction building. Our plant-wide permit limit for total particulates includes emissions from gas treatment centers. Fugitive emissions are monitored and reported monthly, with a limit of 1.3 kg of TP / Mg Al.</p> <p><i>Note: In July 2021, reduction operations were reduced by 75 %. From June to December 2022 and from January to October 2023, a temporary authorization was granted, which raised the permit limit up to 2.9 kg TP / Mg Al until 96 % operational pots were achieved. 96% operational pots were achieved in August 2023, and in September 2023, the permit limit was reduced to 2.0 kg TP / Mg Al for a stabilization phase. In November 2023, the permit limit returns to the normal operation limit of 1.3 kg Ft / Mg Al.</i></p>



Plant Wide Sulphur Dioxide

Permit section	Details
4.2 SO ₂ emissions	<p>Sulphur dioxide (SO₂) originates from the green coke (a by-product of petroleum refining) used to manufacture anodes and is released both during coke calcining, anode baking and anode consumption during the electrolytic process.</p> <p>The permit limit for plant wide SO₂ is 42 Mg/day.</p>



Permit section	Details
7.1.1.2	<p>Emission control devices are pieces of equipment that are designed to reduce contaminants emitted to the atmosphere from operations through scrubbing, filtration or incineration. Emission control devices are critical to reducing BC Works' environmental footprint.</p> <p>At BC Works, there are many minor emission control devices located throughout the operation, as well as a number of critical devices such as the Fume Treatment Center (FTC), Gas Treatment Center (GTC), Liquid Pitch Incinerator (LPI) & Pyroscrubber. An upset or bypass of an emissions control device occurs when the operation continues to produce emissions, but the emissions control device is no longer treating the emissions as per specification for a period of time. Upsets may be required in order to complete scheduled maintenance safely; when scheduled maintenance work results in an upset or bypass of an emissions control device, the work must be approved prior to commencing.</p> <p>The table below is a summary of all 2023 upsets/ bypasses.</p>

2024: Emission control device upset/bypass

Date	Equipment	Category	Upset Type	Duration	Cause
3-Jan-24	T2-DC1A	Offline	Unplanned	6h	Inoperative air pulse and clogged bags
15-Jan-24	FC-3	Offline	Unplanned	4h 13 min	System condition fault