

BlueScope Steel Limited

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E Brett.Tarrant@bluescopesteel.com



Mr Chris Ritchie
Director Industry Assessments
Department of Planning & Environment
12 Darcy Street
Parramatta, NSW 2150

16 October 2023

Re: Sinter Plant Waste Gas Gleaning Plant and Ore Preparation Upgrade Project Triennial Environmental Management Report

Dear Chris,

In accordance with Condition 7.4 of Development Approval DA 26-02-01 MOD 2 and MOD 50-4-2005-I, and Condition 7.2 Development Approval MP 06-0229 MOD 1, please find attached the Sinter Plant Waste Gas Cleaning Plant and Ore Preparation Upgrade Project Triennial Environmental Management Report for the FY2021 – FY2023 period.

Should you have any questions in relation to the attached report, please contact Anita Rojas on (02) 4275 7522 .

Yours sincerely,

DocuSigned by:

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Brett Tarrant
Manager Cokemaking and Ironmaking
BlueScope Steel (AIS) Pty Ltd



Environmental Management Report

Sinter Plant Waste Gas Cleaning Plant and Ore
Preparation Upgrade Project
Reporting Period FY21 – FY23

16 October 2023

Matthew Cox
Anita Rojas

**Table 1 - Triennial Review**


Name of operator	BlueScope Steel
Development consent / project approval #	Sinter Plant Waste Gas Cleaning Plant (DA-26-02-01 MOD 2) Ore Preparation Upgrade Project (MP 06-0229 MOD 1)
Name of holder of development consent / project approval	BlueScope Steel
Mining lease #	N/A
Name of holder of mining lease	N/A
Water licence #	N/A
Name of holder of water licence	N/A
MOP/RMP start date	N/A
MOP/RMP end date	N/A
Triennial Review start date	1 July 2020
Triennial Review end date	30 June 2023

I, Brett Tarrant, certify that this audit report is a true and accurate record of the compliance status of BlueScope Steel Sinter Plant Waste Gas Cleaning Plant and Ore Preparation Upgrade Project for the period 1 July 2020 – 30 June 2023 and that I am authorised to make this statement on behalf of BlueScope Steel.

Note.

a) The Triennial Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.

b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, or both).

Name of authorised reporting officer	Brett Tarrant
Title of authorised reporting officer	Manager Cokemaking and Ironmaking, Manufacturing
Signature of authorised reporting officer	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> DocuSigned by:  D67A37C30E92484... </div>
Date	16 October 2023

1. Statement of Compliance

The Triennial Review verified that there have been eight non-compliances recorded against requirements in the Sinter Plant Waste Gas Cleaning Plant and Ore Preparation Upgrade Project Development Approval Conditions during the reporting period. Two of the non-compliances are the same event which is captured by both the Sinter Plant Waste Gas Cleaning Plant and Ore Preparation Upgrade Project Development Approval Conditions.

A statement of compliance and summary of non-compliances for the Reporting Period are presented in Table 2 and Table 3. Where non-compliances are recorded, the relevant Approval Conditions, any comments, and where the non-compliances are addressed in this report are also detailed in Table 3.

Table 2 - Statement of Compliance

Were all conditions of the relevant approval(s) complied with?	
BlueScope Steel Sinter Plant Waste Gas Cleaning Plant (DA 26-02-01, MOD 2)	No
BlueScope Steel Sinter Plant Ore Preparation Upgrade Project (MP 06-0229, MOD 1)	No

Table 3 – Summary of Non-Compliances

Relevant approval	Condition #	Condition description (summary)	Compliance status	Comment	Where addressed in this Report
DA 26-02-01 MOD 2	3.3	The Applicant must ensure that a copy of the Environmental Management Plan is submitted to Council and is publicly available.	Non-Compliant	There is currently no standalone EMP. The required information is included in various documents. A Waste Management Plan and a Contingency Plan for environmental impacts were submitted to the Department of Planning in 2003. It is not clear if all documents constituting the EMP were submitted at the time.	Section 9

Relevant approval	Condition #	Condition description (summary)	Compliance status	Comment	Where addressed in this Report
DA 26-02-01 MOD 2	4.11	The Waste Gas Cleaning Plant must be designed and operated so that there should be no visible emissions from the Waste Gas Cleaning Plant exhaust stack under normal operations.	Non-Compliant	Two visible emissions from the Waste Gas Cleaning Plant exhaust stack were recorded during the Reporting Period.	Section 6.2 & Section 9
DA 26-02-01, MOD 2	4.31	The Applicant shall ensure that all licences surface water discharges from the site comply with the discharge limits (volume and quality) set for the development in any EPL or the relevant provisions of the POEO Act.	Non-Compliant	A pH exceedance was recorded at the Ironmaking East Drain (EPL Point 89) during the Reporting Period.	Section 6.3 & Section 9
DA 26-02-01 MOD 2	4.45	All chemicals being transported to the site must follow the route set out in the SEE.	Non-Compliant	It was not possible within the scope of the 2022 IEA to determine if all chemicals have been transported to the site in accordance with the routes specified in the SEE or that all non-liquid waste leaving the site have followed the route set out in Figure 5.4 of the SEE.	Section 8 & Section 9
DA 26-02-01 MOD 2	4.46	The transport route for the non-liquid waste leaving the site must follow the route set out in Figure 5.4 of the SEE.	Non-Compliant	It was not possible within the scope of the 2022 IEA to determine if all chemicals have been transported to the site in accordance with the routes specified in the SEE or that all non-liquid waste leaving the site have followed the route set out in Figure 5.4 of the SEE.	Section 8 & Section 9

Relevant approval	Condition #	Condition description (summary)	Compliance status	Comment	Where addressed in this Report
DA 26-02-01 MOD 2	4.54	All staff including contractors and subcontractors must be trained in environmental awareness and responsibility required under the POEO Licence both generally and specific to the Applicant's activities. The training program must be developed and implemented prior to any works at the site.	Non-Compliant	The 2022 IEA determined BlueScope was non-compliant to this condition as contractors did not have the 'Ore Prep Environment Awareness' training module in the Comply Flow tracking system.	Section 8 & Section 9
MP 06-0229 MOD 1	2.6	The Proponent shall install and operate equipment in line with best practice to ensure that the project complies with all load limits, air quality criteria and air quality monitoring requirements as specified in the EPL for the site.	Non-Compliant	BSL has self-reported (as a non-compliance in the 2019, 2020 and 2021 Annual Returns) that air monitoring analysis is not fully compliant with EPA approved methods at the Sinter Plant Room Dedusting Stack (EPL Point 2). It is reported on the EPA website for EPL No. 6092 that the EPA has "requested additional information to progress BSL application to modify sampling methods".	Section 8 & Section 9
MP 06-0229 MOD 1	2.11	Except as may be expressly provided under the provisions of an Environment Protection Licence for the project, the Proponent shall comply with section 120 of the Protection of the Environment Operations Act 1997 which prohibits the pollution of waters.	Non-Compliant	A pH exceedance was recorded at the Ironmaking East Drain (EPL Point 89) during the Reporting Period.	Section 6.3 & Section 9

Table 4 - Compliance Status Key for Table 3

Risk level	Colour code	Description
High	Non-compliant	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Medium	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> potential for serious environmental consequences, but is unlikely to occur; or potential for moderate environmental consequences, but is likely to occur
Low	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> potential for moderate environmental consequences, but is unlikely to occur; or potential for low environmental consequences, but is likely to occur
Administrative non-compliance	Non-compliant	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions)

2. Introduction

BlueScope Steel (AIS) Pty Ltd (BlueScope) operates the Port Kembla Steelworks (PKSW). The PKSW is located on approximately 742 hectares of land adjacent to Port Kembla Harbour within in the Wollongong local government area. The closest residential suburbs to the site within the Steelworks are Mount St Thomas, Cringila, and Port Kembla which are located approximately 2.9km north-west, 1.6km west, and 1.5km south of the site respectively (see Figure 1).

The Ore Preparation Department is a section of the Ironmaking Business Unit of BlueScope responsible for the management of raw materials and the Sinter Plant. The raw materials including iron ore and fluxes are processed at the Sinter Plant to convert the fine material into a lumpy, porous product, called sinter. The sinter is subsequently used at the Blast Furnace as a feed for iron production.

Waste gas generated in the sintering process is captured and treated by an electrostatic precipitator and at the Sinter Plant Waste Gas Cleaning Plant which uses activated carbon adsorption to clean the waste gas prior to discharge to the atmosphere.

Development Approvals that are relevant to Ore Preparation and this Environment Monitoring Report are:

- BlueScope Steel Sinter Plant Waste Gas Cleaning Plant (DA 26-02-01, MOD 2); and
- Ore Preparation Upgrade Project (MP 06-0229, MOD 1).

Per Condition 7.4 of DA 26-02-01 MOD 2 and Condition 7.2 of MP 06-0229 MOD 1, an Environmental Management Report must be undertaken by 31 October 2017 and every three years thereafter, unless otherwise agreed by the Secretary.

Maps showing the location of the Sinter Plant Waste Gas Cleaning Plant, Gypsum Plant, and Ore Preparation Upgrade facilities and their regional context (aspects relevant to the community such as residential areas or other key relevant land uses), development consent boundary and current operational disturbance footprint are shown in Appendix 1.

Table 5 - Contact Details of BlueScope Steel Personnel Responsible for Environment Management of the Operations

Contact	Position	Contact Number
Mr. Brett Tarrant	Manager Cokemaking and Ironmaking, Manufacturing	4275 7522
Mr. Richard Lorenc	Ore Preparation Operations Manager	4275 7522

3. Approvals

Development Approvals that are relevant to this Environmental Management Report are:

Sinter Plant Waste Gas Cleaning Plant – (DA 26-02-01 MOD 2)

Development approval was granted by the Minister of Urban Affairs and Planning on 1 August 2001 for the construction and operation of a downstream Waste Gas Cleaning Plant (WGCP) at the existing Sinter Plant, based on a moving packed char (carbon) bed. DA No.26-02-01 lodged with the Department of Urban Affairs and Planning

on 7 February 2007, accompanied by a Statement of Environmental Effects prepared for the Applicant by Sinclair Knight Mertz Pty. Ltd, dated January 2001.

Modification of the Development Consent to permit the construction and operation of a Gypsum Plant to treat sulphur rich gas from the WGCP, with the production of gypsum for sale, was granted by the Minister on 22 September 2005 (DA 26-02-01 MOD 50-4-2005-i).

Modification of the Development Consent (DA 26-02-01 MOD2) approved on 12 May 2016 by the Planning Assessment Commission as a delegate of the Minister for Planning saw the removal of irrelevant conditions, removal of air, noise and water monitoring requirements duplicated in the Environment Protection Licence and a rationalisation of reporting requirements.

Ore Preparation Upgrade Project (MP 06-0229 MOD 1)

Development approval was granted by the Minister for Planning on 3 July 2007 for the Ore Preparation Upgrade Project (OPUP) which required upgrades to the Sinter Plant to increase the production capacity from 5.5 million tonnes to 6.6 million tonnes per annum. The proposal is declared a Major Project under section 75B(1) (a) of the Environment Planning and Assessment Act 1979, because it is a development of a kind that is described in clause 9(a) of schedule 1 to State Environmental Planning Policy (Major Projects) 2005.

Modification of the Development Consent (MP 06-0229 MOD1) approved on 12 May 2016 by the Planning Assessment Commission as a delegate of the Minister for Planning saw the removal of irrelevant conditions, removal of air, noise and water monitoring requirements duplicated in the Environment Protection Licence and a rationalisation of reporting requirements.

4. Operations Summary

There were no new developments carried out during the Reporting Period, nor were there modifications to the development approval conditions.

Sinter Plant Capacity Monitoring

The Sinter Plant Waste Gas Cleaning Plant Development Consent (DA 26-02-01, MOD 2) does not include any approved production limits.

The Ore Preparation Upgrade Project (MP 06-0229 MOD 1) limits the production capacity of the Sinter to 6.6 million tonnes per annum. Annual sinter production rates did not exceed the 6.6 million tonnes per annum limit during the Reporting Period, as provided in Table 6.

Table 6 - Sinter Production Rates

FY Period	Sinter Production (t Sinter/yr)
FY21	3,672,354
FY22	3,755,571
FY23	3,883,119

Waste Gas Cleaning Plant Bypass Events

During the Reporting Period, the WGCP was bypassed on one occasion. Between 19 – 25 June 2021, a planned bypass was undertaken to complete maintenance on the WGCP following a previous planned bypass in early 2020. During the bypass event, waste gas is discharged to EPL 6092 Point 151, No 3 Sinter Machine Stack, instead of the Waste Gas Cleaning Plant Stack (EPL 6092 Point 107).

No unplanned bypasses occurred during the Reporting Period.

Gypsum for Soil Application

Prior to this Reporting Period, gypsum was sold to a sole customer for use in cement production. During the Reporting Period, the customer notified BlueScope that they no longer wished to buy gypsum. Following this notification, BlueScope identified the opportunity to sell this product as a soil amendment. In accordance with Condition 4.20 of DA 26-02-01 MOD 2, consultation was held with NSW Health and NSW DPI and approval was subsequently sought and received from the EPA.

5. Actions from Previous Review

The previous Triennial review in 2020 referenced 7 non-compliances identified during an Independent Environmental Audit (IEA) undertaken in 2019. No additional actions were noted in the previous Environmental Management Report.

The status of corrective actions from the 2019 IEA review conducted by Arriscar Pty Ltd is presented in Table 6. Four actions remain outstanding and have been addressed in the most recent IEA conducted in 2022.

Table 7 - Status of Actions from Previous Review

Action No.	Corrective Action Description	NC (Yes/No)	BSL Response & Proposed Action Plan	Current Status
2019/1	<p>The Environmental Management Plan (EMP) for the WGCP should be made publicly available (e.g. on a public website) as required by the relevant condition of development consent (Refer to CC # W-3.3).</p> <p>Note: There is currently no standalone EMP. The required information may be included in various documents (Refer to CC # W3.2).</p> <p>Note: There is no requirement for a standalone operational EMP for OPUP (Refer to CC # O-6.3). As an alternative to the recommendation above, BSL could seek an amendment to the CCs for the WGCP and Gypsum Plant (i.e. CC # W-3.2, W-3.3 and G-3.4) to be consistent with CC # O-6.3. If this was done, then it would negate the requirement to make an EMP publicly available but would still ensure there is a requirement to maintain the environmental and safety management systems for the WGCP and Gypsum Plant.</p> <p>(Refer to Appendix B.1- CC # W-3.3 and Section 4.3.5 - Prior Audit ID # 2016/5).</p>	Yes	<p>From Evidence and Findings relating to CC # W-3.2, it is evident that all aspects of an EMP are included in various documents and that there is no stand-alone EMP for the WGCP.</p> <p>BSL would like to seek amendment to this consent condition from the Department of Planning and Environment.</p>	Pending
2019/2	<p>Emissions from the WGCP may be visible despite complying with the relevant condition from the EPL for the WGCP Stack (EPL Point 107). Consequently, the operation of the WGCP Stack (EPL Point 107) may be non-compliant with Consent Condition No. 4.11 for the WGCP, despite being compliant with EPL Condition No. O4.16. This inconsistency should be resolved with the DP&E and EPA (e.g. by amending the relevant conditions).</p> <p>(Refer to Appendix B.1 - CC # W-4.11 and Section 4.3.5 - Prior Audit ID # 2016/16).</p>	Yes	As per the recommended action, BSL will seek amendment of relevant consent conditions from the Department of Planning & Environment to align with condition number O4.16 in EPL 6092.	Pending



Action No.	Corrective Action Description	NC (Yes/No)	BSL Response & Proposed Action Plan	Current Status
2019/3	<p>The roadway between the Sinter Plant offices and the Sinter Plant building should be routinely swept or wetted down to minimise the generation of windblown and traffic generated dust.</p> <p>(Refer to Appendix B.1 - CC # O2.2, Appendix B.2 Error! Reference source not found. – EPL # O3.2, and Section 4.3.5 - Prior Audit ID # 2016/8).</p>	Yes	<p>The roadway between the Sinter Plant Offices and Sinter Plant Building is currently swept twice daily. It is also swept on request when required.</p> <p>Road sweeping activities will be further monitored to ensure all roadways in the area are swept according to schedule. If required, the frequency will be modified to improve roadway conditions.</p>	Completed
2019/4	<p>BSL should ensure compliance with the transport routes set out in the SEE for: (i) all chemicals transported to the site (CC # W-4.45); and (ii) non-liquid waste from the site (CC # W-4.46).</p> <p>Alternatively, BSL should seek approval for alternative routes to be followed (e.g. approved primary route/s and alternative routes when a primary route is unavailable).</p> <p>(Refer to Appendix B.1 - CC # W-4.45 & CC #W-4.46 and Section 4.3.5 - Prior Audit ID # 2016/9).</p>	Yes	<p>Following construction of roadways subsequent to the transport study completed 2002, BSL will seek approval for alternative routes to be followed following an assessment of routes currently available to transporters.</p>	Pending
2019/5	<p>Vehicles are being parked near the gate on Christy Drive. This would appear to be non-compliant with CC # W-4.47; however, it is not clear if this restriction was only intended to apply during the construction phase (when many more vehicles would be present) or whether this was meant to be an ongoing restriction. This should be raised with the DP&E and resolved accordingly.</p> <p>(Refer to Appendix B.1 - CC # W-4.47 and Section 4.3.5 - Prior Audit ID # 2016/10).</p>	Yes	<p>As per recommendation, BSL will seek clarity on this consent condition with the Department of Planning & Environment.</p>	<p>Adequate parking is provided for BlueScope staff and visitors. Members of the public are able to park on Christy Drive outside of the gate and public movements are not subject to this approval.</p> <p>Pending</p>

Action No.	Corrective Action Description	NC (Yes/No)	BSL Response & Proposed Action Plan	Current Status
2019/6	The hyperlink to the 'FY2017 Annual Report' should be reinstated on the 'Monitoring Data' page of the BSL website (https://www.bluescopeillawarra.com.au/environment/reporting-on-performance/2017-nsw-monitoring-data/). (Refer to Appendix B.2 – EPL # O8.2 & EPL # M8.3).	No	BSL will ensure broken hyperlink to 'FY2017 Annual Report' on the BSL Webpage will be reinstated.	Completed
2019/7	The No. 3 Sinter Machine Stack (EPL Pt 151) should be included in the Environmental Aspects and Impacts Register / MARS for the Sinter Plant (i.e. to indicate the potential for emissions during bypass of the Sinter Plant Waste Gas Cleaning Plant). (Refer to Section 4.3.5, Prior Audit ID # 2016/17).	No	No. 3 Sinter Machine Stack (EPL Pt 151) to be added to the Environmental Aspects and Impacts Register / MARS for the Sinter Plant.	Completed

6. Environmental Performance

The environmental performance for the Developments for the Reporting Period have been prepared in compliance with condition 7.4 of Development Consents DA 26-02-01 MOD 2 and condition 7.2 of Development Consent MP 06-0229 MOD 1.

The operation of the Sinter Plant and WGCP has continued throughout the Reporting Period in accordance with both Development Consents and with relevant conditions of Environment Protection Licence No. 6092 (EPL 6092) for the PKSW.

6.1. Noise

No noise monitoring was required to be undertaken during the Reporting Period.

The monitoring requirements and concentration limits for the WGCP are specified in condition L6 of EPL 6092. An Environmental Noise Survey conducted in August 2018 verified that noise levels from the Sinter Plant complied to Development Consent and EPL limits of 70dB(A). The Survey also confirmed that noise from the Sinter Plant is not considered to be substantially tonal or impulsive. The results of this Survey were included in the previous Environmental Management Report.

The next noise monitoring event is due in FY24 and will therefore be reported in the next Environmental Management Report.

No noise complaints relating to the Sinter Plant or WGCP have been received during the Reporting Period.

6.2. Air Quality

Air quality monitoring was undertaken at the development during the Reporting Period.

Sinter Plant Waste Gas Cleaning Plant Stack – EPL 6092 Point 107

The monitoring requirements and concentration limits for the WGCP stack are specified in conditions L2.4, L3.4, O4.16, M2.2 and M8.2 of EPL 6092.

Monitoring requirements were met throughout the Reporting Period. All results complied with concentration limits specified in EPL 6092 and were consistent with previous monitoring (refer **Error! Reference source not found. 2**).

Sinter Machine Room Dedusting Stack – EPL 6092 Point 2

The monitoring requirements and concentration limits for Sinter Machine Room Dedusting stack are specified in EPL 6092 conditions L3.4, and M2.2. No load limits exist for this emission point.

Monitoring requirements were met throughout the Reporting Period. All results complied with concentration limits specified in EPL 6092 and were consistent with previous monitoring (refer **Error! Reference source not found. 2**).

No 3 Sinter Machine Stack – EPL 6092 Point 151

This discharge point is only in operation when the WGCP is required to be bypassed while sintering operations continue. The monitoring requirements and concentration limits for the No 3 Sinter Machine Stack are specified in conditions E5.5 and E5.6 of EPL 6092. No load limits exist for this emission point.

Monitoring requirements were met throughout the bypass period that occurred during the Reporting Period, and all results were compliant to limits specified in EPL 6092 (refer Appendix 2).

The Statement of Environmental Effects (SEE) for the WGCP contained the following specific objectives relevant to air quality:

- Reduction of dust emissions to less than 20mg/Nm³;
- Reduction in dioxin emissions to less than 0.3ng ITEQ/Nm³ with a design limit of 0.1ng ITEQ/Nm³;
- Reduction in emissions of SO_x in excess of 750 tonnes per year from the Sinter Plant;
- Reduction in emissions of NO_x in excess of 320 tonnes per year from the Sinter Plant; and
- Reduction in visual impact of the gas plume from the stack, with the aim of no visible emissions.

During the Reporting Period, the WGCP has continued to achieve the SEE objectives relating to SO_x and NO_x annual mass load and dust and dioxin emissions reduction as evidenced in Table 8.

Table 8 - WGCP SO_x and NO_x Mass Emission Loads and Annual Reduction

FY Period	SO _x Mass Load	SO _x Mass Load	NO _x Mass Load	NO _x Mass Load
	Total (t SO _x /yr)	Reduction from FY07 (t SO _x /yr)	Total (t NO _x /yr)	Reduction from FY07 (t NO _x /yr)
FY07*	3,227	-	3,281	-
FY21	771	2,456	2,306	975
FY22	1,081	2,146	2,385	896
FY23	716	2,511	2,619	662

*The WGCP Gypsum plant, the final stage of the development, was commissioned in FY07 and in operation from FY08.

Condition 4.11 of DA 26-02-01 MOD 2 states that the WGCP must be designed and operated so that there should be no visible emissions from the Waste Gas Cleaning Plant exhaust stack under normal operations. Similarly, EPL 6092 condition O4.16 states the WGCP must be operated so that there are no visible emissions from the exhaust stack under normal operations, with the provision that compliance with this requirement is to be assessed against the EPL 6092 limit condition of 20 mg/Nm³ for particulate matter at the discharge point.

On 16 September 2020 and 25 January 2023, BlueScope recorded visible emissions from the WGCP that were observed during normal operation. On both occasions, the opacity meter was recording particulate levels of <20 mg/m³ and therefore the emissions remains compliant to the EPL 6092 condition, but non-compliant to condition 4.11 of the DA.

The disparity between the DA and EPL 6092 conditions was addressed in the 2019 IEA with a recommendation to align the two conditions (Table 9 Action Number 2019/2). This action remains outstanding.

6.3. Water Management

Water from operations at the Sinter Plant is directed to the Ironmaking East Drain. In 2016, a pollution reduction project was undertaken to reduce discharges from this drain directly entering Port Kembla Harbour by diverting water to the No 2 Blower Station Drain. For this reason, both the Ironmaking East Drain and No 2 Blower Station Drain have been considered in the Review.

Ironmaking East Drain (IMED) – EPL 6092 Point 89

Monitoring requirements and concentration limits at IMED are specified in DA condition 4.31 and EPL 6092 conditions L3.5, M2.5, M2.6 and M8.3. For the duration of the Reporting Period, Special Frequency 11 monitoring requirements specified in condition M2.6 have been in place. This requires sampling to be undertaken only when dry weather discharges occur. No dry weather discharges occurred during the Reporting Period therefore compliance testing was not required to be undertaken.

In February 2022, a significant wet weather event led to a discharge at EPL 6092 Point 89. On this occasion, online pH meters indicated the pH of the water was out of normal range and sampling was conducted. Sampling confirmed that the water discharging exceeded the pH licence limit of 9.0. The cause of the exceedance was determined to be a reduced throughput of Spent Pickle Liquor (SPL) into the neutralisation tank at the Spent Pickle Liquor Neutralisation Plant. This Plant discharges to the IMED and is subject to a separate Development Consent. To prevent recurrence, interlocks were added to the PLC code for both the SPL and Lime Slurry pumps. No subsequent exceedances have been recorded.

Results of monitoring undertaken during wet weather events is available in Appendix 3.

No 2 Blower Station (2BS) Drain – EPL 6092 Point 79

Monitoring requirements and concentration limits at 2BS Drain are specified in EPL 6092 conditions L3.5 and M2.5. No load limits exist for this emission point.

Monitoring requirements were met throughout the Reporting Period. All results complied with concentration limits specified in EPL 6092 and were consistent with previous monitoring (refer Appendix 2).

6.4. Rehabilitation

No rehabilitation work is applicable to the developments.

7. Community

No community complaints were received by BlueScope relating to the Sinter Plant and WCGP operations during the Reporting Period.

On 24 June 2021, a complaint referencing stack emissions from the Sinter Plant was received from the community. Investigation determined that the complainant was referring to stacks that are not operated by the Ore Preparation department.

8. Independent Audit

Condition 7.6 of DA 26-02-01 MOD 2 requires the undertaking of an Independent Environmental Audit (IEA) within 12 months of commissioning and every three years thereafter, unless the Director-General directs otherwise.

Condition 4.1 of MP 06-0229 MOD 1 requires an IEA be undertaken within three years of the last IEA in June 2013 and every three years thereafter, unless the Secretary directs otherwise.

The most recent IEA was conducted between 22 - 24 February 2022 by Mr. Phillip Skinner from Arriscar Pty Ltd. Mr. Skinner was endorsed by the DPE to conduct the IEA audit on 8 December 2021. The IEA covered DA 26-02-01 MOD 2 and MP 06-0229 MOD 1 for the period 1 July 2019 to 30 June 2021 and was submitted to DPE on 20 April 2022.

Non-compliances and corrective actions identified in the 2019 IEA were addressed as part of the 2022 IEA.

A summary of findings from the Compliance Assessment (extracted from the IEA Report Executive Summary (Page 3-4)) is as follows:

Environmental Management

Overall, BSL's Environmental Management System and management plans appear to be adequate for the identified environmental aspects and potential impacts.

Environmental Performance

The NSW EPA issued two penalty notices for the PKSW since the previous IEA in 2019. The penalty notices related to six exceedances of the EPL concentration limit for dioxins and furans at LDP 151 during the WGCP bypass in March 2020 and April 2020. Investigations and actions have been implemented by BSL to prevent reoccurrence and no exceedances were recorded during a subsequent bypass in 2021.

Despite the two penalty notices, the overall environmental performance for the Sinter Machine Emission Reduction Project (WGCP), Gypsum Plant and OPUP is good, which is evidenced by the:

- Recording of no public complaints since the previous IEA in 2019.
- No non-compliances related to exceeding limits in the EPL since the previous IEA in 2019, other than for the dioxins and furans during the WGCP bypass in 2020 (as noted above).
- Programs being undertaken by BSL to reduce potential future impacts (i.e. investigating the re-use of 'Activated Char Undersized' (ACU) and Electrostatic Precipitator (EP) dust.

Despite the Non-Compliances identified during the IEA, the overall level of compliance and environmental performance for the Sinter Machine Emission Reduction Project (WGCP), Gypsum Plant and OPUP is good, and the identified non-compliances are not expected to pose a significant environmental risk. The overall number of non-compliances has reduced when compared to the previous IEA in 2019.

Table 9 - Corrective Action from 2022 Independent Environmental Audit

Action Number	Corrective Action Description	Non-Compliance?	BSL Response and Proposed Action Plan	Current Status
2022/01	The hyperlink to the 'FY2017 Annual Report' on the 'Monitoring Data' page of the BSL website (https://www.bluescopeillawarra.com.au/environment/reporting-on-performance/2017-nsw-monitoring-data/) should be corrected so as to open the 'Licence Monitoring Data Annual Summary Report' for FY2017. (Refer to Section 4.3.5 - Prior Audit ID # 2019/6).	No	Monitoring data is presented in both documents and therefore publicly available however, BlueScope will update the hyperlink to direct to the Licence Monitoring Data Annual Summary Report.	Complete
2022/02	The 'Procedure to Outline the Steps Necessary to Set up the Sinter Machine for WGCP By-pass' (SP-OPSP-07-32) should include the steps required to ensure the composition of the ore blend is modified to minimise dioxin formation prior to a planned bypass or in the event of an emergency bypass. (Refer to Appendix B.1 - CC # W-A1.2).	No	Procedure SP-OPSP-07-32 to be updated to reflect requirement to modify Ore Blend prior to a planned bypass or in the event of an emergency bypass.	Complete



Action Number	Corrective Action Description	Non-Compliance?	BSL Response and Proposed Action Plan	Current Status
2022/03	<p>The Environmental Management Plan (EMP) for the WGCP should be made publicly available (e.g. on a public website) as required by the relevant condition of development consent (Refer to CC # W-3.3).</p> <p>Note: There is currently no standalone EMP. The required information may be included in various documents (Refer to CC # W3.2).</p> <p>Note: There is no requirement for a standalone operational EMP for OPUP (Refer to CC # O-6.3). As an alternative to the recommendation above, BSL could seek an amendment to the CCs for the WGCP and Gypsum Plant (i.e. CC # W-3.2, W-3.3 and G-3.4) to be consistent with CC # O-6.3. If this was done, then it would negate the requirement to make an EMP publicly available but would still ensure there is a requirement maintain the environmental and safety management systems for the WGCP and Gypsum Plant.</p> <p>Note: This is an open action from previous IEAs. BSL advised that it is proposed to address this action as part of a planned modification to the CCs.</p> <p>(Refer to Appendix B.1 - CC # W-3.3 and Section 4.3.5 - Prior Audit ID # 2019/1).</p>	Yes	<p>BSL have discussed the intent to amend this consent condition with DPE in November 2019 such that it is consistent with the OPUP consent condition.</p> <p>An amendment request will be submitted to the DPE before the next review period.</p>	Pending
2022/04	<p>Emissions from the WGCP may be visible despite complying with the relevant condition from the EPL for the WGCP Stack (EPL Point 107). Consequently, the operation of the WGCP Stack (EPL Point 107) may be non-compliant with Consent Condition No. 4.11 for the WGCP, despite being compliant with EPL Condition No. O4.16.</p> <p>This inconsistency should be resolved by amending the relevant conditions.</p> <p>Note: This is an open action from previous IEAs. BSL advised that it is proposed to address this action as part of a planned modification to the CCs.</p> <p>(Refer to Appendix B.1 - CC # W-4.11 and Section 4.3.5 - Prior Audit ID # 2019/2).</p>	No	<p>BSL have discussed the intent to amend this consent condition with DPE in November 2019 such that it is consistent with the EPL.</p> <p>An amendment request will be submitted to the DPE before the next review period.</p>	Pending

Action Number	Corrective Action Description	Non-Compliance?	BSL Response and Proposed Action Plan	Current Status
2022/05	<p>It was not possible within the scope of the current IEA to determine if all chemicals have been transported to the site in accordance with the routes specified in the SEE (CC # W-4.45) or that all non-liquid waste leaving the site have followed the route set out in Figure 5.4 of the SEE (CC # W-4.46).</p> <p>It is understood that some materials are not being transported (e.g. Ammonia); however, BSL should undertake a review of current transport routes and seek an amendment to CC # W-4.45 and W-4.46 that will permit the assessment and use of alternative routes (particularly where these would pose a lower overall risk).</p> <p>(Refer to Appendix B.1 - CC # W-4.47 and Section 4.3.5 - Prior Audit ID # 2019/4).</p>	Yes	<p>BSL have discussed the intent to amend the transport route with DPE in November 2019 following upgrades to the road network since the study in 2002. Current transport routes utilise major road transport routes and do not deviate into suburban streets, consistent with the SEE.</p> <p>An amendment request is awaiting the outcome of recycling trials and will be to the DPE before the next review period.</p>	Pending
2022/06	<p>Contractors should also complete the 'Ore Prep Environment Awareness' training module and evidence of completion of environmental awareness training should be included in the Comply Flow tracking system.</p> <p>(Refer to Appendix B.1 - CC # W-4.54)</p>	Yes	<p>The environmental requirements for contractors to work at PKSW are included in the general site induction. Department specific environmental requirements are included in the contractors JSEA or job pack for each specific job, therefore there is no mandatory requirement for them to complete the department specific training.</p> <p>The Ore Prep Environment Awareness training is specific for employees.</p>	Complete

Action Number	Corrective Action Description	Non-Compliance?	BSL Response and Proposed Action Plan	Current Status
2022/07	BSL should establish a procedure or process to ensure stack testing at Discharge Point 107 is undertaken in accordance with EPL # O4.19 if an SRG Plant or regenerator outage exceeding 21 days (e.g. by adding a corrective action to undertake additional monitoring with a corresponding due date). (Refer to Appendix B.2 – EPL # O4.19).	No	Current practice is for the process engineer to report SRG Plant or regenerator outages exceeding 7 days to the Ironmaking environment officer or the environment officer on call and capture the event in BSL's MARS systems. Outage duration continues to be monitored by the process engineer and communicated to the environment officer. During this period, sampling is organised in advance should the 21-day period be exceeded. Procedure SP-OPD-01-39 will be updated to reflect the EPL changes.	Complete
2022/08	Only two of the quarterly monitoring results for Solid Particles at EPL Point 2 are reported on the 'Monitoring Data' page of the BSL website in 2019. The missing records should be uploaded to the website. (Refer to Appendix B.2 – EPL # M2.1, M2.2 & M2.3).	No	Missing records will be uploaded to the website.	Complete
2022/09	BSL has self-reported (as a non-compliance in the 2019, 2020 and 2021 Annual Returns) that some air monitoring analysis is not fully compliant with EPA approved methods. This is understood to relate to the existing platform at the Sinter Plant Room Dedusting Stack (EPL Pt 2). This platform only allows access to 2 out of 4 sampling ports as it does not go around the whole stack. It is reported on the EPA website for EPL No. 6092 that the EPA has "requested additional information to progress BSL application to modify sampling methods". However, this non-compliance has continued to be reported in the past three annual returns and should be resolved for EPL Pt 2. (Refer to Appendix B.2 – EPL # M2.1, M2.2, M2.3 &M3.1).	Yes	The upgrade of stack sampling facilities at EPL Pt2 to allow full traverse sampling would be a substantial cost (~\$2M). There is minimal licence testing required at this location (i.e. only OM9), with an opacity meter in place which is used as an indicator of particulate variation in the stack. The Ore Preparation department is aware of this improvement requirement and will endeavour to include this upgrade work when the opportunity arises.	Pending



Action Number	Corrective Action Description	Non-Compliance?	BSL Response and Proposed Action Plan	Current Status
2022/10	<p>It is recommended that BSL consult with the EPA to determine if EPL condition #M8.3 is still applicable for Point 89 now that the IMED is unlikely to overflow under normal conditions and monitoring at Point 89 is normally only required 'daily during a dry weather discharge' (refer to EPL # M2.5 & M2.6).</p> <p>If EPL condition #M8.3 is retained, then sampling requirements should be clearly defined (e.g. sampling at Point 89 is required during dry and/or wet weather discharges to determine these mass loads). (Refer to Appendix B.2 – EPL # M8.3).</p>	No	<p>The sampling requirements as defined in EPL6092 for discharge point 89 were implemented by the EPA in consultation with BSL.</p> <p>The requirement for sampling is clear (dry weather discharge only) and must remain in the licence as the risk of a non-compliant discharge would be during dry weather, i.e. no dilution.</p> <p>As sampling would only be conducted during dry weather discharge, the mass load calculations would be conducted using these values.</p>	Complete
2022/11	<p>EPL Condition # R4.1 part b) includes a cross-reference to 'O4.17 - SRG Venting'. This appears to be an error and should be a reference to EPL Condition # O4.16 (Note: it appears that this cross-reference was not corrected when a condition was deleted for an update to the EPL on 12 January 2017).</p> <p>(Refer to Appendix B.2 – EPL # R4.1).</p>	No	<p>BlueScope acknowledges the discrepancy and will request for the EPL to be modified to reference the correct condition.</p>	Complete
2022/12	<p>BSL would appear to be compliant with the intent of EPL Condition # R4.1 based on submission of the Annual Returns (refer to CC # W-A3.1) and the quarterly monitoring reports (i.e. reports for Jan, Apr, Jul and Oct) on the 'Monitoring Data' page of the BSL website; however, the monitoring data for particulate matter at Point 107 should be included in the 'Annual Monitoring Report' as required under part b).</p> <p>(Refer to Appendix B.2 – EPL # R4.1).</p>	No	<p>Total Solid Particles will be added to the annual report. Procedure SP-ENV-07-02 will be updated to create a checklist of the requirements for the annual report to ensure reportable licence parameters are not missed again.</p>	Complete

Action Number	Corrective Action Description	Non-Compliance?	BSL Response and Proposed Action Plan	Current Status
2022/13	Significant build up and drag out of dust was observed outside the northern end of the Sinter Plant (refer to Photograph 9). This area should be cleaned to minimise drag out and potential discharge of these dusts to the site drainage system. (Refer to Appendix B.3 – ID # 1).	No	Roads are swept according to a schedule and upon request as required. Activities will be monitored to ensure cleaning frequencies are adequate. Areas outside of the road sweepers' schedule will be cleaned and maintained.	Complete
2022/14	Small amounts of loose char were observed on the ground at the WGCP (refer to Photograph 12 and Photograph 14). These char spillages should be cleaned up. (Refer to Appendix B.3 – ID # 2).	No	As 2022/13, roads are swept according to a schedule and upon request as required. Activities will be monitored to ensure cleaning frequencies are adequate. Areas outside of the road sweepers' schedule will be cleaned and maintained.	Complete
2022/15	The bund for the Sodium Hydroxide unloading area should be cleaned of all sediments and debris (refer to Photograph 13). (Refer to Appendix B.3 – ID # 3).	No	The sodium hydroxide unloading area will be arranged to be cleaned.	Complete
2022/16	It should be ensured that the bin marked for 'dry industrial waste' at the WGCP is not used for other waste materials (refer to Photograph 17). (Refer to Appendix B.3 – ID # 1).	No	There is a broader site plan to refresh the waste and recycling bin stations with new signage and training to be rolled out to employees and contractors.	Scheduled for FY24

9. Incidents and Non-Compliances

Incidents

No significant incidents occurred during the Reporting Period.

Non-Compliances

As noted in Section 1 and Table 3, eight non-compliances recorded during the reporting period. Two of the non-compliances are the same event which is captured by both the Sinter Plant Waste Gas Cleaning Plant and Ore Preparation Upgrade Project Development Approval Conditions.

Majority of these non-compliances are administrative. As detailed in Table 10, BlueScope plans to submit a modification request that will address these administrative issues.

Table 10 - Current Status of Non-Compliance Actions

Relevant approval	Condition #	Condition description (summary)	Current Status of Actions
DA 26-02-01 MOD 2	3.3	The Applicant must ensure that a copy of the Environmental Management Plan is submitted to Council and is publicly available.	There is currently no standalone EMP however, the required information is included in various documents. BlueScope will submit a modification request to amend this condition. Action Pending
DA 26-02-01 MOD 2	4.11	The Waste Gas Cleaning Plant must be designed and operated so that there should be no visible emissions from the Waste Gas Cleaning Plant exhaust stack under normal operations.	Two visible emissions from the Waste Gas Cleaning Plant exhaust stack were recorded during the Reporting Period. The emission is believed to be linked to a result of ambient conditions as elevated particles were not recorded at the stack. The EPL has recognised this phenomenon and includes an assessment of the particulate load in the determination of compliance (O4.16). BlueScope will seek a modification to the condition to align compliance assessment to the EPL. Action Pending
DA 26-02-01, MOD 2	4.31	The Applicant shall ensure that all licences surface water discharges from the site comply with the discharge limits (volume and quality) set for the development in any EPL or the relevant provisions of the POEO Act.	A pH exceedance was recorded at the Ironmaking East Drain (EPL Point 89) resulting from an issue at the Spent Pickle Liquor Neutralisation Plant. Interlocks were added to the PLC code for both the SPL and Lime Slurry pumps. No subsequent exceedances have been recorded. Complete

Relevant approval	Condition #	Condition description (summary)	Current Status of Actions
DA 26-02-01 MOD 2	4.45	All chemicals being transported to the site must follow the route set out in the SEE.	<p>The transport routes include old terminology of freeways and specify access through only one of multiple access points to the Ore Preparation Area. The SEE provides a transportation route for anhydrous ammonia. This activity has not occurred during the Reporting Period, as the ammonia plant was decommissioned in 2019.</p> <p>BlueScope will prepare and submit a revised transport route to DPE with the modification request covering other actions.</p> <p>Action Pending</p>
DA 26-02-01 MOD 2	4.46	The transport route for the non-liquid waste leaving the site must follow the route set out in Figure 5.4 of the SEE.	<p>The transport routes include old terminology of freeways and specify access through only one of multiple access points to the Ore Preparation Area. The SEE provides a specific transportation route for spent char. This activity has not occurred during the Reporting Period, as BlueScope are investigating recycling opportunities for the material.</p> <p>BlueScope will prepare and submit a revised transport route to DPE with the modification request covering other actions.</p> <p>Action Pending</p>
DA 26-02-01 MOD 2	4.54	All staff including contractors and subcontractors must be trained in environmental awareness and responsibility required under the POEO Licence both generally and specific to the Applicant's activities. The training program must be developed and implemented prior to any works at the site.	<p>The 2022 IEA determined BlueScope was non-compliant to this condition as contractors did not have the 'Ore Prep Environment Awareness' training module in the Comply Flow tracking system.</p> <p>The environmental requirements for contractors to work at PKSW are included in the general site induction. Department specific environmental requirements are included in the contractors JSEA or job pack for each specific job, therefore there is no mandatory requirement for them to complete the department specific training.</p> <p>The Ore Prep Environment Awareness training is specific for employees.</p> <p>Complete</p>
MP 06-0229 MOD 1	2.6	The Proponent shall install and operate equipment in line with best practice to ensure that the project complies with all load limits, air quality criteria and air quality monitoring requirements as specified in the EPL for the site.	<p>The upgrade of stack sampling facilities at EPL Pt2 to allow full traverse sampling would be a substantial cost (~\$2M). There is minimal licence testing required at this location (i.e. only OM9), with an opacity meter in place which is used as an indicator of particulate variation in the stack.</p> <p>The Ore Preparation department is aware of this improvement requirement and will endeavour to include this upgrade work when the opportunity arises.</p>

Relevant approval	Condition #	Condition description (summary)	Current Status of Actions
MP 06-0229 MOD 1	2.11	Except as may be expressly provided under the provisions of an Environment Protection Licence for the project, the Proponent shall comply with section 120 of the Protection of the Environment Operations Act 1997 which prohibits the pollution of waters.	<p>A pH exceedance was recorded at the Ironmaking East Drain (EPL Point 89) resulting from an issue at the Spent Pickle Liquor Neutralisation Plant.</p> <p>Interlocks were added to the PLC code for both the SPL and Lime Slurry pumps. No subsequent exceedances have been recorded.</p> <p>Complete</p>

10. Activities to be Completed in the Next Reporting Period

The WGCP was itself constructed as an outcome of a pollution reduction program agreed between the EPA and BlueScope, with the objectives detailed earlier in this report to reduce the environmental impacts of the Sinter Plant, particularly regarding air quality. Where practicable, BlueScope will continue to implement additional, incremental improvements in the operation of the WGCP.

There are no plans to conduct significant maintenance or make any further plant upgrades to the WGCP or OPUP related plant infrastructure in the next Reporting Period, and no WGCP bypass events are planned.

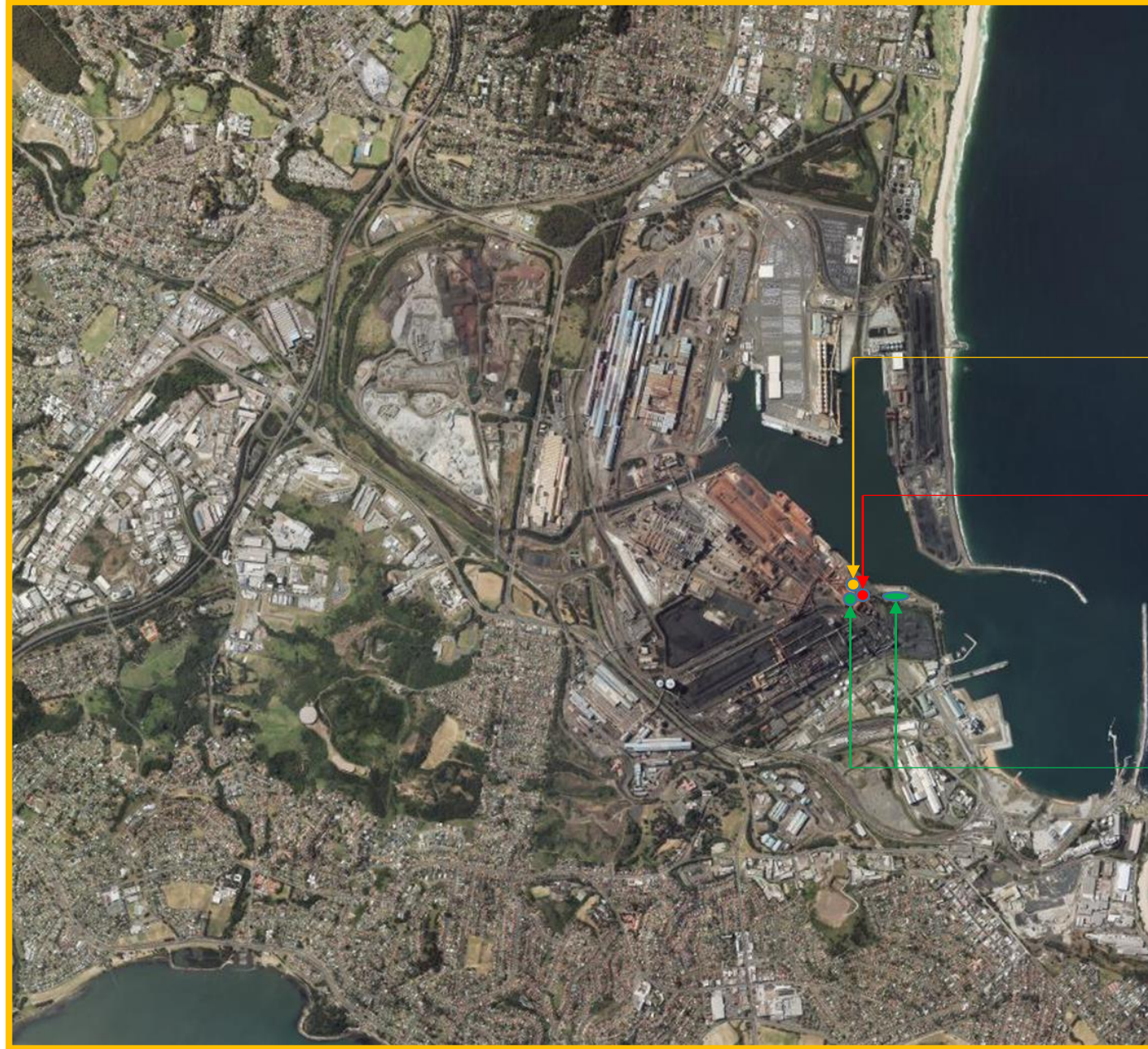
BlueScope's Ore Preparation department is committed to identifying opportunities to reduce environmental impacts, as with the remainder of the Port Kembla Steelworks. BlueScope is currently trialling the recycling of stockpiled Waste Gas Electrostatic Precipitator (WGEP) dust through the Sinter Plant. Approximately 38,000 tonnes of WGEP dust is currently stockpiled. If the trial is successful, this material will continue to be recycled instead of disposing of it as a waste. This trial is being managed through EPL 6092.



Appendix 1 - Development Consent Boundary & Operational Footprint

Attachment 1

Sinter Plant Waste Gas Cleaning Plant, Gypsum Plant & Ore Preparation Upgrade Project Geographic Location



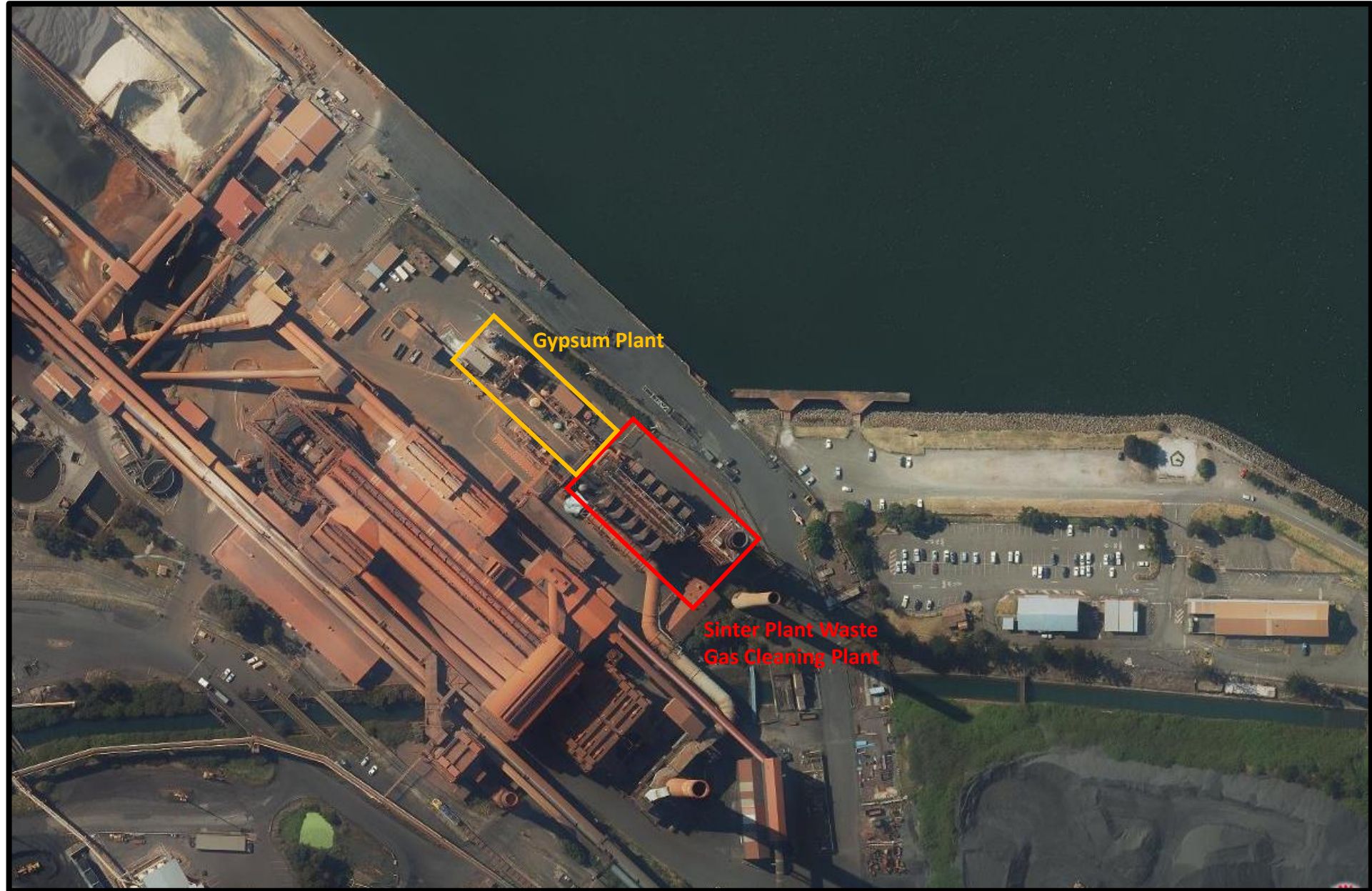
Gypsum Plant

Sinter Plant Waste Gas Cleaning Plant

Ore Preparation Upgrade Project (including Parking Area)

Attachment 1

Sinter Plant Waste Gas Cleaning Plant & Gypsum Plant Development Consent Boundary



Attachment 1

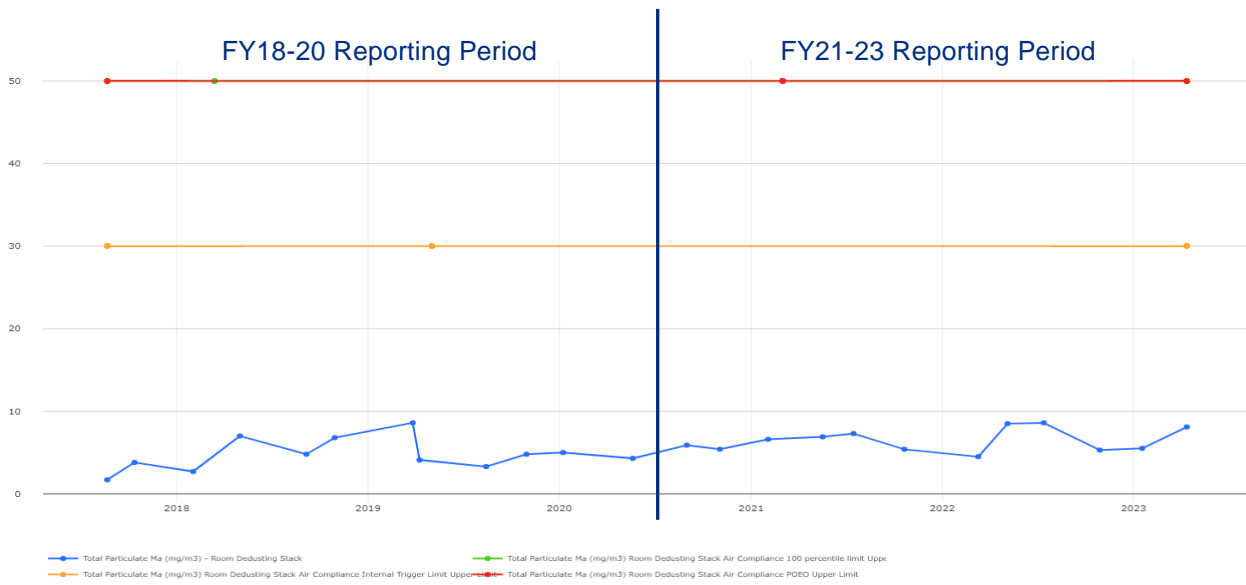
Ore Preparation Upgrade Project Development Consent Boundary (including parking area)



Appendix 2 – Air Quality Monitoring Data

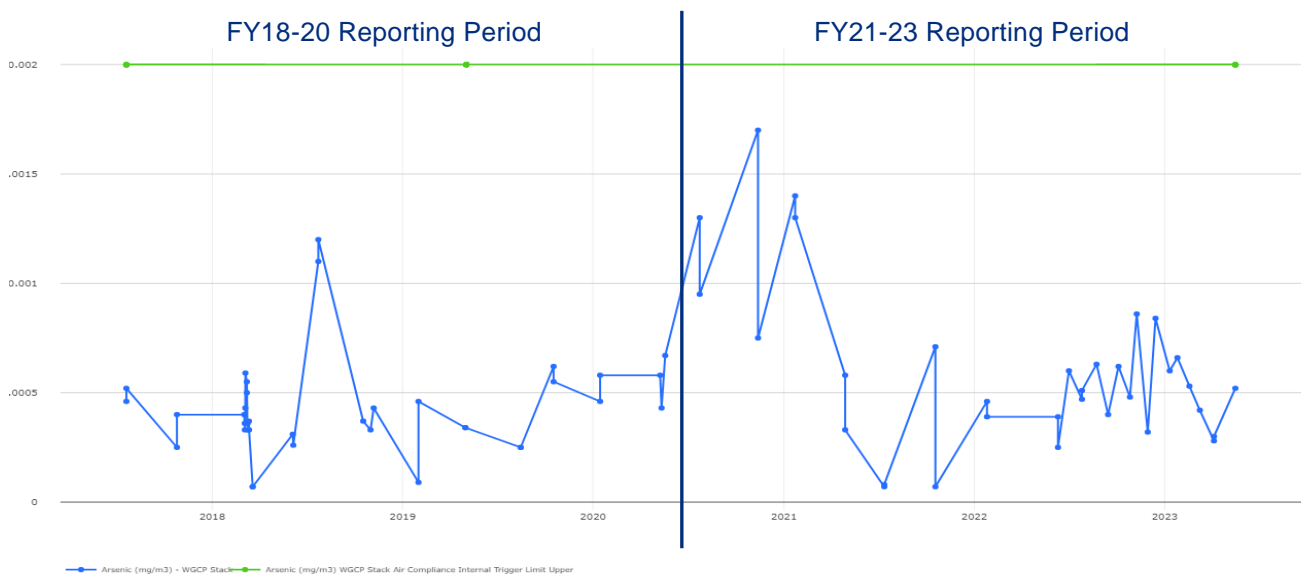
Sinter Machine Room Dedusting Stack (EPL Point 2)

Solid Particles (mg/m³)



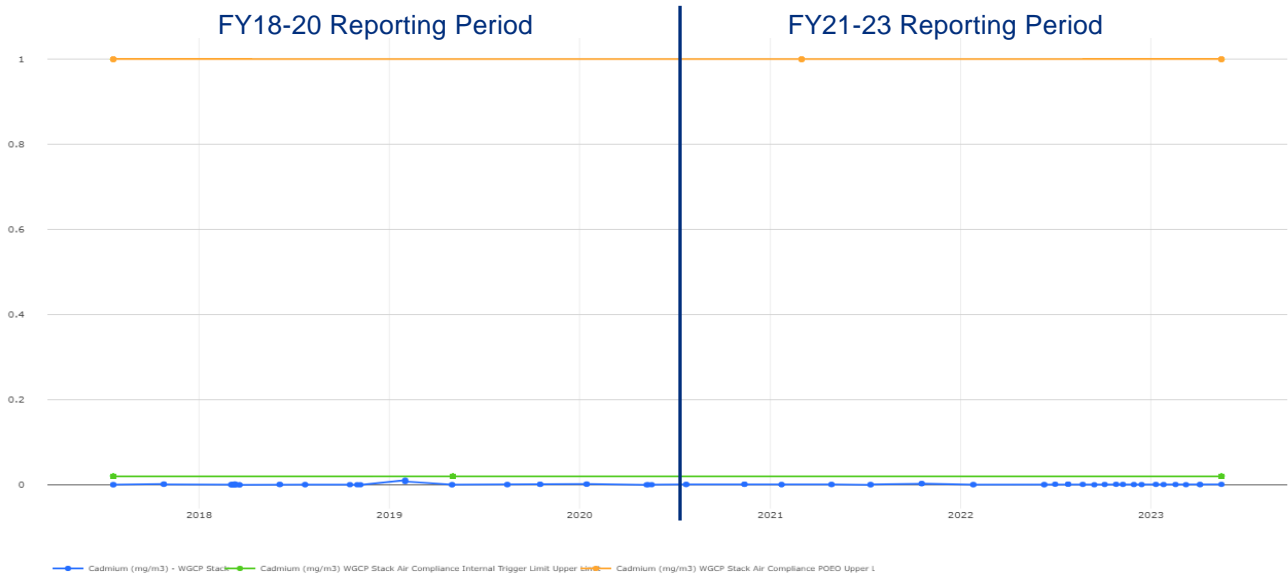
Sinter Plant Waste Gas Cleaning Plan (EPL 6092 Point 107)

Arsenic (mg/m³)

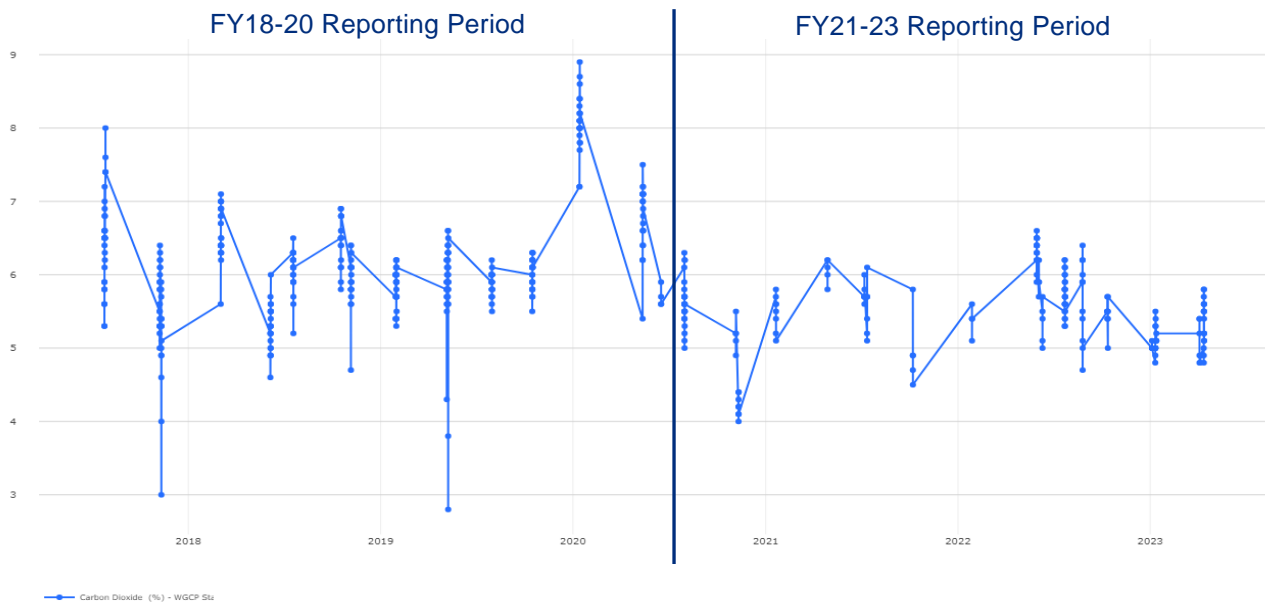




Cadmium (mg/m³)

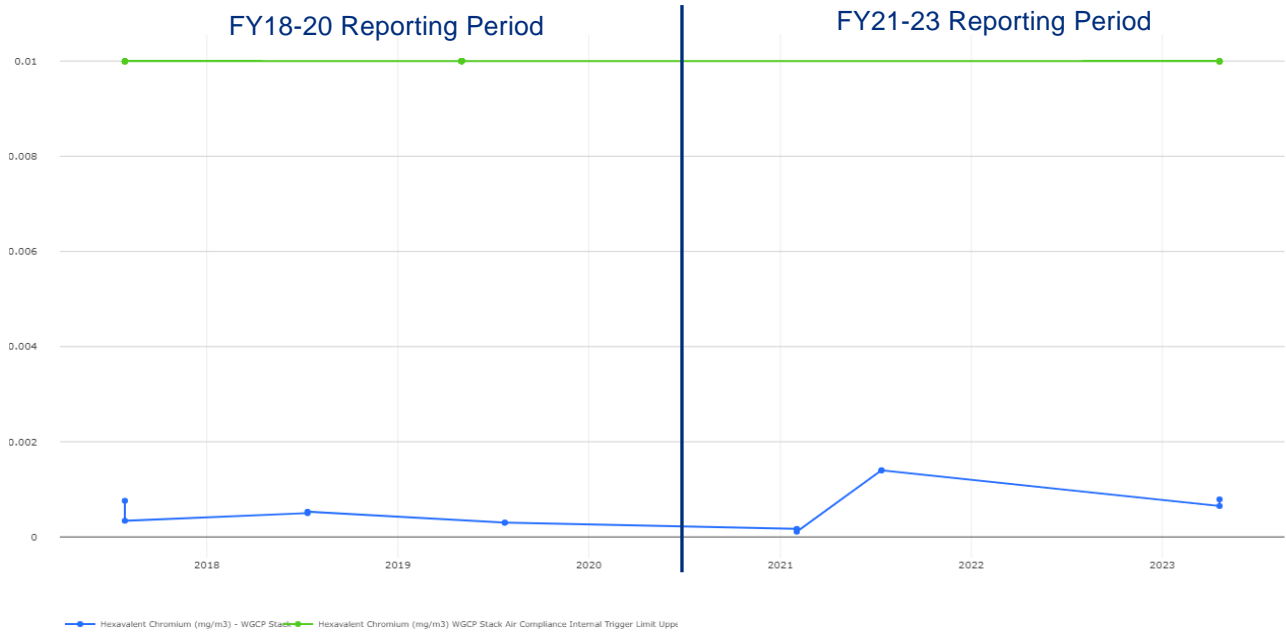


Carbon Dioxide (%)

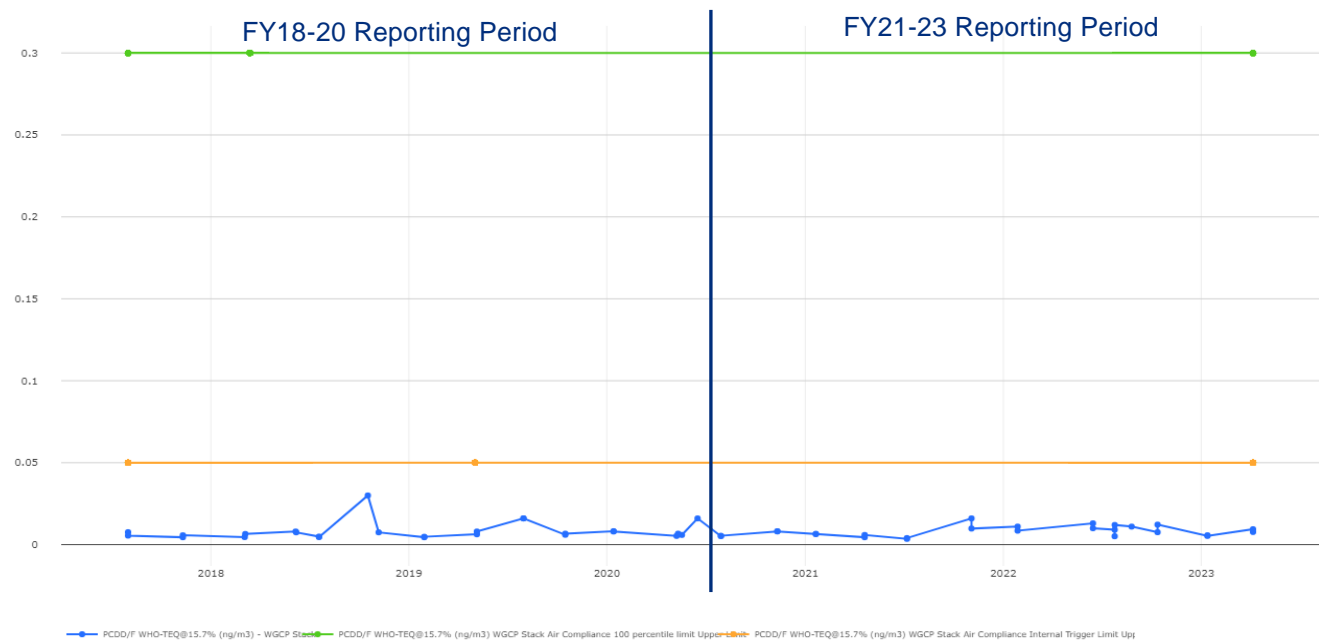




Chromium Hexavalent (mg/m³)

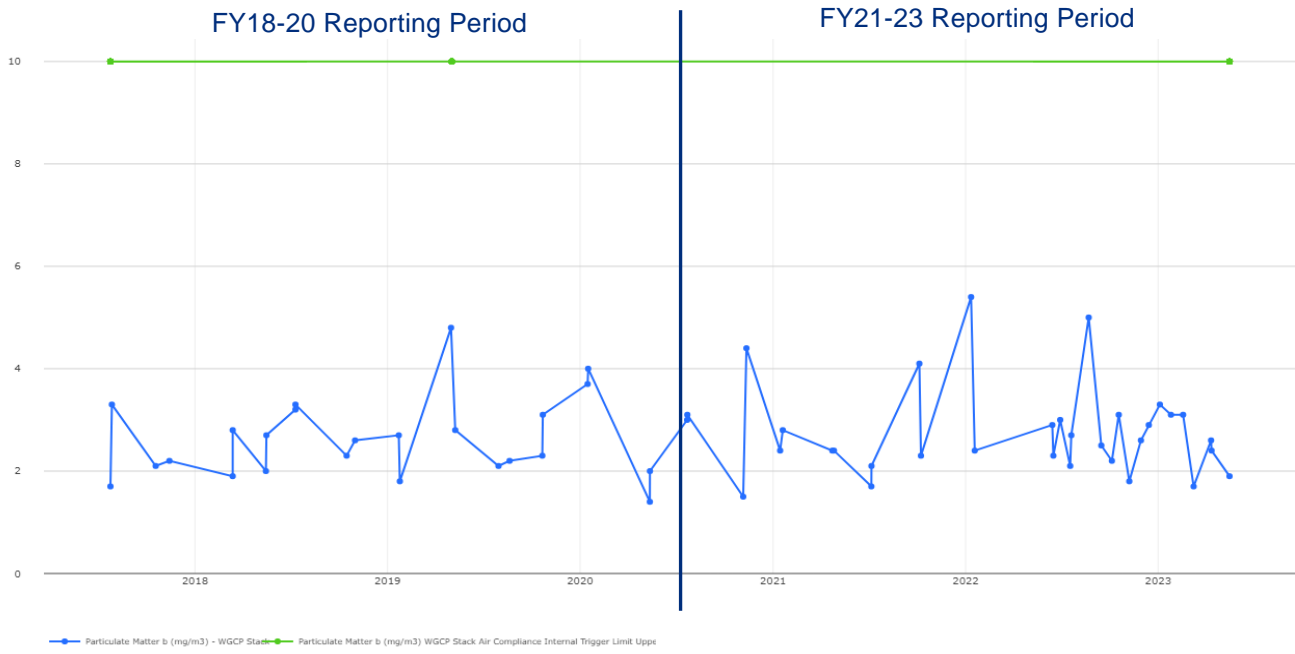


Dioxins and Furans (µg/m³)

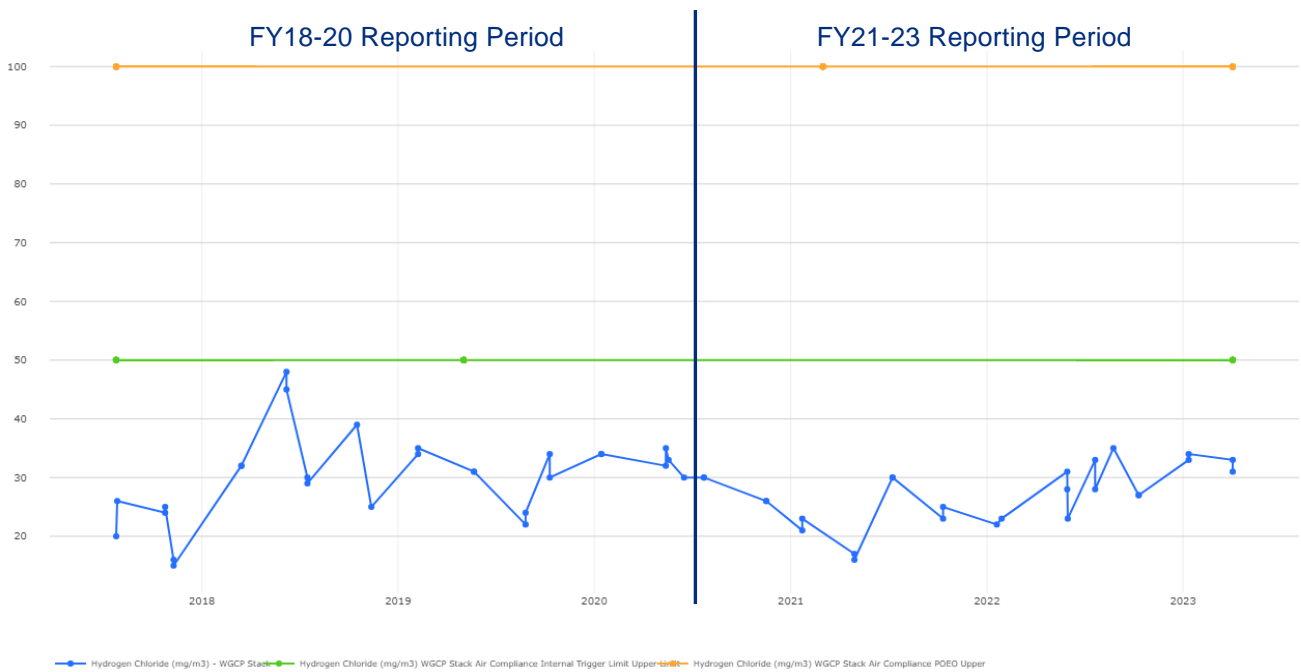




Fine Particulates (mg/m³)

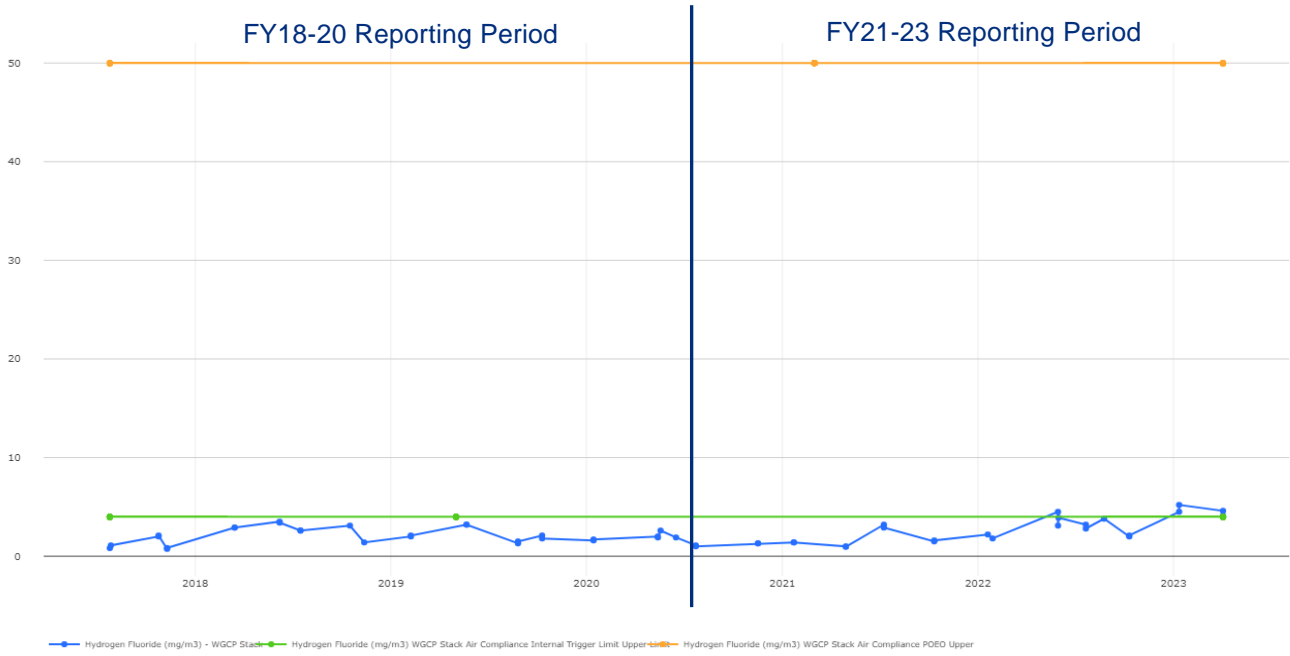


Hydrogen Chloride (mg/m³)

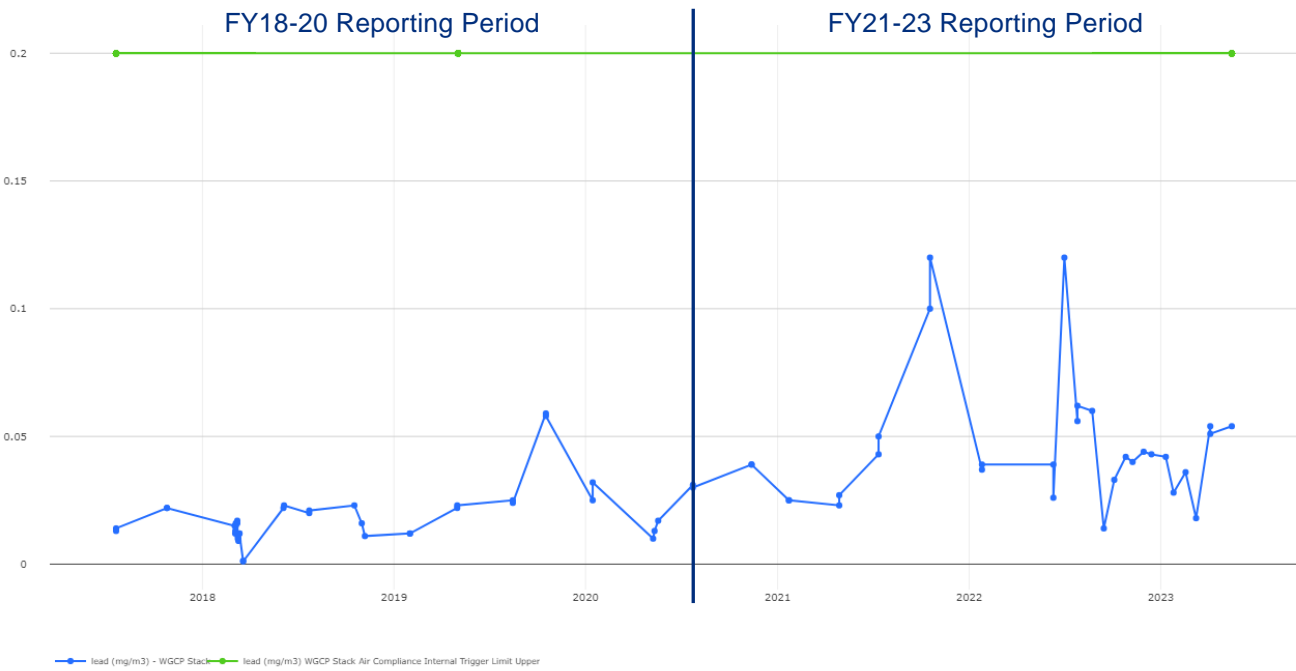




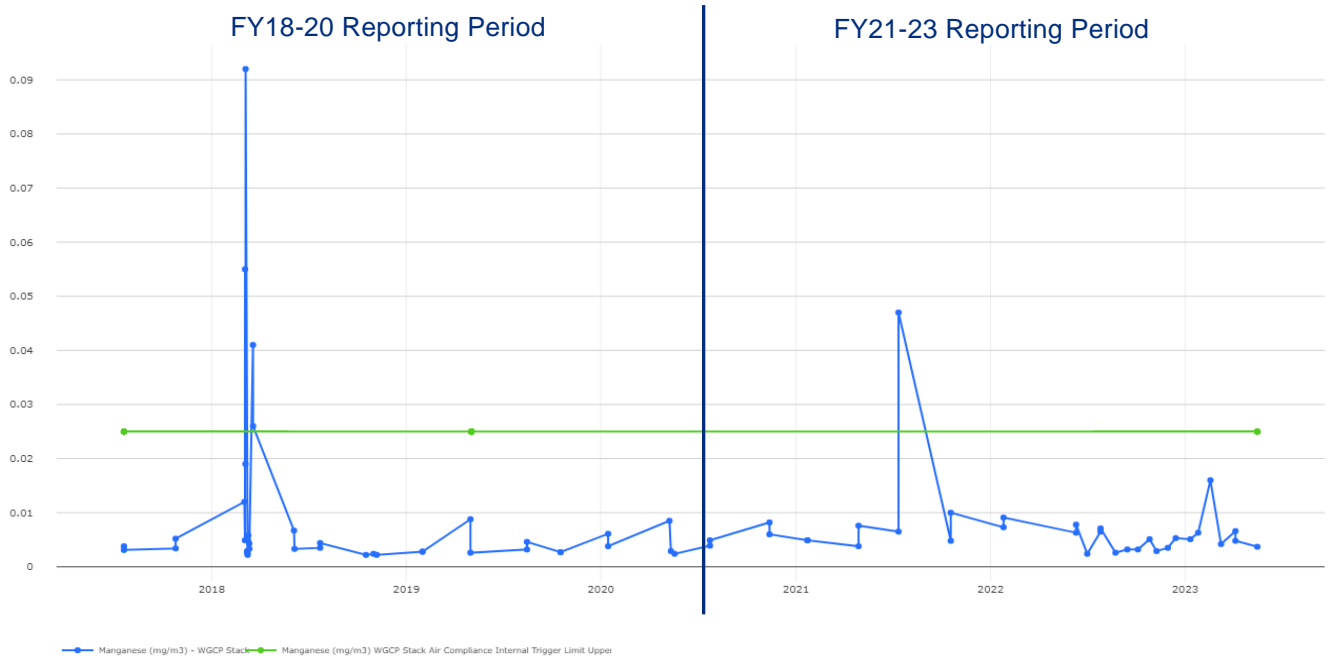
Hydrogen Fluoride (mg/m³)



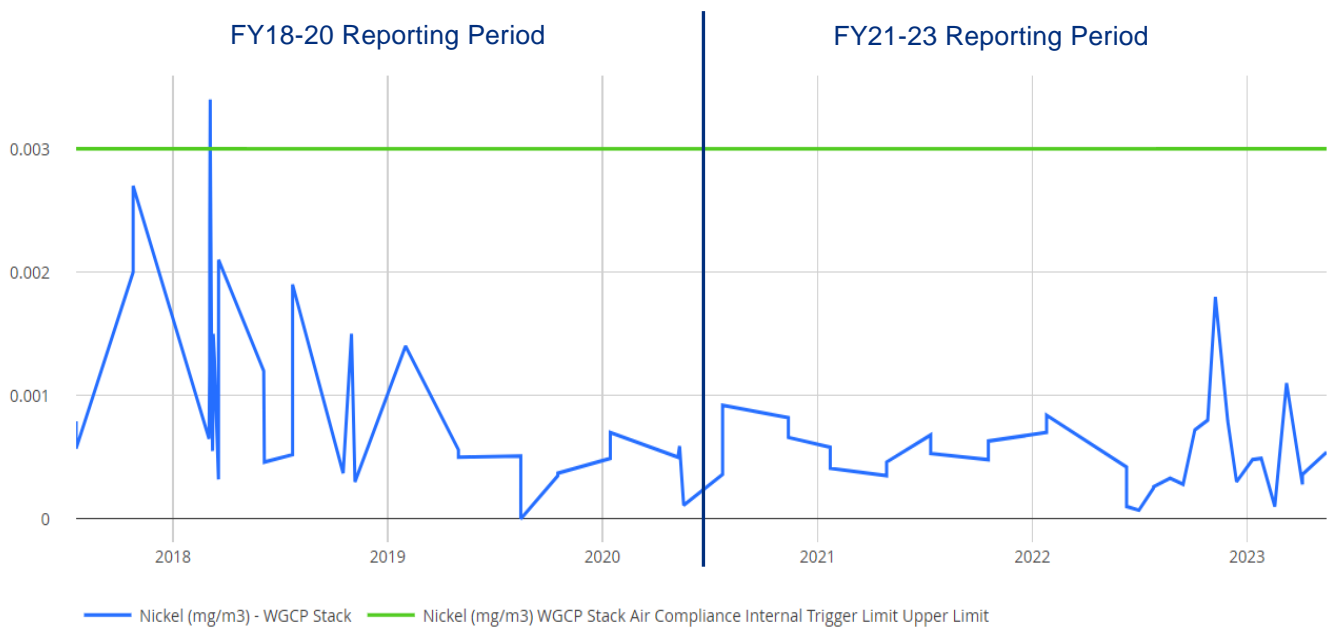
Lead (mg/m³)



Manganese (mg/m³)

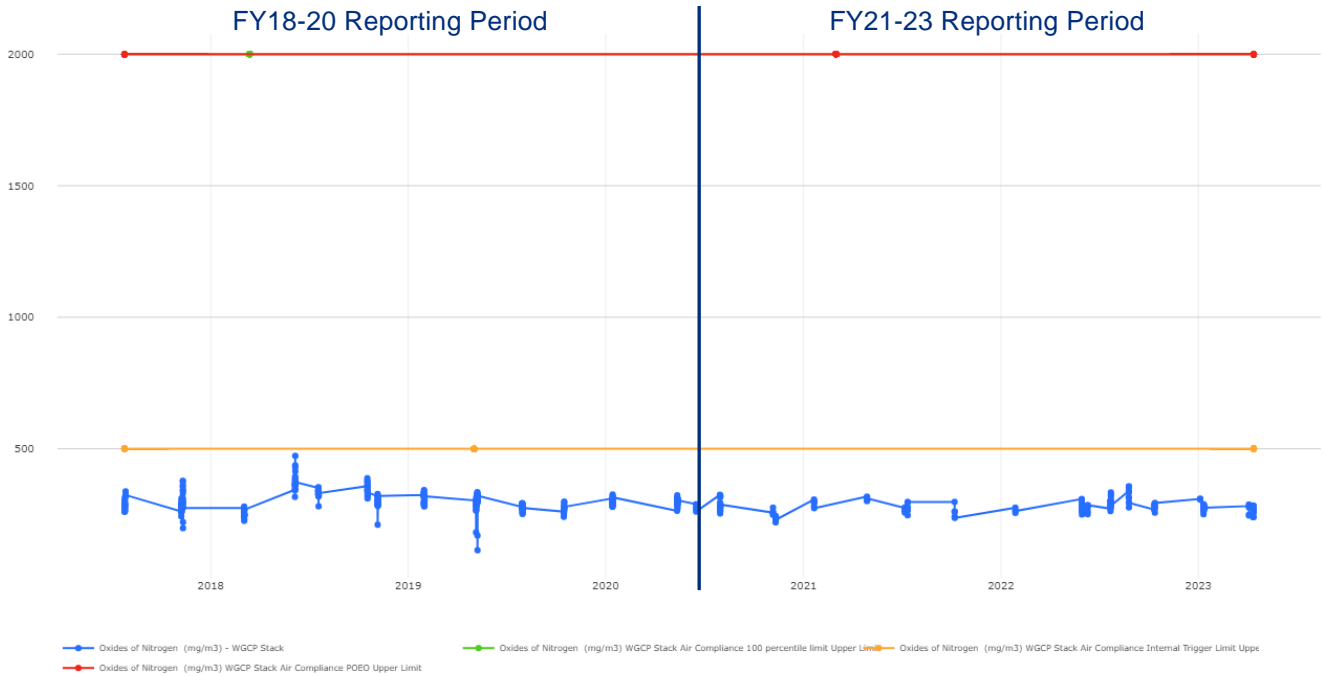


Nickel (mg/m³)

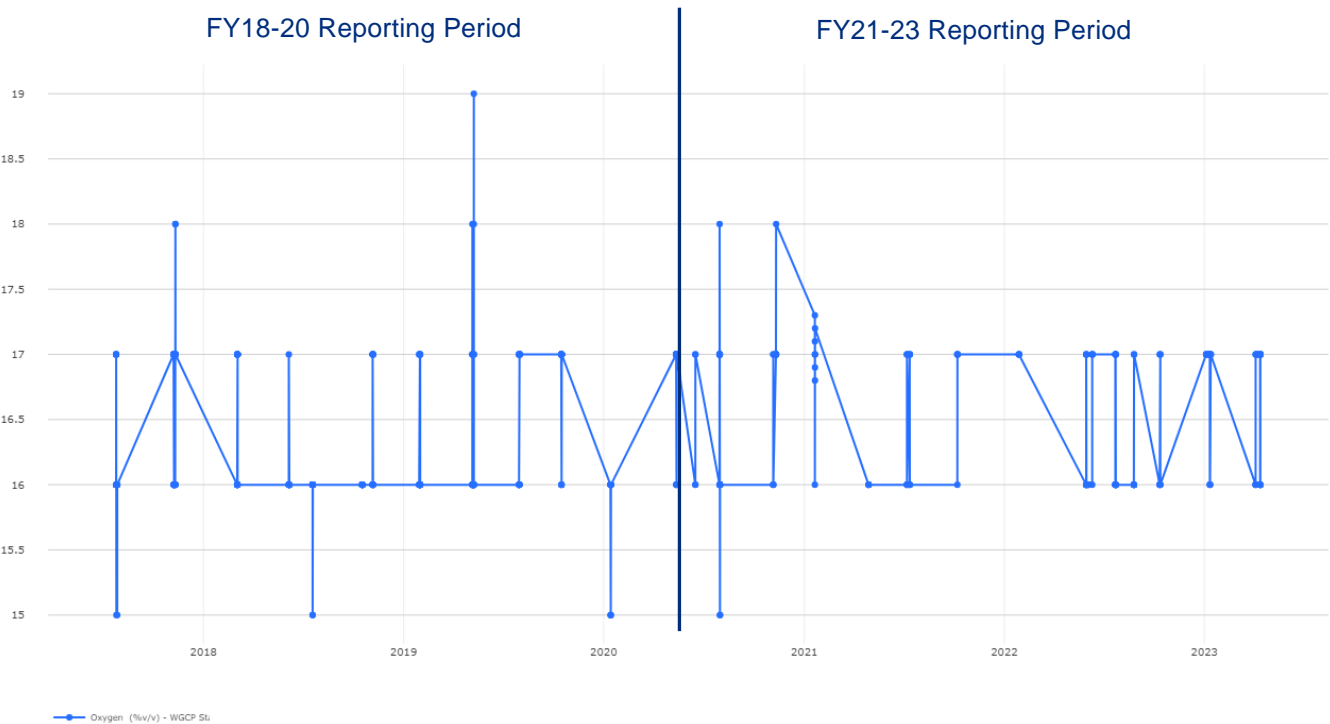




Nitrogen Oxides (mg/m³)

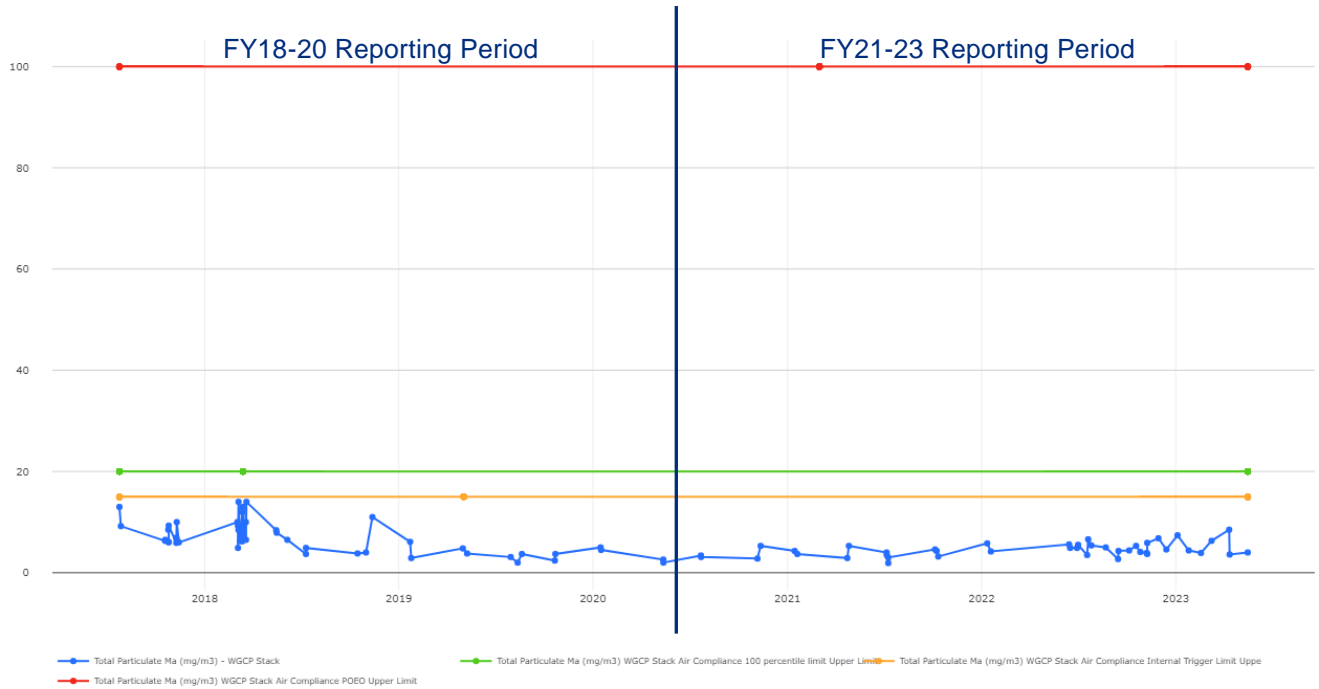


Oxygen (%)

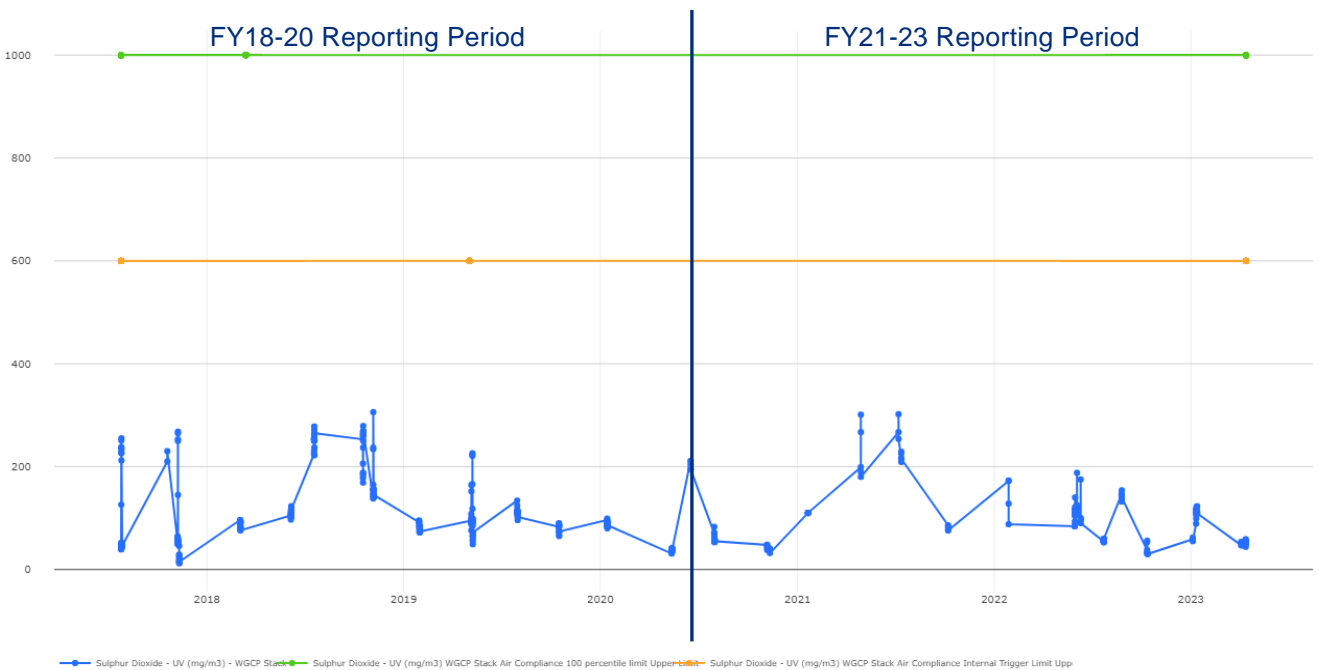




Solid Particles (mg/m³)

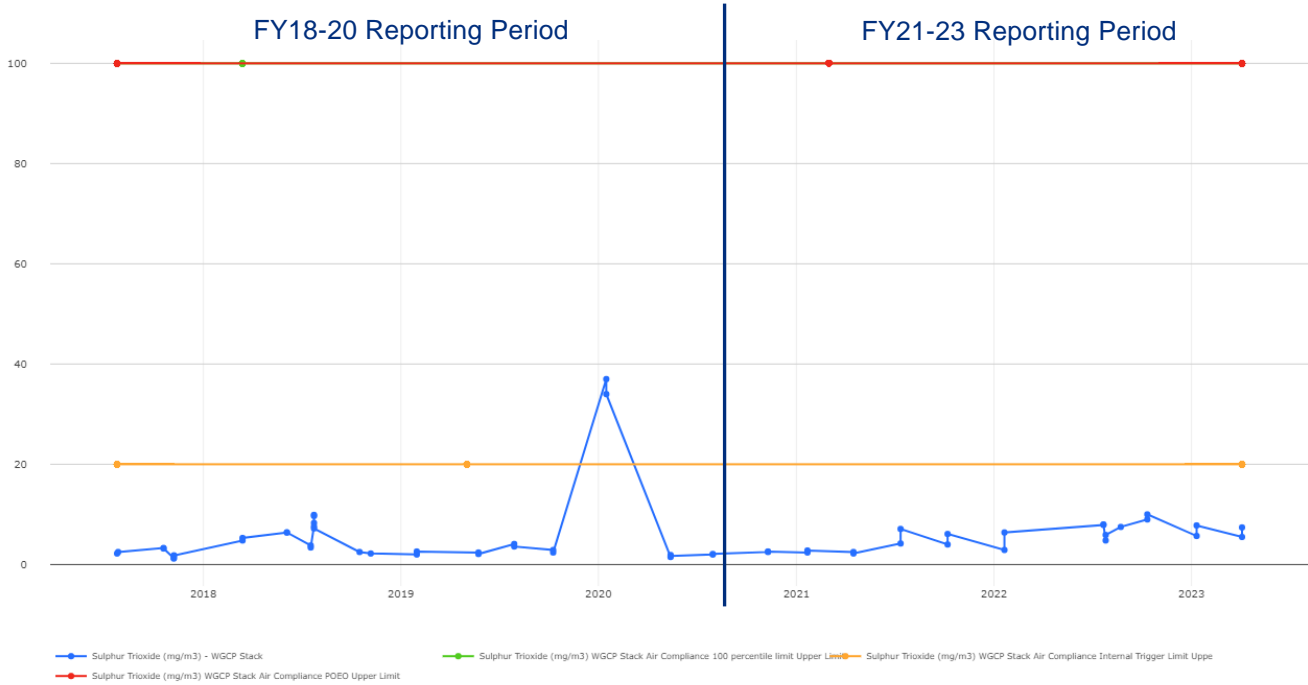


Sulphur Dioxide (mg/m³)

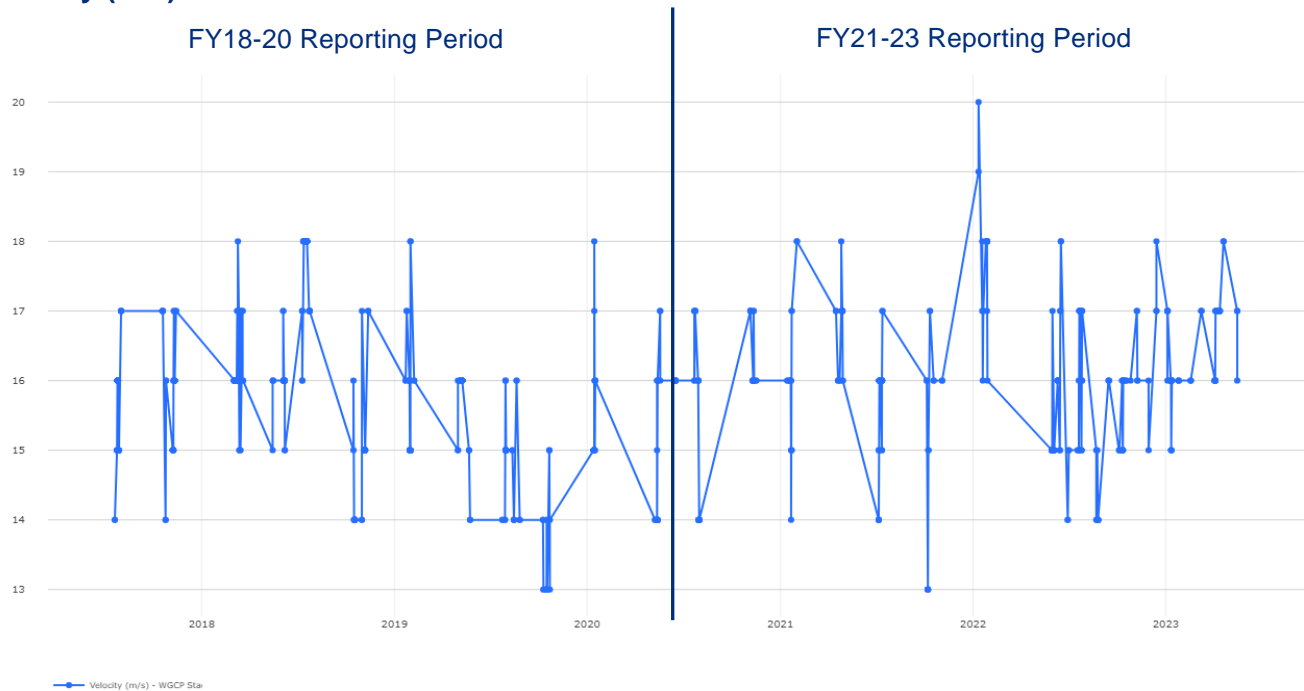




Sulphuric Acid Mist and Sulphur Trioxide (mg/m³)

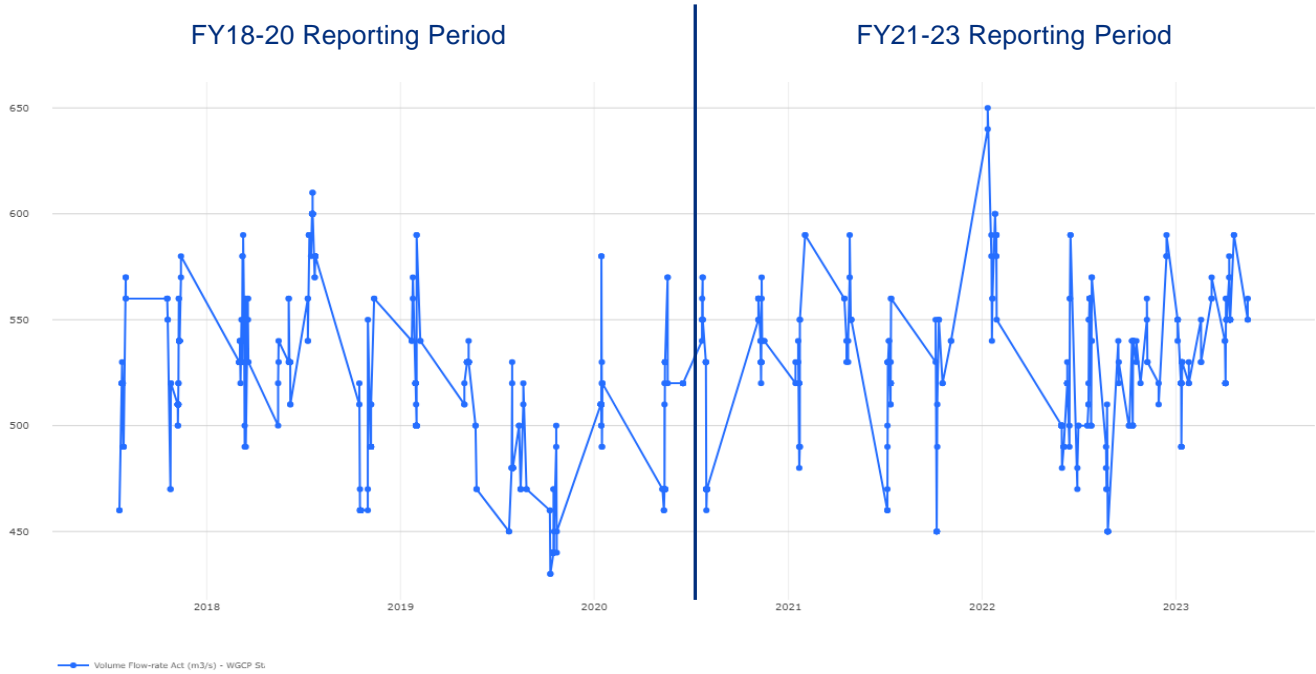


Velocity (m/s)





Volumetric Flow Rate (m³/s)



No.3 Sinter Machine Stack (EPL Point 151)

A planned bypass was undertaken to complete maintenance on the WGCP following a previous planned bypass in early 2020. During the bypass event, waste gas is discharged to EPL 6092 Point 151, No 3 Sinter Machine Stack, instead of the Waste Gas Cleaning Plant Stack (EPL 6092 Point 107).

Sample results collected during the bypass period 19 – 25 June 2021 are provided in Table 11.

Table 11 – No.3 Sinter Machine Stack Bypass Period

Pollutant	Unit	Monitoring frequency	No. of times measured	Min. Value	Mean Value	Max. Value	EPL 6092 100 Percentile Concentration Limit
Carbon dioxide	%	Weekly	4	6.8	7.1	7.4	-
Dioxins & Furans	ng/m ³	Special Frequency 12	4	0.1	0.11	0.14	0.3
Dry Gas Density	kg/m ³	Daily during testing	4	1.33	1.33	1.34	-
Flow	m ³ /s	Daily during testing	4	213	228	248	-
Hydrogen Chloride	mg/m ³	Weekly	1	36	36	36	-
Hydrogen Fluoride	mg/m ³	Weekly	1	5	5	5	-
Moisture content	%	Daily during testing	4	12.5	13.8	14.3	-
Molecular weight of stack gas	grams per gram mole	Daily during testing	4	29.8	29.9	29.9	-
Nitrogen Oxides	mg/m ³	Weekly	4	390	397	409	2000
Oxygen	%	Daily during testing	4	14.9	15.1	15.2	-
Solid Particles	mg/m ³	Weekly	1	12	12	12	20
Sulphuric acid mist and sulphur trioxide (SO ₃)	mg/m ³	Weekly	1	4.6	4.6	4.6	100
Sulphur dioxide	mg/m ³	Weekly	4	337	428	474	1000
Temperature	°C	Daily during testing	4	161	164	165	-
Velocity	m/s	Daily during testing	4	22.7	24.3	25.8	-
Volumetric flowrate	m ³ /s	Daily during testing	4	213	228	248	-
Type 1 Substances	mg/m ³	Weekly	1	0.14	0.14	0.14	-
Type 2 Substances	mg/m ³	Weekly	1	0.08	0.08	0.08	-

Note: **Special Frequency 12 means** "Daily at the commencement of the bypass and one sample every 2 days following confirmation that the first 3 daily sample results are less than the licence limit."



Type 1 Substance means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements.

Type 2 Substance means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements.

Appendix 3 – Water Quality Monitoring Data

Iron Making East Drain (Point 89)

No dry weather overflow events were recorded during the Reporting Period, therefore in accordance with condition M2.6 f), no samples were required to be collected for analysis.

Sample results collected during to non-compliance event are provided in Table 12.

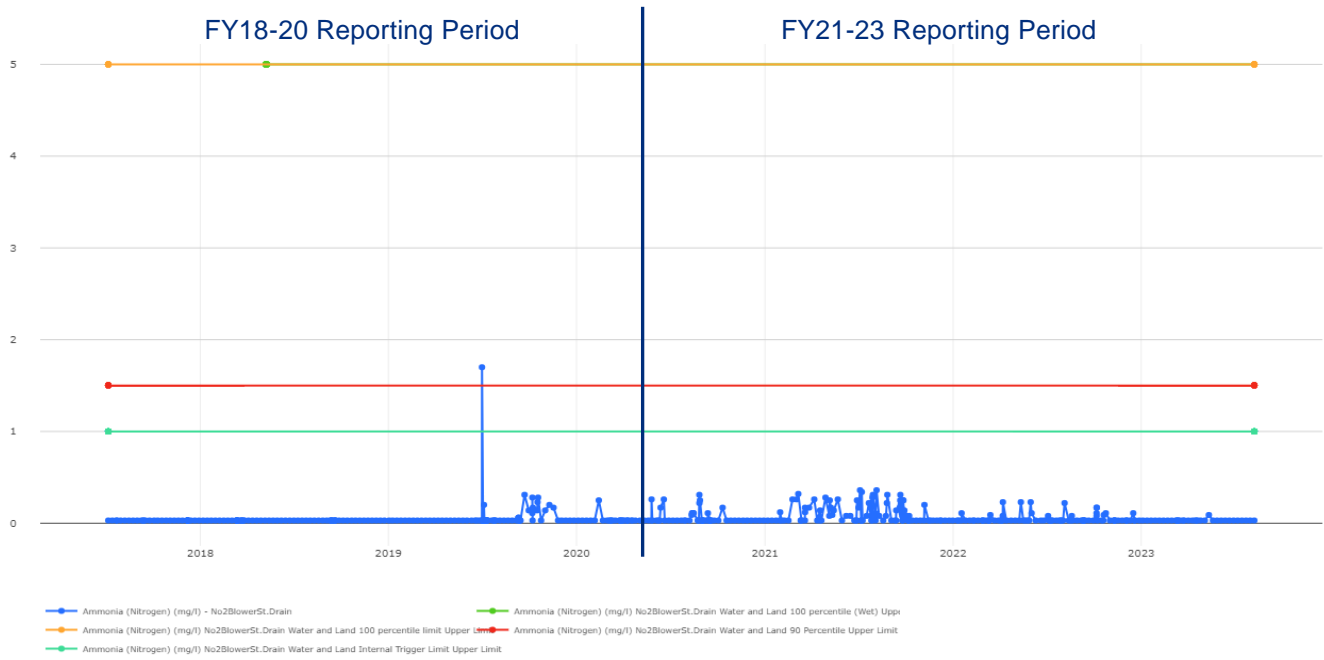
Table 12 - Ironmaking East Drain Non-Compliance Sampling Event

Pollutant	Units	Concentration	EPL 6092 100 Percentile Concentration Limit
Ammonia	mg/L	0.88	7
Arsenic	µg/L	<2.5	50
Cadmium	mg/L	0.012	0.05
Chromium	µg/L	<0.003	350
Copper	mg/L	<0.013	1
Cyanide	mg/L	0.009	0.2
Filterable Iron	mg/L	<0.013	0.5
Fluoride	mg/L	2.8	50
Lead	mg/L	<0.003	0.2
Mercury	µg/L	<0.20	3
Oil and Grease	mg/L	<5	20
pH		10.6	6.5-9.0
Selenium	µg/L	<2.5	20
Temperature	°C	26	45
Total Iron	mg/L	1.8	20
Total Zinc	mg/L	<0.125	3
Total Suspended Solids	mg/L	16	200

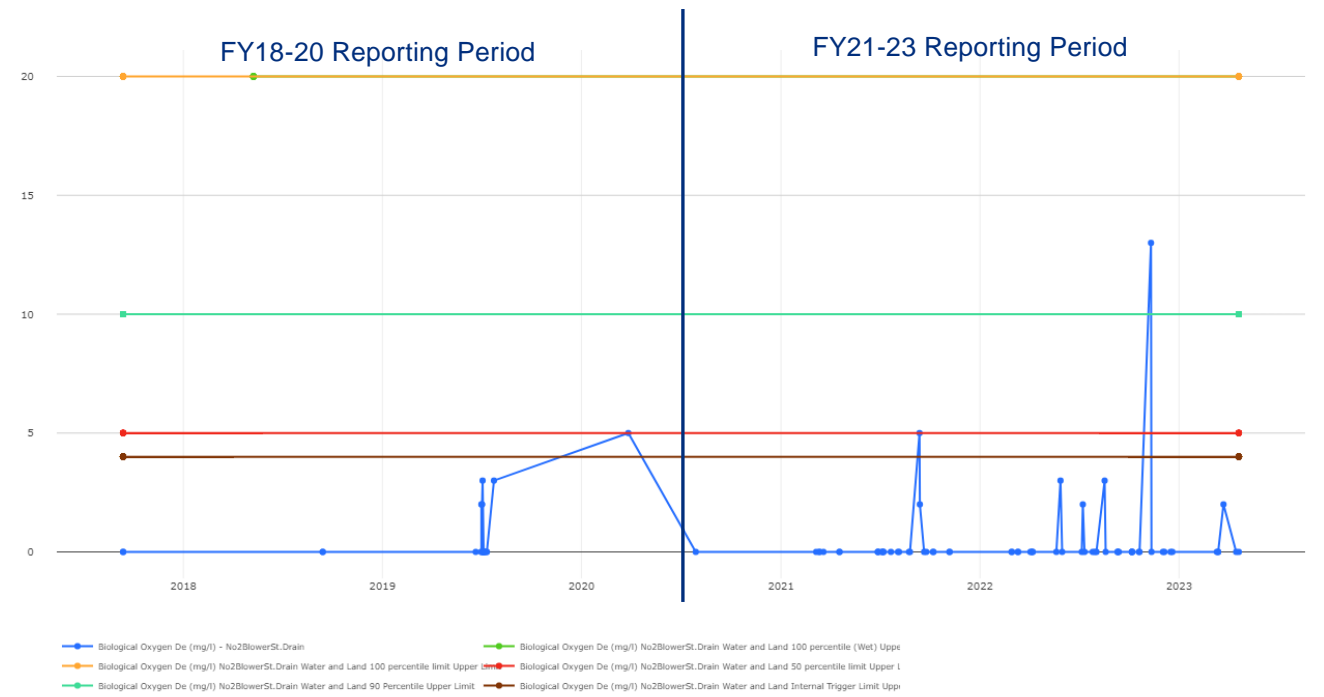


No.2 Blower Drain Station (EPL Point 79)

Ammonia (mg/L)

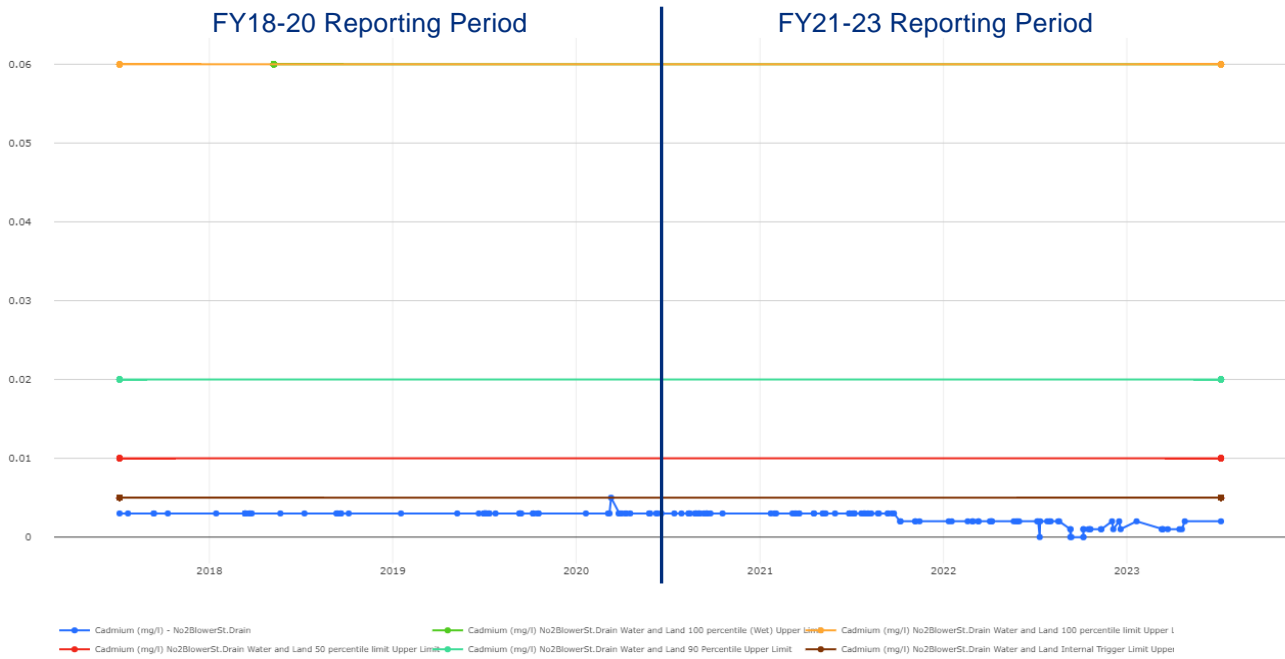


Biological Oxygen Demand (mg/L)

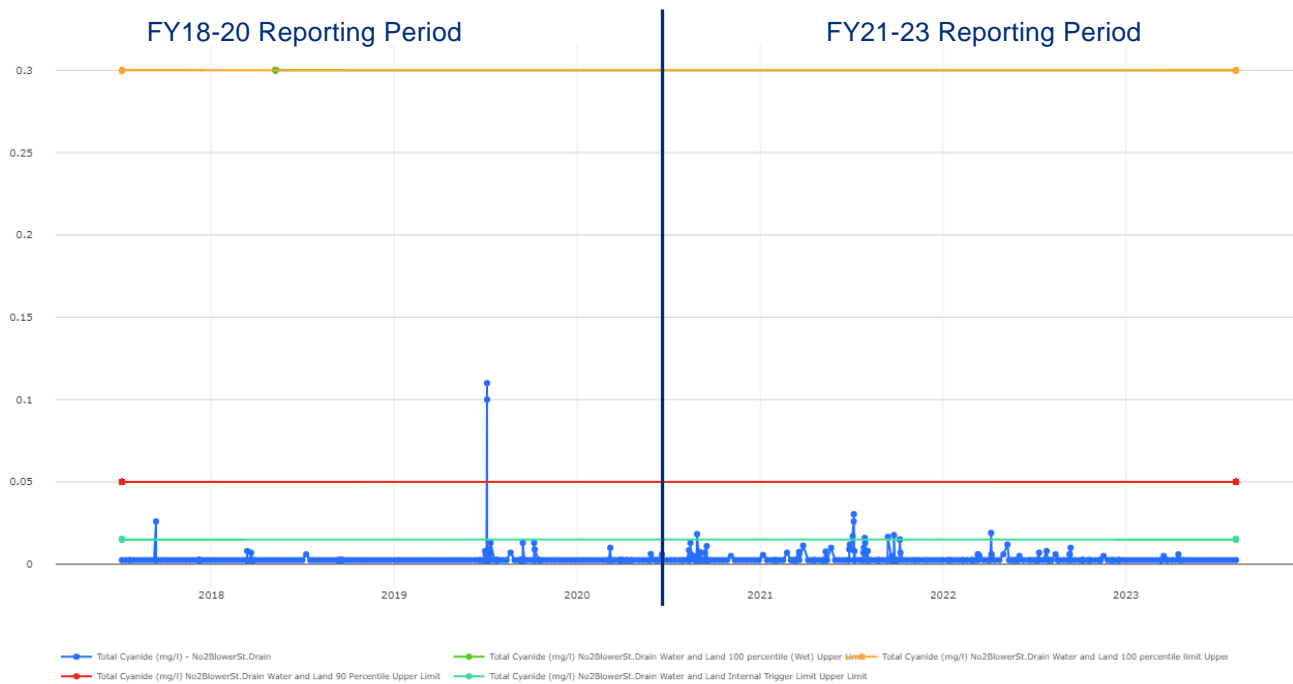




Cadmium (mg/L)

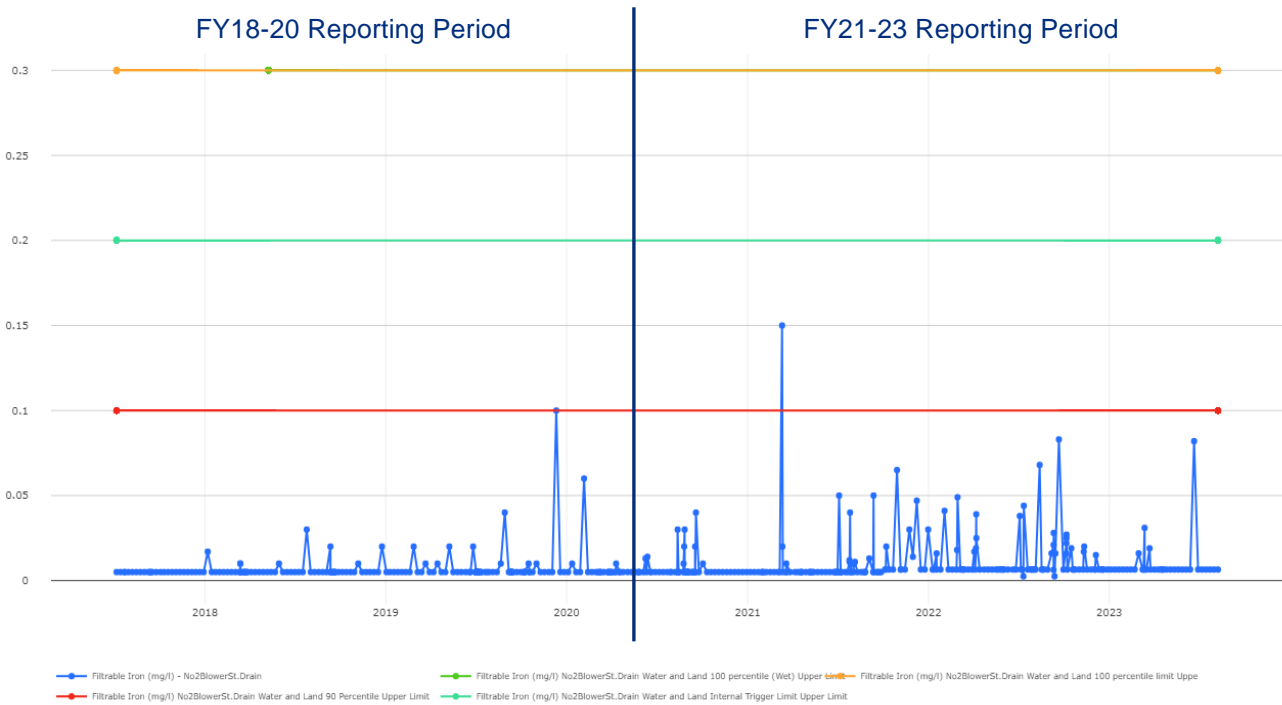


Cyanide (mg/L)

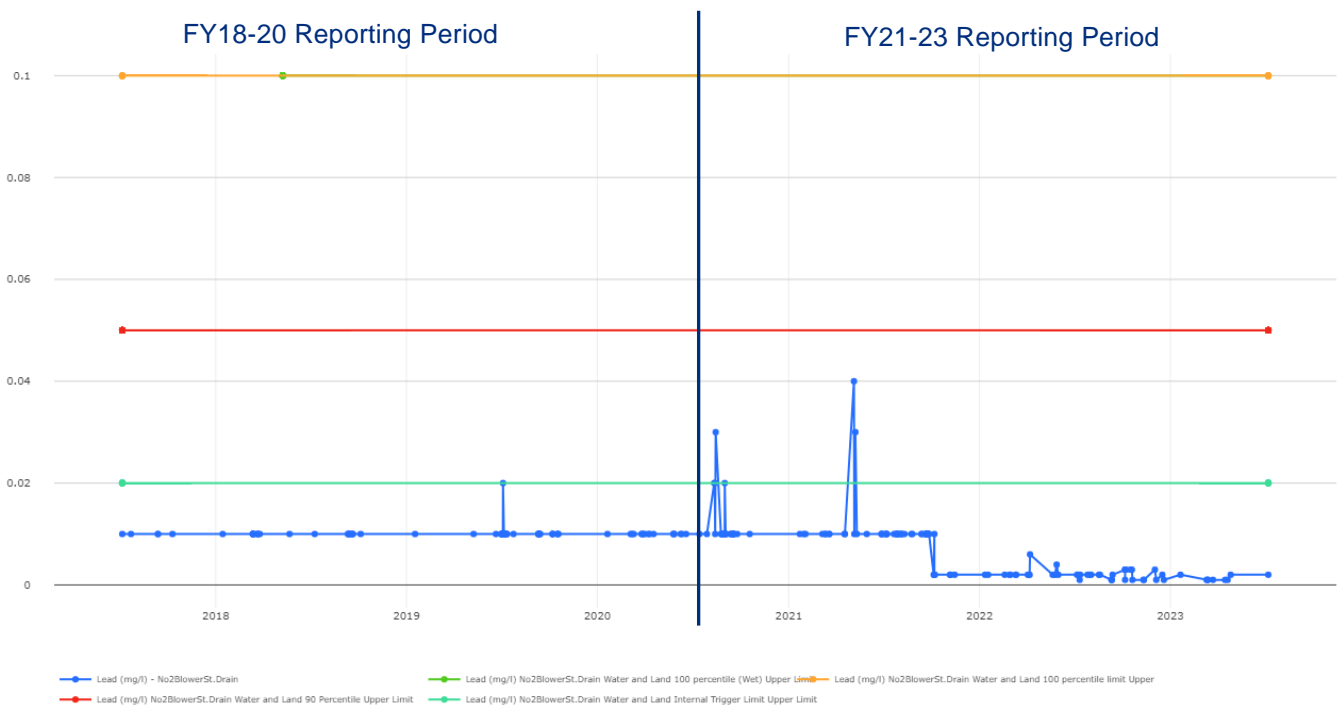




Filterable Iron (mg/L)

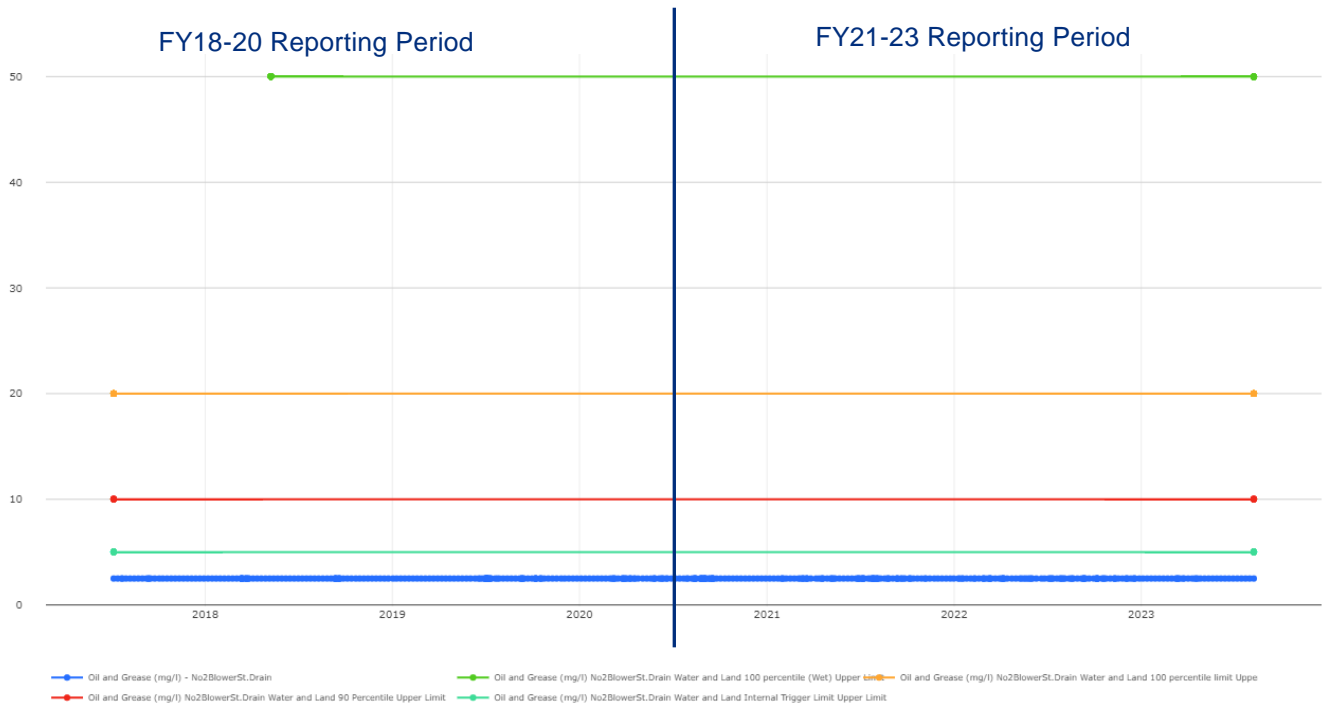


Lead (mg/L)

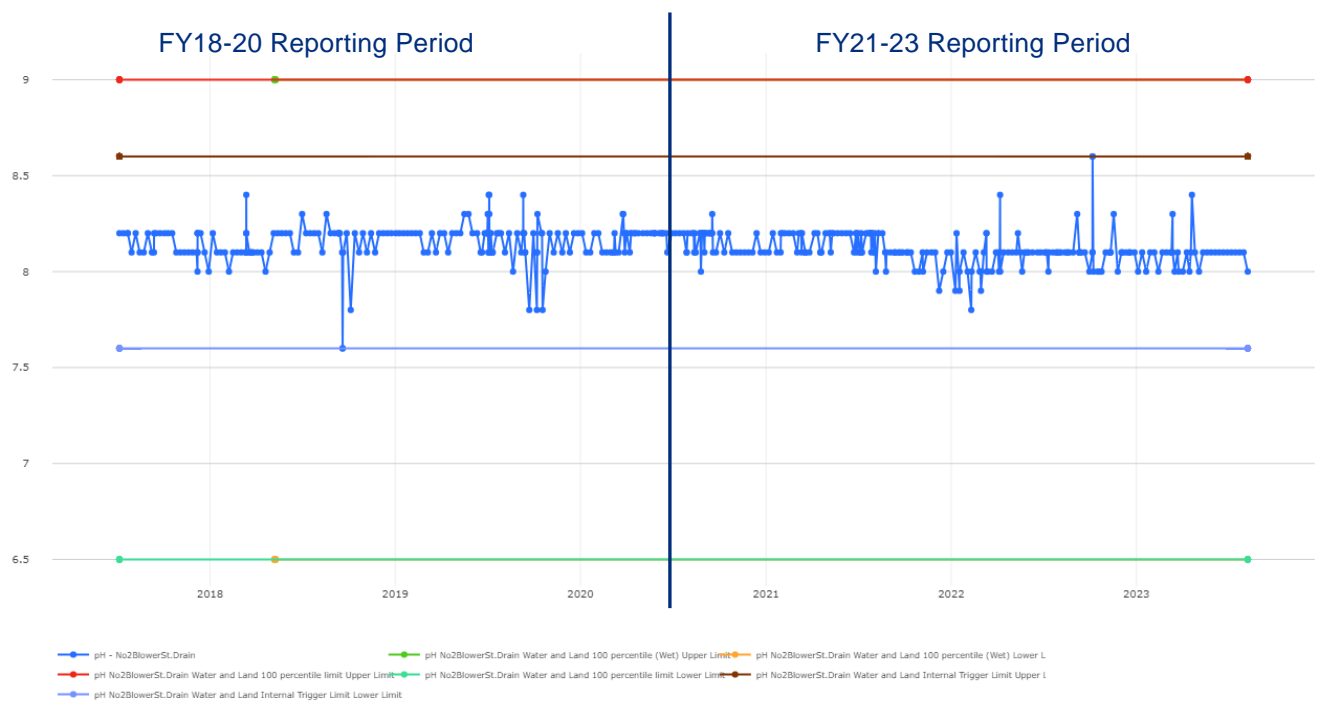




Oil & Grease (mg/L)

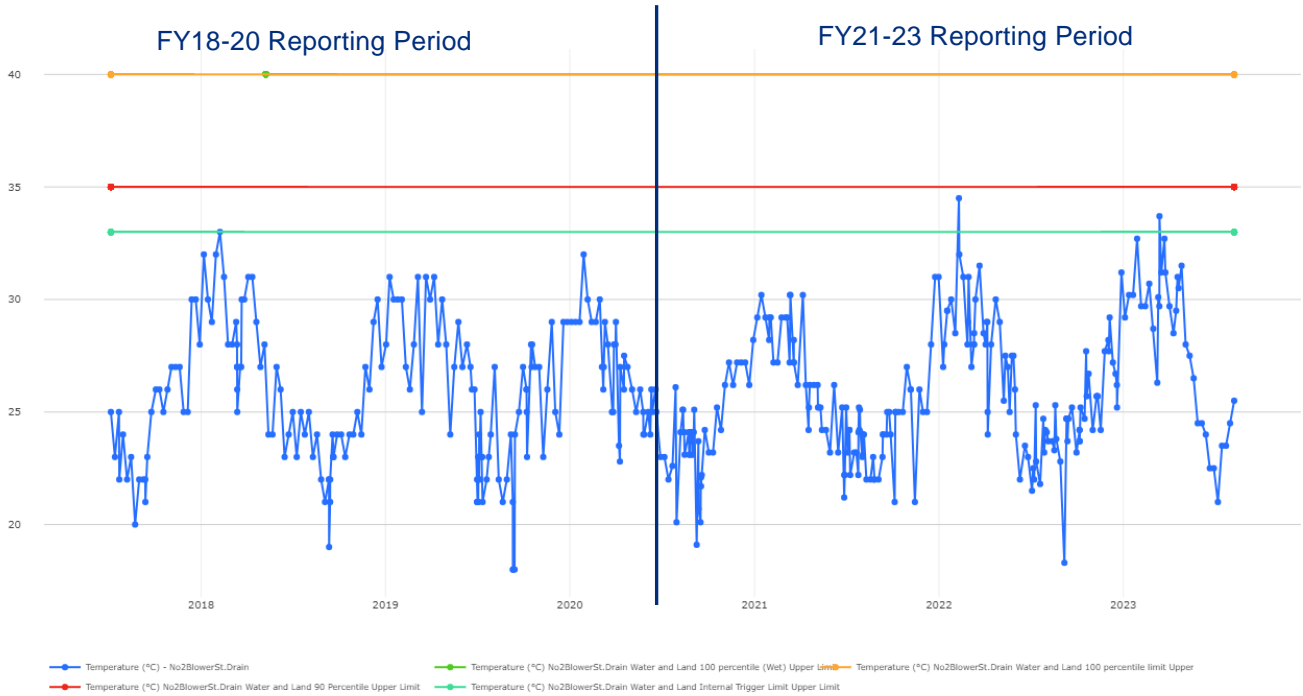


pH

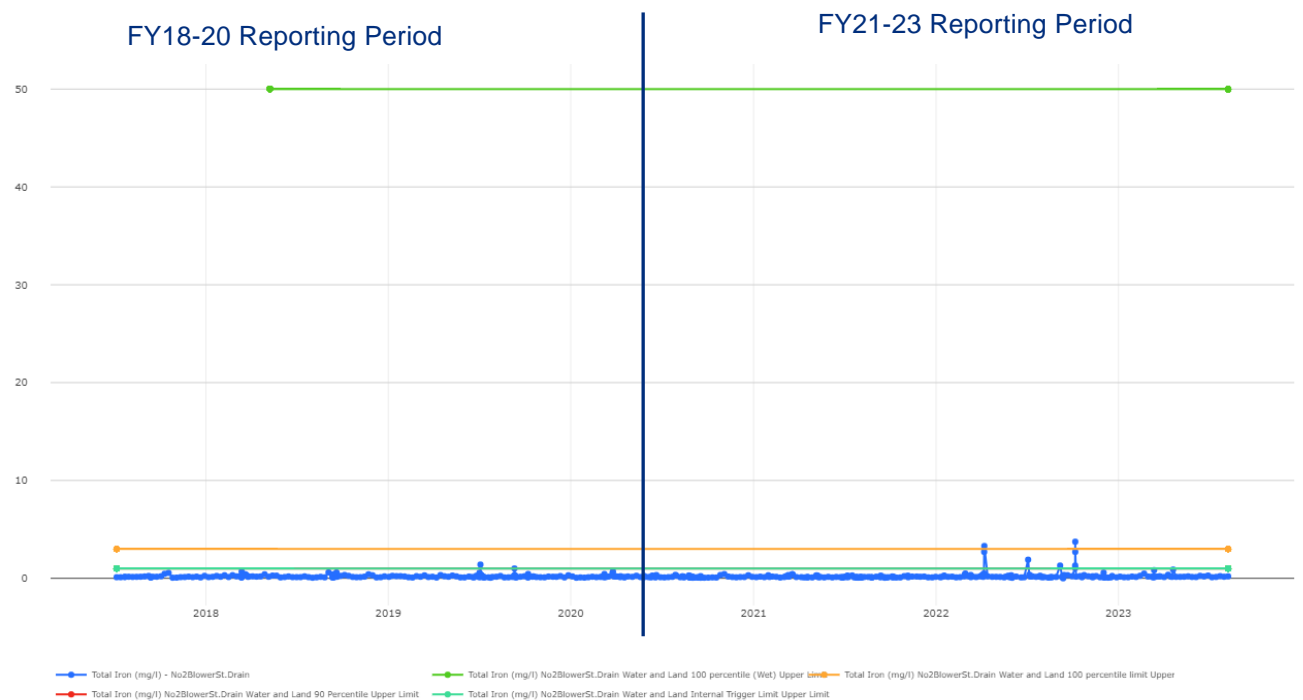




Temperature (°C)

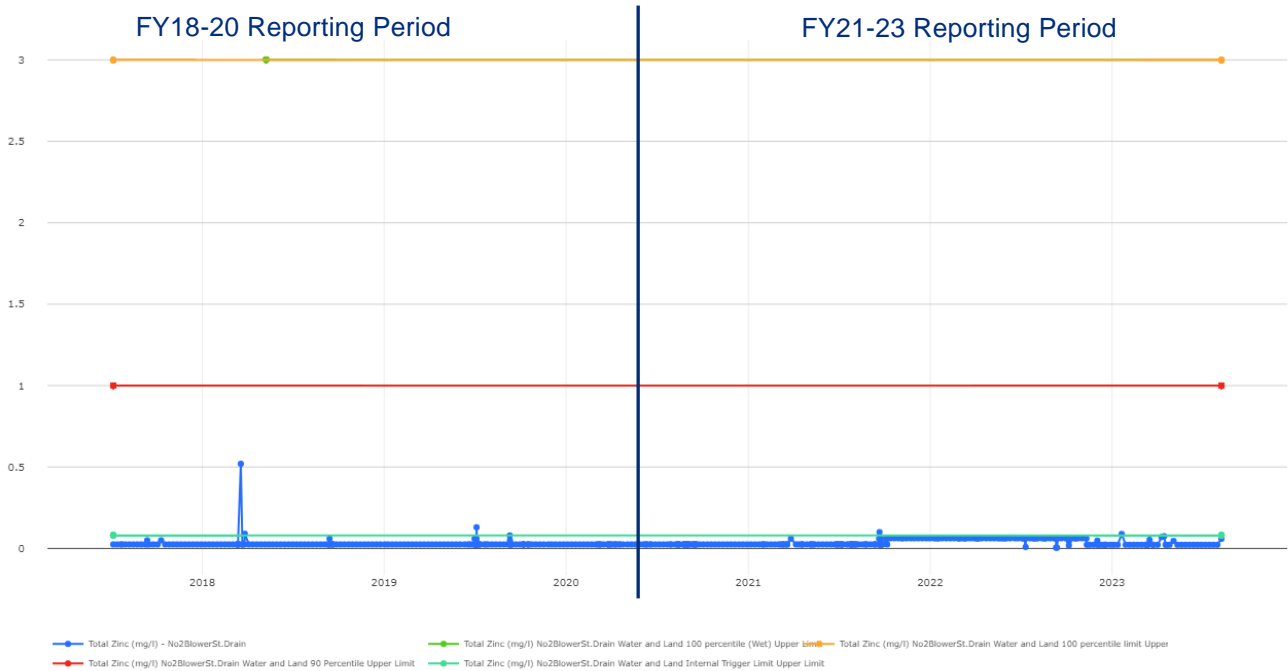


Total Iron (mg/L)





Total Zinc (mg/L)



Total Suspended Solids (mg/L)

