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23 October 2020

Director Industry Assessments
Department of Planning
Western Gallery
23-33 Bridge Street
SYDNEY NSW 2000
GPO Box 39 Sydney NSW 2001

Attention Mr Chris Ritchie

Dear Chris,

**BLUESCOPE STEEL (AIS) PTY LTD – SINTER PLANT WASTE GAS CLEANING PLANT,
GYPSUM PLANT AND ORE PREPARATION UPGRADE PROJECT ENVIRONMENTAL
MANAGEMENT REPORT**

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, Gypsum Plant and Ore Preparation Upgrade Project Triennial Environmental Management Report for the FY2018 – FY2020 period as required.

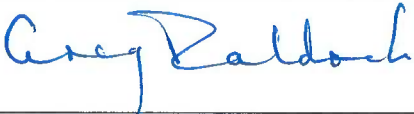
Should you have any questions in relation to the attached report, please contact Anita Rojas on (02) 4275 7522.

Yours sincerely,

A handwritten signature in blue ink that reads "Gregory Baldock".

Gregory Baldock
Acting Manager Cokemaking & Ironmaking
BlueScope Steel (AIS) Pty Ltd

Table 1 – Annual Review title block

| | |
|---|--|
| Name of operation | BlueScope Steel Sinter Plant Waste Gas Cleaning Plant; Gypsum Plant; and Ore Preparation Upgrade Project |
| Name of operator | BlueScope Steel |
| Development consent / project approval # | BlueScope Steel Sinter Plant Waste Gas Cleaning Plant (DA-26-02-01, MOD 2) Gypsum Plant (DA-26-02-01, MOD 50-4-2005-i) 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 2017 |
| Triennial Review end date | 30 June 2020 |
| <p>I, Gregory Baldock, certify that this audit report is a true and accurate record of the compliance status of BlueScope Steel Sinter Plant Waste Gas Cleaning Plant, Gypsum Plant and Ore Preparation Upgrade Project for the period 1 July 2017 to 30 June 2020 and that I am authorised to make this statement on behalf of BlueScope Steel.</p> <p><i>Note.</i></p> <p>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.</p> <p>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).</p> | |
| Name of authorised reporting officer | Gregory Baldock |
| Title of authorised reporting officer | Acting Manager Cokemaking and Ironmaking |
| Signature of authorised reporting officer |  |
| Date | 23/10/20 |

1 Statement of compliance

The Triennial Review verified that there have been 13 non-compliances recorded against requirements in the Sinter Plant Waste Gas Cleaning Plant and Ore Preparation Upgrade Project Development Consents during the reporting period.

A summary of non-compliance detail is presented in **Table 2** and **Table 3** that highlights the compliance status of the operation with its relevant Approval Conditions, as at the end of the Reporting Period.

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 Gypsum Plant (DA 26-02-01, MOD 50-4-2005-i) | No |
| BlueScope Steel Sinter Plant Ore Preparation Upgrade Project (MP 06-0229, MOD 1) | No |

Table 3 – Non-Compliances

| Relevant approval | Condition # | Condition description (summary) | Compliance status | Comment | Where addressed in Annual Review |
|----------------------|-------------|---|-------------------|--|----------------------------------|
| DA-26-02-01 MOD 2 | W-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 no standalone EMP for the WGCP. The required information is included in various documents. This CC was not verified in the IEA reports for 2013 and 2010 and no evidence could be found during the current (or previous) IEA to demonstrate that all documents constituting the EMP have been submitted to Council. It is reported in the 2014 Environmental Management Report that the Waste Management Plan and a Contingency Plan for environmental impacts were submitted to the Department of Planning in 2003 during construction of the plant. It is not clear if all documents constituting the EMP were made publicly available (e.g. during the construction / commissioning phases) and it does not appear to be included on the current website (The information on the current website appears to be for the OPUP only). | Page 19 |

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|---------------------------|--------|---|---------------|--|---------|
| DA – 26- 02- 01, MOD 2 | W-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. <i>Note: Normal operation excludes the first two-hours of operation following start up.</i> | Non-compliant | EPL # O4.16 is as follows: <i>The WGCP must be operated so that there are no visible emissions from the exhaust stack (Discharge Point 107) under normal operations. Compliance with this requirement is to be assessed against compliance with the EPL limit condition for Discharge Point 107 of 20 mg/Nm³ for particulate matter. Note: Normal operation excludes the first two hours of operation following start up.</i> Therefore, EPL # O4.16 is similar to CC # W-4.11 but adds a 20 mg/Nm ³ criterion for particulate matter to enable an assessment of 'visibility'. There has been only one report of a visible emission from the WGCP stack since the previous IEA in 2016. This complaint was initially received by the EPA, who then advised BSL. The complaint is recorded in the BSL and was also reported in the Community Consultative Committee minutes for 22-Mar-18. BSL's investigation revealed that the Continuous Emission Monitor (CEM) measurement was 3-5 mg/Nm ³ which is less than limit in the EPL (20 mg/Nm ³). | Page 20 |
| DA – 26- 02- 01, MOD 2 | O-2.2 | The Proponent shall design, construct, commission, operate and maintain the project in a manner that minimises or prevents the emission of dust from the site including windblown and traffic generated dust. <i>Note: EPL # O3.1 is as follows: Activities occurring at the premises must be carried out in such a manner that fugitive dust emissions from the activities are minimised.</i> | Non-compliant | During the site inspection on 1 March 2019, the Sinter Plant was observed to be maintained in a manner that minimises dust generation. For example: <ul style="list-style-type: none"> • Water carts were observed to wet down roads. • Roadways appeared to have been swept by the mobile sweepers, although some surface dust was evident. For example: <ul style="list-style-type: none"> • The roadway between the Sinter Plant offices and the Sinter Plant building did not appear to have been recently swept or wetted down • A truck was observed being loaded with waste material and some dust was evident on the roadway. Whilst it appeared to be at the lower end of the Dust Emission Ranking (DER) system in the FDMS (i.e. DER < 3), it did not appear to have been recently wetted down or swept (although the nearby road appeared to have been). • Although there was some dust observed inside the Sinter Plant building, this building is vented to the Sinter Machine Room Dedusting System. • There we no obvious dust emissions from plant or equipment at the Sinter Plant outside the main building. | Page 21 |

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|------------------------|--------|--|---------------|---|---------|
| DA – 26- 02- 01, MOD 2 | W-4.30 | The premises and activities carried out therein must not pollute surface or groundwater except as specified in the EPL for the premises. | Non-compliant | The EPL includes requirements for a Groundwater Monitoring Program; however, this does not appear to relate to the Sinter Plant (Including WGCP and Gypsum Plant). The stormwater / process water collection / treatment facilities for the Sinter Plant (including the IMED) were observed during the site inspection on 1 March 2019 and no deficiencies were observed. Operational areas (including roadways) appeared to be sealed and DGs were stored in bunded areas, thereby limiting the potential for pollution of groundwater. This CC has been assessed as 'Non-Compliant' due to the exceedance of the limit for total iron at EPL Point 89 (IMED). A recommendation has not been included as no further exceedances have been recorded since July 2016 and the subsequent completion of the IMED Drainage Diversion Project (PRP 176) is expected to mitigate similar incidents | Page 21 |
| DA – 26- 02- 01, MOD 2 | W-4.31 | The Applicant shall ensure that all licensed 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 | This CC has been assessed as 'Non-Compliant' due to the exceedance of the limit for total iron at EPL Point 89 (IMED). A recommendation has not been included as no further exceedances have been recorded since July 2016 and the subsequent completion of the IMED Drainage Diversion Project (PRP 176) is expected to mitigate similar incidents. | Page 22 |
| DA – 26- 02- 01, MOD 2 | O-2.12 | 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 | Section 120 of the POEO Act relates to the prohibition of the pollution of waters and a person who pollutes any waters is guilty of an offence. As at 17 April 2019, the website was observed to include monthly reports for April 2012 to February 2019. These reports indicate compliance with the EPL discharge limits at EPL Point 89 (IMED) except for one exceedance of the total iron limit (maximum reading of 50 mg/l) in July 2016. This exceedance was attributed to the unblocking of two stormwater drains which resulted in increasing stormwater flows into these drains and the discharge of water with elevated iron levels into the IMED. BSL advised that this incident did not result in any discolouration, and/or contribute to environmental harm, in the Port Kembla harbour receiving waterway. | Page 22 |

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|---------------------------|--------|--|---------------|--|---------|
| DA – 26- 02- 01, MOD 2 | W-4.45 | All chemicals being transported to the site must follow the route set out in the SEE. | Non-compliant | <p>It is identified in the 2016 IEA that the route specified in the 'Loading of Ammonia from Road Tanker' procedure did not appear to match the route specified in the 2002 transport study (which was supplied by BSL as defining the route set out in the SEE – Since the SEE was not provided, it is not clear if this transport study is consistent with the SEE) and that the route specified in the transport study pre-dates the construction of the M7, which appears to be used by Ammonia tanker drivers.</p> <p>BSL confirmed that there is still an inconsistency between the routes used and those specified in the SEE.</p> <p>This was identified as a low risk non-compliance in the 2016 IEA since following main roads such as the M7 rather than the more populated Cumberland Highway would be expected to be preferable for the transport of ammonia.</p> | Page 23 |
| DA – 26- 02- 01, MOD 2 | W-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 | <p>As there is some uncertainty regarding the transport of chemicals to the site (Refer to CC # W-4.46), it would also be appropriate for BSL to ensure compliance with the transport routes for non-liquid waste leaving the site.</p> | Page 23 |
| DA – 26- 02- 01, MOD 2 | W-4.47 | <p>The developer must ensure that sufficient parking is provided on site for all vehicles associated with the construction and operation of the plant.</p> <p>No vehicles associated with the proposed development are to park along Christy Drive or Old Port Road.</p> | Non-compliant | <p>BSL advised that two additional car parks were provided outside the Sinter Plant Administration Building to ensure sufficient parking is available for contractors and BSL employees.</p> <p>However, vehicles are still parked near the gate on Christy Drive. It is unclear whether the restriction on parking along Christy Drive 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> | Page 23 |

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|---------------------------|-------|--|---------------|---|---------|
| DA – 26- 02- 01, MOD 2 | W-7.7 | Within 2 months of commissioning the audit, the Applicant must submit a copy of the audit report to the Secretary. After reviewing the report, the Secretary may require the Applicant to address certain matters identified in the report. The Applicant must comply with any reasonable requirements of the Secretary. | Non-compliant | The previous IEA was undertaken in 2016. It is noted in the acceptance letter from the DP&E for previous IEA (letter dated 5-Aug-16, copy provided) that the report was submitted to the Department on 16 June 2016, which was not within 2 months of the first day of the site visit (8-10 and 24 March 2016). This was noted as being non-compliant with this CC. No action was proposed by the DP&E. It is also reported in the letter from the DP&E that: "A review of the BlueScope Steel website could not locate the documents as required by Condition 5.4 of PA 06_0229 MOD1. It is requested that the documents as required by this condition are uploaded to the website by 30 August 2016, with a link being provided by email to the Department confirming that this has been completed". The letter from BSL to DP&E (dated 24-Aug-18) was provided to confirm that this information was uploaded to the website (https://www.bluescopeillawarra.com.au/environment/reporting-on-performance/sinter-plant-ore-preparationupgrade/) by the due date (Note: CC # 5.4 refers to the OPUP project). | Page 24 |
| MP 06-0229, MOD 1 | O-4.2 | Within three months of commissioning this audit or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report. | Non-compliant | The previous IEA was undertaken in 2016 and included BSL's initial response to the recommendations. It is noted in the acceptance letter from the DP&E for previous IEA (letter dated 5-Aug-16, copy provided) that the report was submitted to the Department on 16 June 2016. This was not within 3 months of the first day of the site visit (8-10 and 24 March 2016). The status of the corrective actions identified in the 2016 IEA is reported in Section 4.3.5. | Page 24 |
| MP 06-0229, MOD 1 | 2.1 | 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 | On 23 May 2018 solid particulate matter results of 25mg/m ³ and 28mg/m ³ were recorded, exceeding the Licence limit of 20mg/m ³ at the No 3 Sinter Machine Stack (Point 151). | Page 24 |

| | | | | | |
|-------------------|-----|---|---------------|--|---------|
| MP 06-0229, MOD 1 | 2.1 | 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 | On six occasions between 26 March and 28 April 2020 the dioxins and furans limit of 0.3ng/m ³ specified in the Licence was exceeded at the No 3 Sinter Machine Stack (Point 151). | Page 25 |
|-------------------|-----|---|---------------|--|---------|

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: 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: 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

The Ore Preparation Department is a section of the Ironmaking Business Unit of BlueScope Steel located at Port Kembla. It is responsible for the processing of iron ore and fluxes to provide the Blast Furnace with required feed for iron production.

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);
- Gypsum Plant (DA 26-02-01, MOD 50-4-2005-i); 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 OPERATIONAL AREAS & GEOGRAPHICAL LOCATIONS

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 Attachment 1.

Table 4 – Contact Details of BlueScope Steel Personnel Responsible for Environment Management of the Operations

| CONTACT | POSITION | CONTACT No. |
|--------------------|--|-------------|
| Mr. David Scott | 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 environment monitoring report are:

SINTER PLANT WASTE GAS CLEANING PLANT – (DA 26-02-01 MOD2)

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 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 7th 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 (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.

GYPSUM PLANT – (DA 26-02-01 MOD 50-4-2005-i)

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 at the existing Sinter Plant, based on a moving packed char (carbon) bed. Modification of the Development Consent to permit the construction and operation of a Gypsum Plant to treat sulfur rich gas from the Waste Gas Cleaning Plant, 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).

ORE PREPARATION UPGRADE PROJECT (MP 06-0229 MOD1)

Development approval was granted by the Minister for Planning on 3 July 2007 to upgrade and increase in the production capacity of the Sinter Plant from 5.5 million tonnes to 6.6 million tonnes per annum. The upgrade to the Sinter Plant includes construction of new infrastructure to improve operational efficiencies. 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

The Sinter Plant Waste Gas Cleaning Plant Development Consent (DA 26-02-01, MOD 2) and the Gypsum Plant (DA 26-02-01, MOD 50-4-2005-i) do not include any approved production limits.

The Ore Preparation Upgrade Project (MP 06-0229 MOD 1) provided approval to increase in the production capacity of the Sinter Plant from 5.5 million tonnes to 6.6 million tonnes per annum. It should be noted since 2011 the Sinter Plant has consistently operated below 4MT/a. This is significantly less than pre-OPUP prediction levels.

Annual Sinter production rates did not exceed the 6.6 million tonnes per annum limit.

Sinter production rates over the Reporting Period are as follows in Table 5:

Table 5 – Sinter production rates

| FY Period | Sinter Production (t Sinter/yr) |
|------------------|--|
| FY18 | 3,785,594 |
| FY19 | 3,827,763 |
| FY20 | 3,630,905 |

On 14 December 2018, the Ammonia Plant at the Waste Gas Cleaning Plant was decommissioned. This plant was installed to reduce NO_x emissions and char consumption through selective catalytic reduction and reduced chemical decomposition respectively. Several conditions relating to the storage and handling of anhydrous ammonia are included in Section 5 of DA 26-02-01, MOD 2.

Studies since 2009 concluded that the benefits expected from ammonia injection were not being realised, with NO_x emissions and char consumption rates indistinguishable when comparing periods of the ammonia plant online and offline. Though decommissioned, the plant has not been disassembled allowing restart in the future if required. For this reason, no modifications to existing DA conditions are required.

Notification of decommissioning was supplied to the EPA. This can be viewed in Attachment 2.

During the Reporting Period, the WGCP was bypassed on two occasions. On 21 May 2018 hotspots detected in the WGCP adsorbers resulted in an unplanned bypass for a duration of 7 days. Between 18 February to 2 May 2020 a planned bypass was undertaken to perform maintenance on the WGCP. During these bypass events, waste gas is discharged to EPL Point 151, No 3 Sinter Machine Stack, instead of the Waste Gas Cleaning Plant Stack (EPL Point 107).

5 Actions required from previous Review

The previous Triennial review in 2017, referenced a number of Corrective Actions resulting from an Independent Environmental Audit (IEA) undertaken in 2016. No additional actions were noted in the previous Review.

The status of corrective actions from the 2016 IEA review conducted by ARRISCAR Risk Engineering Solutions is presented in Table 6. One action remains outstanding and has been addressed in the most recent IEA conducted in 2019.

Table 6 – Status of Actions from the 2016 IEA Review conducted at the Sinter Plant Waste Gas Cleaning Plant, Gypsum Plant and Ore Preparation Upgrade Project.

| Action No. | Corrective Action Description | BSL Response & Proposed Action Plan | Current Status |
|------------|---|---|---|
| 2016/1 | BSL should locate the construction certificate for the WGCP and to ensure it is available for future reference. (Refer to Section 7.1 - Table 10 - A.5 Structural Adequacy, CC # W-1.5). | Copy of WGCP Construction Certificate will be obtained from M. Russell and be stored into Ore Preparations Environmental Management Systems. Who: M. Russell / L. Zammit / D. Jones - When: 30/08/2016 | The WGCP Construction Certificate has been obtained from M. Russell and has been stored into Ore Preparations Environmental Management Systems. Completed |
| 2016/2 | BSL should locate the occupation certificate for the WGCP and to ensure it is available for future reference. (Refer to Section 7.1 - Table 10 - A.5 Structural Adequacy, CC # W-1.6). | Copy of WGCP Occupation Certificate will be obtained from M. Russell and be stored into Ore Preparations Environmental Management Systems. Who: M. Russell / L. Zammit / D. Jones - When: 30/08/2016 | Copy of WGCP Occupation Certificate has been obtained from M. Russell and stored into Ore Preparations Environmental Management Systems. Completed |
| 2016/4 | BSL should locate the wind load design records for the WGCP and ensure these are available for future reference. (Refer to Section 7.1 - Table 10 - A.5 Structural Adequacy, CC # W-1.8). | Copy of WGCP Wind Load records will be obtained from M. Russell and be stored into Ore Preparations Environmental Management Systems. Who: M. Russell / L. Zammit / D. Jones - When: 30/08/2016 | A copy of WGCP Wind Load records has been obtained from M. Russell and stored into Ore Preparations Environmental Management Systems. Completed |
| 2016/5 | Information relating to 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). (Refer to Section 7.1 - Table 10 - B.2 Environmental Management Plan, CC # W-3.3). | WGCP Environmental details will be made publicly available on the BSL in the Illawarra website. Who: L. Zammit When: 30/08/2016 | WGCP Environmental details are now publicly available on the "BSL in the Illawarra" website address - https://www.bluescopeillawarra.com.au/ Completed |

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|---------|--|--|--|
| 2016/6 | Information relating to the OPUP should be made publicly available (e.g. on a public website) as required by the relevant condition of development consent (Refer to CC # O-5.4). (Refer to Section 7.1 - Table 10 - C.1 Provision of Information, CC # O-5.4). | OPUP Environmental details will be made publicly available on the BSL in the Illawarra website. Who: L. Zammit When: 30/08/2016 | OPUP Environmental details are now be made publicly available on the "BSL in the Illawarra" website address - https://www.bluescopeillawarra.com.au/ Completed |
| 2016/7 | The telephone number and postal address for receiving complaints should be displayed near the entrance to the site, in a position visible from the nearest public road. (Refer to Section 7.1 - Table 10 - C.2 Systems for Receiving Complaints and Enquiries, CC # W-4.55 and O-5.2). | Signage will be designed and installed at major entrances to the Ore Preparations facility to denote "the telephone number and address for receiving complaints" relevant to OPUP activities and equipment. Who: L. Zammit When: 30/08/2016 | Signage has been installed at major entrances to the Ore Preparations facility to denote "the Telephone No. and Address for receiving complaints" relevant to the SPWGCP, Gypsum & OPUP activities and equipment. Completed |
| 2016/8 | The roadway between the Sinter Plant offices and the Sinter Plant building should be routinely swept to minimize the generation of windblown and traffic generated dust. (Refer to Section 7.1 - Table 10 - E.5 Air Quality – Operations Phase, CC # O-2.2). | S. Kitanovski to ensure that roadway between the Sinter Plant offices and the Sinter Plant building is swept in accordance with routine sweeping schedules. Who: S. Kitanovski When: 30/08/2016 | This section of roadway was cleaned up immediately and is swept in accordance with routine sweeping schedules. Completed |
| 2016/9 | BSL should ensure compliance with the transport routes set out in the SEE for: (i) chemicals transported to the site (CC# W-4.45); and (ii) non-liquid waste from the site (CC # 4.46). Alternatively, BSL should seek approval for alternative routes to be followed. (Refer to Section 7.1 - Table 10 - E.16 Roads and Traffic, CC # W-4.45 and W-4.46). | BSL Ore Preparations to verify with contractor drivers with transport routes set out in the SEE for: • chemicals transported to the site (CC # W-4.45); and • non-liquid waste from the site (CC # 4.46). If it is established that these routes have varied over the years, then BSL should seek approval from the DPE for alternative routes to be followed. Who: M. Walsh When: 30/08/2016 | Follow up discussions with IXOM Pty. Ltd representatives has verified that RIVET Pty. Ltd sub-contractor chemical delivery drivers are following the routes specified in the SEE for the delivery of chemicals to the Sinter Plant. Completed |
| 2016/10 | It was observed during the site visit that some vehicles were 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 | BSL Environmental Advisor to clarify compliance requirements with DPE in order to ensure that future compliance requirements will be met. Who: L. Zammit When: 30/09/2016 | BlueScope advises that this development consent condition mainly related to vehicle interaction at the Christy Drive Carpark during the period of construction of the SP WGCP. The Christy Drive Carparking is a shared area that is visited by BlueScope employees, contractor employees and members of the Community. Compliance with this condition is therefore impractical. |

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| | restriction. This should be raised with the DP&E and resolved accordingly. (Refer to Section 7.1 - Table 10 - E.16Roads and Traffic, CC # W-4.47). | | BSL seeks clarification from the DPE on whether the requirements of this condition are still required, with the view of seeking approval from the DP&E to delete / modify this development consent condition in future. Outstanding |
| 2016/11 | BSL should ensure debris near the drain at the Gypsum storage area is routinely maintained (or investigate alternative solutions to limit discharge of debris to the drainage system). (Refer to Section 7.3 – Table 12, ID#1). | BSL Ore Preparations to ensure that fugitive dust / debris near the drain at the Gypsum storage facility is cleaned up and routinely maintained in future. Who: D. Cowgill When: 30/08/2016 | The debris near the drain at the Gypsum storage area has been cleaned up. This area is routinely inspected and maintained to eliminate / minimize spillages to ground. Completed |
| 2016/12 | BSL should inspect all bags of spent char stored on site. Any leaking bags should be repacked / repaired to ensure spent char is not discharged to the site drainage system. (Refer to Section 7.3–Table,12, ID#2). | BSL Ore Preparations to ensure that any spillage from leaking bags of spent char is cleaned up and that in future any leaking bags should be repacked / repaired to ensure spent char is not discharged to the site drainage system. Who: D. Cowgill When: 30/08/2016 | The spillage from the broken bags was cleaned up. Spent char bags are routinely inspected and maintained to eliminate / minimize spillages to ground. Completed |
| 2016/13 | The leaking valve at the Gypsum Plant should be repaired. (Refer to Section 7.3 – Table 12, ID # 3). | This valve has been repaired. Who: H. Dux When: 10/06/2016 | This valve has been repaired. Completed |
| 2016/14 | The alkaline liquid in the bund at the Waste Water Plant should be removed as soon as practicable. (Refer to Section 7.3 – Table 12, ID # 4). | BSL Ore Preparations to arrange to extract the alkaline liquid out of the bunded area. Who: M. Walsh When: 30/06/2016 | The alkaline liquid has been extracted out of the bunded area. Completed |

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| 2016/15 | BSL should ensure sandbags used to limit discharge of particulates to the drains are routinely maintained (or investigate alternative solutions to limit discharge of particulates to the drainage system). (Refer to Section 8 – Table 13, ID # W3 (ANC). | <p>BSL Ore Preparations to arrange to have these sandbags taken away from internal drains.</p> <p>All local stormwater discharges collected from drains around Ore Preparations Sinter Plant are diverted into No.4 thickener for process water treatment prior to discharge into Port Kembla Harbour.</p> <p>Sandbags were damaged as they had been permanently placed around drains exposing them to weathering and being driven over by vehicles on site. In future sandbags will be placed around internal drains only as a control to minimize ingress of liquid discharges resulting from process water discharges e.g. prevention of spills, leakages and/or water cleaning activities.</p> <p>Who: T. Bates When: 30/08/2016</p> | <ul style="list-style-type: none"> • Sandbags were damaged as they had been permanently placed around drains exposing them to weathering and being driven over vehicles on site. • Sandbags are now only placed around internal drains as a control to minimise ingress of liquid discharges resulting from process water discharges. <p style="text-align: center;">Completed</p> |
| 2016/16 | 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. O4.17. This inconsistency should be resolved with the DP&E and EPA (e.g. by amending the relevant conditions). (Refer to Section 8 – Table 13, ID # W1 (OBS). | <p>BSL Environmental Department representatives will discuss this inconsistency between the SPWGCP DA Condition 4.11 and condition O4.17 of the BSL EPL 6092 licence with representatives of Wollongong branch of the Environmental Protection Authority and the DPE.</p> <p>Who: M. Imber / L. Zammit When: 30/10/2016</p> | <p>In accordance with the Licence (condition O4.16), the WGCP has been operated so that there are no visible emissions from the exhaust stack (Discharge Point 107) under normal operations. Compliance with this requirement is assessed against compliance with the EPL limit condition for Discharge Point 107 of 20 mg/Nm³ for particulate matter. Further, no complaints were received by BlueScope relating to the WGCP visibility during the Reporting Period.</p> <p style="text-align: center;">Completed</p> |
| 2016/17 | The No. 3 Sinter Machine Stack (EPL Pt 3) should be included in the Environmental Aspects and Impacts Register / MARS for the Sinter Plant. (Refer to Section 6). | <p>BSL Ore Preparations to update their Environmental Management Systems to include No.3 Sinter Machine Stack.</p> <p>Who: D. Jones When: 30/09/2016</p> | <p>Ore Preparations Environmental Aspects and Impacts have been transferred into the Managing All Risks (MARS) OHSE Management System. The No.3 Sinter Machine has been included into MARS OHSE system.</p> <p style="text-align: center;">Completed</p> |

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 DA 26-02-10 MOD 50-4-2005-I, and condition 7.2 of Development Consent MP 06-0229 MOD 1.

Operation of the WGCP has continued throughout the Reporting Period in accordance with the Consent and relevant conditions of Environment Protection Licence No. 6092 for the Port Kembla Steelworks (Licence). Operation of the WGCP will continue over the next three years in accordance with the Consent and Licence. No structural modification of the WGCP is currently proposed however, maintenance activities will be undertaken as noted in Section 12 of this Review.

Noise

Data obtained from noise monitoring during the Reporting Period is included as Attachment 3.

The monitoring requirements and concentration limits for the WGCP are specified in condition L6 of the Licence. 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.

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

Air Quality

Data obtained from air monitoring during the Reporting Period is included as Attachment 4.

Sinter Plant Waste Gas Cleaning Plant Stack – EPL 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 the Licence. Monitoring requirements were met and no exceedances of concentration limits occurred during the Reporting Period. Air monitoring results from the Reporting Period were broadly comparable with monitoring results from previous years. Since the WGCP commenced operation monitoring results show air emissions are consistently well below the concentration limits prescribed by the Licence.

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 Tables 7 and 8 below:

Table 7 – WGCP SO_x and NO_x Mass Emission Loads and Annual Reduction

| Sinter Production (t Sinter/yr) | FY Period | SO _x Mass Load Total (t SO _x /yr) | SO _x Mass Load Reduction from FY07 (t SO _x /yr) | NO _x Mass Load Total (t NO _x /yr) | NO _x Mass Load Reduction from FY07 (t NO _x /yr) |
|---------------------------------|-----------|---|---|---|---|
| 5,418,766 | FY07* | 3,227 | - | 3,281 | - |
| 3,785,594 | FY18 | 912 | 2,315 | 2,703 | 578 |
| 3,827,763 | FY19 | 1,515 | 1,712 | 2,805 | 476 |
| 3,630,905 | FY20 | 1,396 | 1,831 | 2,370 | 911 |

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

Table 8 – WGCP Dust and Dioxins Data during the Reporting Period

| Pollutant | Licence Limit | Minimum | Mean | Maximum | No. of samples |
|---|---------------|---------|--------|---------|----------------|
| Total Particulate Matter (mg/Nm³) | 20 | 2.0 | 7.0 | 14 | 54 |
| Dioxins and Furans (ng/Nm³, ITEQ) | 0.3 | 0.0045 | 0.0083 | 0.03 | 26 |

The SEE objective of reducing the visual impact of the gas plume from the stack, with the aim of no visible emissions, was not achieved. As noted in the 2019 IEA (Section 1, Table 3 of this report), a complaint to the EPA regarding a visible emission was reported on 1 December 2017.

EPL condition O4.16, states the WGCP must be operated so that there are no visible emissions from the exhaust stack under normal operations. Compliance with this requirement is to be assessed against compliance with the EPL limit condition for Discharge Point 107 of 20mg/Nm³ for particulate matter. As the particulate matter concentration was 3-5mg/m³ at the time the visible emission was observed, per the Licence conditions, the WGCP remained compliant with the Licence.

The disparity between the DA and Licence conditions was addressed in the 2019 IEA with a recommendation to align the two conditions (Table 9 Action Number 2019/2).

Sinter Machine Room Dedusting Stack – EPL 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, and no exceedances of concentration limits occurred during the Reporting Period.

Air monitoring results over the reporting period, were comparable with monitoring results from previous years.

No 3 Sinter Machine Stack – EPL 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 EPL 6092 conditions E5.5 and E5.6 of the Licence. No load limits exist for this emission point. Monitoring requirements were met throughout both bypass periods noting that dioxins analysis was planned for the 2018 bypass however, the WGCP was returned to service before this sampling occurred.

On 23 May 2018 solid particulate matter results of 25mg/m³ and 28mg/m³ were recorded, exceeding the Licence limit of 20mg/m³.

On six occasions between 26 March and 28 April 2020 the dioxins and furans limit of 0.3ng/m³ specified in the Licence was exceeded.

Exceedances are further discussed in Section 11 of this Review.

7 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.

A summary of water monitoring trends for the Reporting Period is presented in Attachment 5.

Ironmaking East Drain (IMED) – EPL 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. Monitoring requirements were conducted in accordance with Licence requirements.

No dry weather discharges occurred during the Reporting Period therefore compliance testing was not required to be undertaken.

No 2 Blower Station (2BS) Drain – EPL 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, and no exceedances of concentration limits occurred during the Reporting Period.

Water monitoring results over the reporting period, were comparable with monitoring results from previous years.

8 Rehabilitation

No rehabilitation applicable to the developments.

9 Community

As noted in Section 1 and Section 6 of this report, a complaint from the community was received by the EPA regarding a visible emission on 1 December 2017. The particulate matter concentration was 3-5mg/m³ at the time the visible emission was observed, thus emissions were in compliance with the Licence condition.

10 Independent Audit

Condition 7.6 of DA 26-02-01 MOD 2 and MOD 50-4-2005-i requires the undertaking of an Independent Environmental Audit 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 Independent Environmental Audit 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 covered the WGCP, Gypsum Plant and OPUP and was submitted to the Department on 6 May 2019 for the period 1 July 2016 to 30 June 2019. Non-compliances and corrective actions identified in the 2019 IEA have been addressed as part of this Review.

An Independent Environmental Audit was conducted by Mr. Phillip Skinner from ARRISCAR Risk Management Solutions, between 27 February and 1 March 2019 for the following facilities:

- Sinter Plant Emission Reduction Project (Waste Gas Cleaning Plant) as required by Condition 7.6 of Development Consent DA 26-02-01 (Issued 1 August 2001).
- Gypsum Plant in accordance with Condition 7.6 of DA 26-02-01 MOD 50-4-2005-I (Issued 22 September 2005); and
- Ore Preparation Upgrade Project as required by Condition 4.1 of Development Consent DA MP 06-0229 (Issued 3 July 2007).

BlueScope had received approval from the DPE on 21 December 2018 for Mr. Skinner to conduct the (IEA) audit. The next IEA audit to be conducted at the SPWGCP, Gypsum and OPUP will be conducted in 2022.

A summary of findings from the Compliance Assessment (*extracted from the ARRISCAR risk Management Solutions Audit Report Executive Summary– (Page 3)*) 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 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 complaints, other than one regarding a visible emission from the WGCP stack, for the Sinter Machine Emission Reduction Project (WGCP), Gypsum Plant and OPUP since the previous IEA in 2016.
 - Reporting of only two non-compliances relating to exceeding limits in the EPL since the previous IEA in 2016.
 - Programs being undertaken by BSL to reduce potential future impacts (i.e. Discontinuation of Ammonia Gas injection, completion of the IMED Drainage Diversion Project (PRP 176) and investigating the re-use of 'Activated Char Undersized' (ACU)).

Compliance Performance

- BSL has demonstrated proactive monitoring of compliance and active and open self-reporting of potential non-compliances to the regulatory authorities and to a community consultation panel.

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 status of corrective actions resulting from the IEA review conducted by ARRISCAR Risk Engineering Solutions is presented in Table 9. BlueScope began discussions with DPIE in November 2019 to address ongoing compliance to corrective actions as some actions were previously identified in the 2016 IEA. Follow up actions from this meeting are in progress.

Table 9 – Corrective Actions from 2019 Independent Environmental Audit

| Action No. | Corrective Action Description | 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>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. BSL would like to seek amendment to this consent condition from the Department of Planning and Environment.</p> <p>Assigned to: Anita Rojas and Natasha Porteous</p> <p>Timing to be agreed on with the Department of Planning and Environment.</p> | <p>As recommended in the 2019 IEA, BSL will seek an amendment to the condition for the WGCP and Gypsum Plant to be consistent with condition 6.3 of MP 06-0229 MOD 1 negating the requirement of a publicly available EMP, whilst ensure there is a requirement to maintain the environmental and safety management systems.</p> <p style="text-align: center;">Pending</p> |
| 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>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.</p> <p>Assigned to: Anita Rojas and Natasha Porteous</p> <p>Timing to be agreed on with the Department of Planning and Environment.</p> | <p>As discussed in Sections 1 and 6, a visible emission was reported on 1 December 2017.</p> <p>BSL intends to seek an amendment to this condition to align with the EPL condition.</p> <p style="text-align: center;">Pending</p> |
| 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>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> <p>Assigned to: Richard Lorenc</p> <p>Due: 24/10/2019</p> | <p>This section of roadway is swept in accordance with routine sweeping schedules. Sweeping activities were monitored and frequency found to be acceptable.</p> <p style="text-align: center;">Completed</p> |

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| 2019/4 | <p>BSL should ensure compliance with the transport routes set out in the SEE for: (i) <u>all</u> 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>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> <p>Assigned to: Anita Rojas and Natasha Porteous</p> <p>Timing to be agreed on with the Department of Planning and Environment.</p> | <p>Following the decommissioning of the ammonia plant, no ammonia is currently transported to the site. Considering 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 should the ammonia plant be brought back online.</p> <p>Pending</p> |
| 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>As per recommendation, BSL will seek clarity on this consent condition with the Department of Planning & Environment.</p> <p>Assigned to: Anita Rojas and Natasha Porteous</p> <p>Timing to be agreed on with the Department of Planning and Environment.</p> | <p>BSL will seek clarity on this consent condition with the Department of Planning & Environment.</p> <p>Pending</p> |
| 2019/6 | <p>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/).</p> | <p>BSL will ensure broken hyperlink to 'FY2017 Annual Report' on the BSL Webpage will be reinstated.</p> <p>Assigned to: Anita Rojas</p> <p>Due: 31/07/2019</p> | <p>Hyperlink reinstated.</p> <p>Completed</p> |
| 2019/7 | <p>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).</p> | <p>No. 3 Sinter Machine Stack (EPL Pt 151) to be added to the Environmental Aspects and Impacts Register / MARS for the Sinter Plant.</p> <p>Assigned to: Richard Lorenc</p> <p>Due: 31/07/2019</p> | <p>MARS Risk Scenario 2.3.3 covered Point 151 but does not explicitly reference the point ID or bypass conditions, instead stating 'Sinter Plant with no WGCP online'. The risk review has been updated to remove ambiguity.</p> <p>Completed</p> |

11 Incidents and non-compliances during the Reporting Period

INCIDENTS:

On 21 May 2018 hotspots detected in the regenerator resulted in an unplanned bypass for a duration of 7 days.

No further incidents of note occurred during the Reporting Period.

NON-COMPLIANCES:

All 13 non-compliances recorded during the Reporting Period and current status of actions are noted in Table 10.

Table 10 – Non-compliances and Status of Actions

| Relevant approval | Condition # | Condition description (summary) | Compliance status | Comment | Current Status |
|----------------------|-------------|---|-------------------|--|--|
| DA-26-02-01 MOD 2 | W-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 no standalone EMP for the WGCP. The required information is included in various documents. This CC was not verified in the IEA reports for 2013 and 2010 and no evidence could be found during the current (or previous) IEA to demonstrate that all documents constituting the EMP have been submitted to Council. It is reported in the 2014 Environmental Management Report that the Waste Management Plan and a Contingency Plan for environmental impacts were submitted to the Department of Planning in 2003 during construction of the plant. It is not clear if all documents constituting the EMP were made publicly available (e.g. during the construction / commissioning phases) and it does not appear to be included on the current website (The information on the current website appears to be for the OPUP only). | As recommended in the 2019 IEA, BSL will seek an amendment to the condition for the WGCP and Gypsum Plant to be consistent with condition 6.3 of MP 06-0229 MOD 1 negating the requirement of a publicly available EMP whilst ensure there is a requirement to maintain the environmental and safety management systems. Pending |

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|-----------------------------------|--|---|-----------------------------|--|--|
| <p>DA – 26- 02- 01, MOD 2</p> | <p>W-4.11 [Also EPL # O4.16]</p> | <p>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. <i>Note: Normal operation excludes the first two-hours of operation following start up.</i></p> | <p>Non-compliant</p> | <p>EPL # O4.16 is as follows: <i>The WGCP must be operated so that there are no visible emissions from the exhaust stack (Discharge Point 107) under normal operations. Compliance with this requirement is to be assessed against compliance with the EPL limit condition for Discharge Point 107 of 20 mg/Nm3 for particulate matter.</i> <i>Note: Normal operation excludes the first two hours of operation following start up.</i> Therefore, EPL # O4.16 is similar to CC # W-4.11 but adds a 20 mg/Nm3 criterion for particulate matter to enable an assessment of 'visibility'. There has been only one report of a visible emission from the WGCP stack since the previous IEA in 2016. This complaint was initially received by the EPA, who then advised BSL. The complaint is recorded in the BSL and was also reported in the Community Consultative Committee minutes for 22-Mar-18. BSL's investigation revealed that the Continuous Emission Monitor (CEM) measurement was 3-5 mg/Nm3 which is less than limit in the EPL (20 mg/Nm3).</p> | <p>As discussed in Sections 1 and 6, a visible emission was reported on 1 December 2017. BSL intends to seek an amendment to this condition to align with the EPL condition. Pending</p> |
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|------------------------|--------------------------|--|---------------|--|--|
| DA – 26- 02- 01, MOD 2 | O-2.2 Also EPL # O3.1 | The Proponent shall design, construct, commission, operate and maintain the project in a manner that minimises or prevents the emission of dust from the site including windblown and traffic generated dust. Note: EPL # O3.1 is as follows: <i>Activities occurring at the premises must be carried out in such a manner that fugitive dust emissions from the activities are minimised.</i> | Non-compliant | During the site inspection on 1 March 2019, the Sinter Plant was observed to be maintained in a manner that minimises dust generation. For example: <ul style="list-style-type: none"> • Water carts were observed to wet down roads. • Roadways appeared to have been swept by the mobile sweepers, although some surface dust was evident. For example: <ul style="list-style-type: none"> • The roadway between the Sinter Plant offices and the Sinter Plant building did not appear to have been recently swept or wetted down • A truck was observed being loaded with waste material and some dust was evident on the roadway. Whilst it appeared to be at the lower end of the Dust Emission Ranking (DER) system in the FDMS (i.e. DER < 3), it did not appear to have been recently wetted down or swept (although the nearby road appeared to have been). • Although there was some dust observed inside the Sinter Plant building, this building is vented to the Sinter Machine Room Dedusting System. • There we no obvious dust emissions from plant or equipment at the Sinter Plant outside the main building. | This section of roadway is swept in accordance with routine sweeping schedules. Sweeping activities monitored and frequency found to be acceptable. Completed |
| DA – 26- 02- 01, MOD 2 | W-4.30 | The premises and activities carried out therein must not pollute surface or groundwater except as specified in the EPL for the premises. | Non-compliant | The EPL includes requirements for a Groundwater Monitoring Program; however, this does not appear to relate to the Sinter Plant (Including WGCP and Gypsum Plant). The stormwater / process water collection / treatment facilities for the Sinter Plant (including the IMED) were observed during the site inspection on 1 March 2019 and no deficiencies were observed. Operational areas (including roadways) appeared to be sealed and DGs were stored in banded areas, thereby limiting the potential for pollution of groundwater. This CC has been assessed as 'Non-Compliant' due to the exceedance of the limit for total iron at EPL Point 89 (IMED). A recommendation has not been included as no further exceedances have been recorded since July 2016 and the subsequent completion of the IMED Drainage Diversion Project | The exceedance was recorded outside of the Reporting Period. The completion of PRP 176 has resulted in no exceedances at Point 89 and no exceedances have been recorded at the new discharge location, Point 79. No action required |

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|------------------------|--------|--|---------------|--|---|
| DA – 26- 02- 01, MOD 2 | W-4.31 | The Applicant shall ensure that all licensed 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 | This CC has been assessed as 'Non-Compliant' due to the exceedance of the limit for total iron at EPL Point 89 (IMED). A recommendation has not been included as no further exceedances have been recorded since July 2016 and the subsequent completion of the IMED Drainage Diversion Project (PRP 176) is expected to mitigate similar incidents. | The exceedance was recorded outside of the Reporting Period. The completion of PRP 176 has resulted in no exceedances at Point 89 and no exceedances have been recorded at the new discharge location, Point 79. No action required |
| DA – 26- 02- 01, MOD 2 | O-2.12 | 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 | Section 120 of the POEO Act relates to the prohibition of the pollution of waters and a person who pollutes any waters is guilty of an offence. As at 17 April 2019, the website was observed to include monthly reports for April 2012 to February 2019. These reports indicate compliance with the EPL discharge limits at EPL Point 89 (IMED) except for one exceedance of the total iron limit (maximum reading of 50 mg/l) in July 2016. This exceedance was attributed to the unblocking of two stormwater drains which resulted in increasing stormwater flows into these drains and the discharge of water with elevated iron levels into the IMED. BSL advised that this incident did not result in any discolouration, and/or contribute to environmental harm, in the Port Kembla harbour receiving waterway. | The exceedance was recorded outside of the Reporting Period. The completion of PRP 176 has resulted in no exceedances at Point 89 and no exceedances have been recorded at the new discharge location, Point 79. No action required |

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|------------------------|--------|--|---------------|--|---|
| DA – 26- 02- 01, MOD 2 | W-4.45 | All chemicals being transported to the site must follow the route set out in the SEE. | Non-compliant | <p>It is identified in the 2016 IEA that the route specified in the 'Loading of Ammonia from Road Tanker' procedure did not appear to match the route specified in the 2002 transport study (which was supplied by BSL as defining the route set out in the SEE – Since the SEE was not provided, it is not clear if this transport study is consistent with the SEE) and that the route specified in the transport study pre-dates the construction of the M7, which appears to be used by Ammonia tanker drivers.</p> <p>BSL confirmed that there is still an inconsistency between the routes used and those specified in the SEE.</p> <p>This was identified as a low risk non-compliance in the 2016 IEA since following main roads such as the M7 rather than the more populated Cumberland Highway would be expected to be preferable for the transport of ammonia.</p> | <p>Ammonia transport has ceased with the decommissioning of the ammonia plant in December 2018.</p> <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> <p style="text-align: center;">Pending</p> |
| DA – 26- 02- 01, MOD 2 | W-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 | <p>As there is some uncertainty regarding the transport of chemicals to the site (Refer to CC # W-4.46), it would also be appropriate for BSL to ensure compliance with the transport routes for non-liquid waste leaving the site.</p> | <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> <p style="text-align: center;">Pending</p> |
| DA – 26- 02- 01, MOD 2 | W-4.47 | <p>The developer must ensure that sufficient parking is provided on site for all vehicles associated with the construction and operation of the plant.</p> <p>No vehicles associated with the proposed development are to park along Christy Drive or Old Port Road.</p> | Non-compliant | <p>BSL advised that two additional car parks were provided outside the Sinter Plant Administration Building to ensure sufficient parking is available for contractors and BSL employees.</p> <p>However, vehicles are still parked near the gate on Christy Drive. It is unclear whether the restriction on parking along Christy Drive 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>BSL will seek clarity on this consent condition with the Department of Planning & Environment.</p> <p style="text-align: center;">Pending</p> |

| | | | | | |
|------------------------|-------|--|---------------|--|---|
| DA – 26- 02- 01, MOD 2 | W-7.7 | Within 2 months of commissioning the audit, the Applicant must submit a copy of the audit report to the Secretary. After reviewing the report, the Secretary may require the Applicant to address certain matters identified in the report. The Applicant must comply with any reasonable requirements of the Secretary. | Non-compliant | <p>The previous IEA was undertaken in 2016.</p> <p>It is noted in the acceptance letter from the DP&E for previous IEA (letter dated 5-Aug-16, copy provided) that the report was submitted to the Department on 16 June 2016, which was not within 2 months of the first day of the site visit (8-10 and 24 March 2016). This was noted as being non-compliant with this CC. No action was proposed by the DP&E.</p> <p>It is also reported in the letter from the DP&E that: “A review of the BlueScope Steel website could not locate the documents as required by Condition 5.4 of PA 06_0229 MOD1. It is requested that the documents as required by this condition are uploaded to the website by 30 August 2016, with a link being provided by email to the Department confirming that this has been completed”. The letter from BSL to DP&E (dated 24-Aug-18) was provided to confirm that this information was uploaded to the website (https://www.bluescopeillawarra.com.au/environment/reporting-on-performance/sinter-plant-ore-preparationupgrade/) by the due date (Note: CC # 5.4 refers to the OPUP project).</p> | <p>The non-compliance was recorded outside of the Reporting Period. The 2019 IEA was submitted on 6 May 2019 and therefore was not submitted within 2 months however, a request for extension of the submission date to 10 May 2019 was approved by the Department on 24 April 2019.</p> <p>No action required</p> |
| MP 06-0229, MOD 1 | O-4.2 | Within three months of commissioning this audit or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report. | Non-compliant | <p>The previous IEA was undertaken in 2016 and included BSL’s initial response to the recommendations.</p> <p>It is noted in the acceptance letter from the DP&E for previous IEA (letter dated 5-Aug-16, copy provided) that the report was submitted to the Department on 16 June 2016.</p> <p>This was not within 3 months of the first day of the site visit (8-10 and 24 March 2016).</p> <p>The status of the corrective actions identified in the 2016 IEA is reported in Section 4.3.5.</p> | <p>The non-compliance was recorded outside of the Reporting Period. The most recent IEA was submitted to the Department on 6 May 2019 thereby complying with the condition.</p> <p>No action required</p> |
| MP 06-0229, MOD 1 | 2.1 | 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 | <p>On 23 May 2018 solid particulate matter results of 25mg/m³ and 28mg/m³ were recorded, exceeding the Licence limit of 20mg/m³ at the No 3 Sinter Machine Stack (Point 151).</p> | <p>This exceedance eventuated from a calibration error of the continuous emission monitor which delayed detection of elevated particle emissions. The monitors were correctly re-calibrated, and no further exceedances have been recorded.</p> <p>Completed</p> |

| | | | | | |
|----------------------|-----|---|---------------|--|--|
| MP 06-0229, MOD 1 | 2.1 | 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 | On six occasions between 26 March and 28 April 2020 the dioxins and furans limit of 0.3ng/m ³ specified in the Licence was exceeded at the No 3 Sinter Machine Stack (Point 151). | The cause of the exceedances remains under investigation at the time of submission of this Report. In progress |
|----------------------|-----|---|---------------|--|--|

12 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.

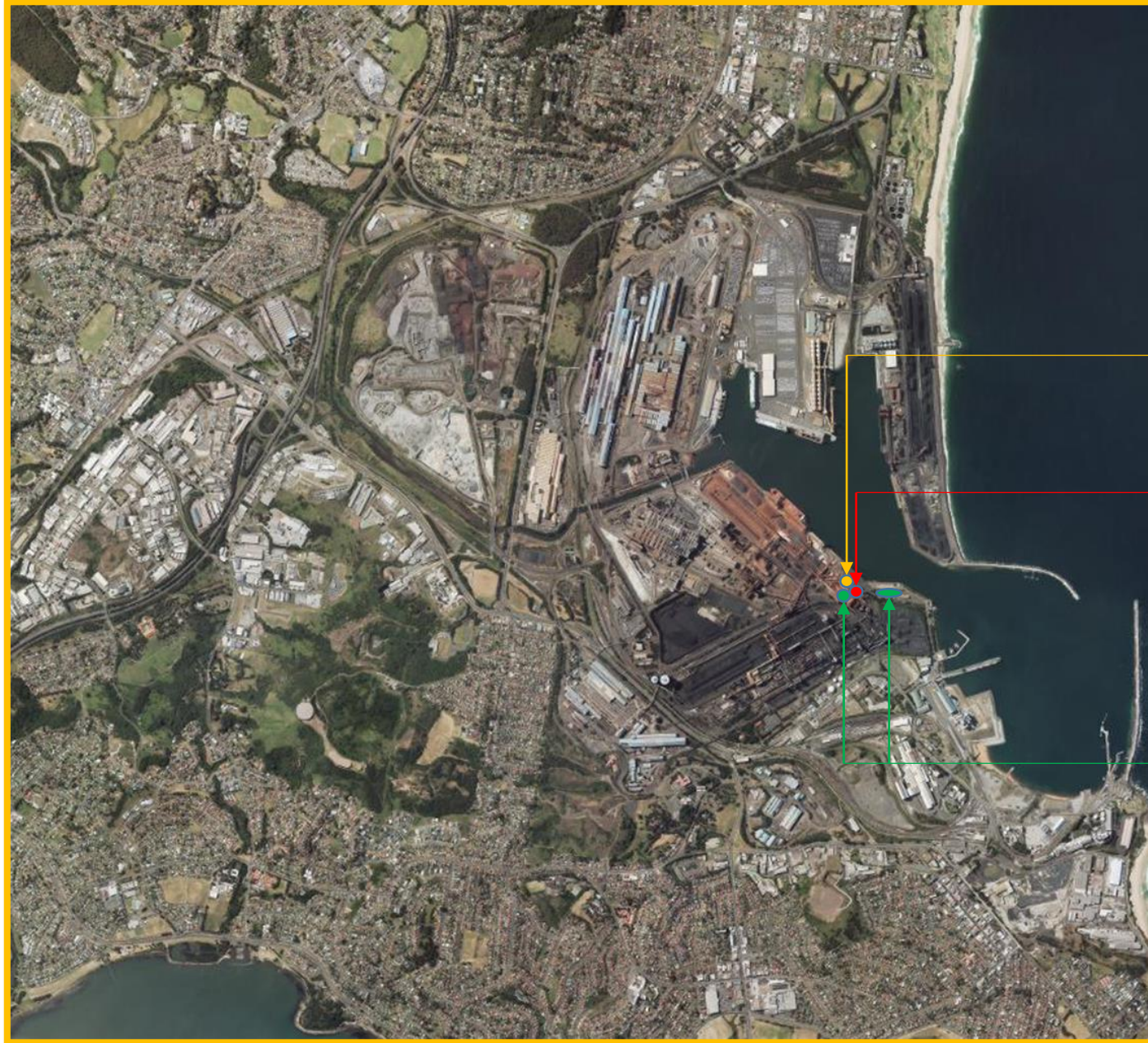
BlueScope intend to perform another WGCP Bypass in early 2021. This will be undertaken to complete outstanding work from the 2020 bypass and address additional maintenance activities that were identified during the 2020 bypass. The duration and entirety of the scope of the bypass has not yet been determined.

There are no plans to make any further plant upgrades to OPUP related plant infrastructure in the next Reporting Period.

As with the remainder of the Port Kembla Steelworks, BlueScope is committed to identifying opportunities to reduce electricity and energy consumption at the Sinter Plant and the WGCP.

Attachment 1

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



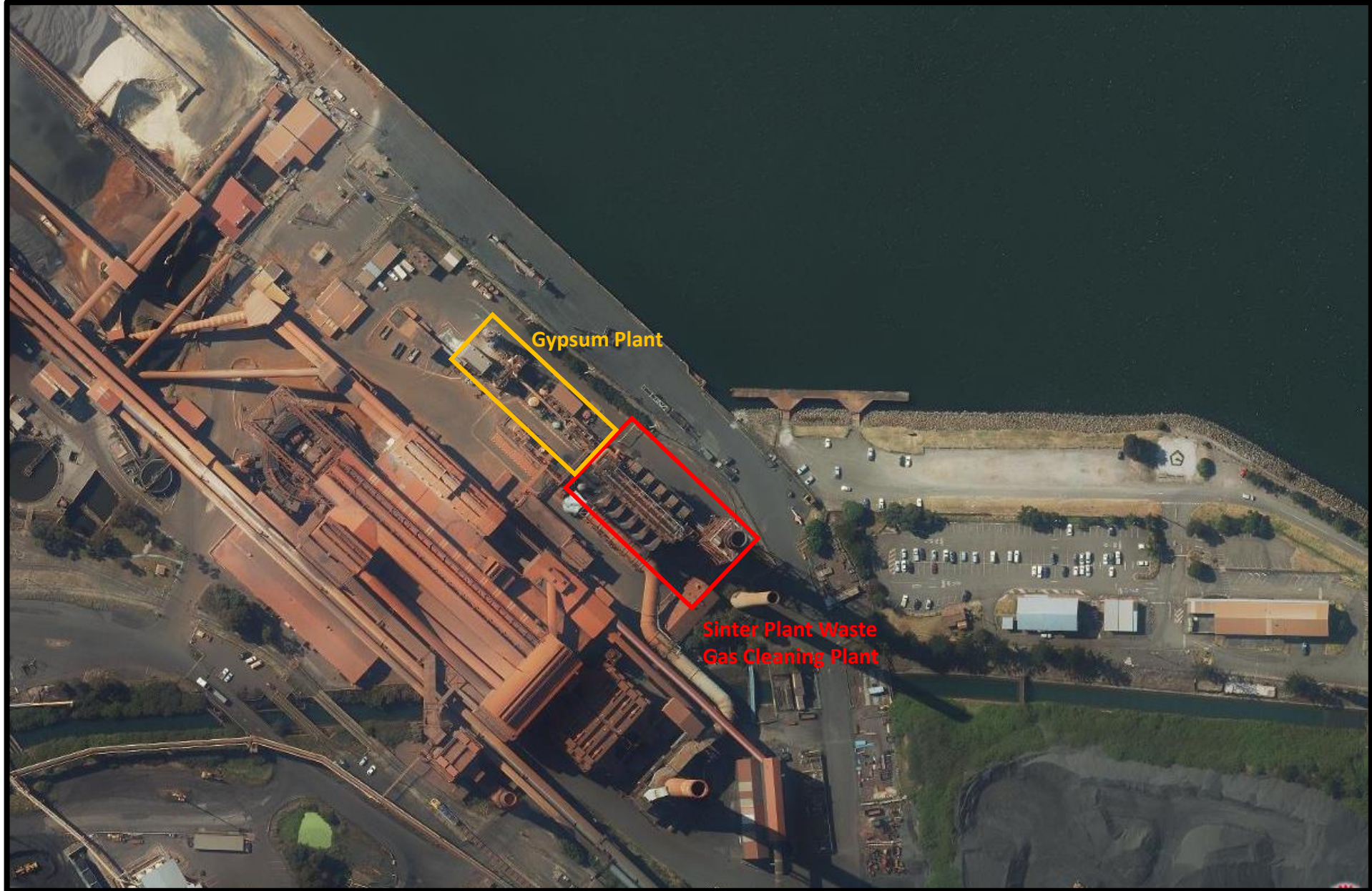
Gypsum Plant

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)





BlueScope Steel (AIS) Pty Ltd
Mellor Centre
Five Islands Road, Port Kembla NSW 2505
PO Box 1854, Wollongong NSW 2500
P +61 242402364 | M +61 417306791
E natasha.porteous@bluescopesteel.com

26 August 2019

Mr Peter Bloem
Manager Illawarra
Environment Protection Authority
PO Box 513
WOLLONGONG NSW 2520

Dear Peter,

De-Commissioning of the Ammonia Plant at the Sinter Plant Waste Gas Cleaning Plant

In the BSL Sinter Plant EPA liaison meeting held 22 November 2018, the EPA was notified of BSL's intention to de-commission and mothball the Ammonia Plant at the Sinter Plant Waste Gas Cleaning Plant (WGCP). BSL considers that the financial cost associated with operating the plant in its current capability, is not consistent with the measured outcomes in terms of reduction in activated char consumption and Nitrogen Oxide (NOx) reduction.

As of 14 December 2018 the Ammonia Plant will be emptied and purged of all ammonia and we have begun the process of mothballing the plant. It is our intention, that the plant will be physically disconnected from the Sinter Plant Waste Gas Cleaning Plant (WGCP) but will not be disassembled so that it could be re-started in the future if required.

BSL Ore Preparation department will continue to monitor the performance of the WGCP and investigate options to reduce emissions, including NOx, from the WGCP stack.

Yours sincerely,

A handwritten signature in blue ink that reads "Richard Lorenc".

Richard Lorenc
Operations Manager Bulk Ore Preparation
BlueScope Steel (AIS) Pty Ltd

20 November 2018

Recommendation to De-Commission the Ammonia Plant at the Waste Gas Cleaning Plant

The Waste Gas Cleaning Plant (WGCP) at the Sinter Plant consists of a packed bed of activated carbon (char) which primarily removes Sulphur Oxides (SO_x) and dioxins from the waste gas generated in the sinter making process. When the WGCP was designed, it was claimed to include a de-Nitrogen Oxide (de-NO_x) capability based on selective catalytic reduction (SCR) via anhydrous ammonia injection into the inlet gas space. In addition to de-NO_x, it was expected that injection of ammonia would result in a lower consumption of char in the WGCP as free ammonia would participate in the reduction of SO₃ in preference to carbon in the char, hence reducing the char loss due to chemical consumption.

The Ammonia Injection Plant carries a significant safety risk due to the storage of up to 25 kL of anhydrous ammonia liquid on site, and is associated with the highest consequence MAE (Major Accident Event) on the BlueScope Port Kembla site. The Ammonia Plant is operated and maintained commensurate with this level of risk and the process safety aspects of the plant are subject to regular independent auditing as required by the NSW Department of Planning.

Several studies have been conducted since 2009 to determine if the proposed reduction in char consumption was being realised. These studies concluded that there was some reduction in char make-up to the plant although this was not clear when comparing char stocktake and delivery data. A review of these studies and further analysis of char consumption has recently been completed by the Coke and Iron Technology Department which concluded that the impact of ammonia injection on char consumption was not distinguishable from the background variation.

Similarly, an analysis of applicable data for NO_x concentrations in the inlet and outlet ducts of the WGCP was carried out for periods of operation with and without ammonia injection. It was shown that de-NO_x rate in the WGCP for periods with ammonia injection on at the nominal rate of 75 ppm was indistinguishable from periods without ammonia injection. Further to this, BlueScope is required to pay load-based licensing fees for NO_x emissions from the WGCP stack, it was shown that these fees varied from year to year independent of the use of ammonia injection. There are many other factors that may cause short and long-term variation of NO_x emissions from the Sinter Plant and analysis shows that there is no apparent relationship between ammonia injection and WGCP NO_x reduction.

Aside from the costs required to maintain the Ammonia Plant at the Sinter Plant WGCP, the budgeted cost for supply of Anhydrous Ammonia liquid to the plant is \$236,000 per year. Without tangible benefits in de-NO_x or reduction in char consumption, BlueScope cannot justify this continuing cost. In addition to this BlueScope has an obligation under the Work Health and Safety Act 2011 to eliminate or minimise safety risks so far as is reasonably practicable. Considering the results from research outlined above, it is our opinion that continuing to operate the Ammonia Plant without clear benefits to de-NO_x or reduction in char consumption is not consistent with this obligation.

BlueScope intend to decommission and mothball the Ammonia Plant during December 2018 however we remain committed to continue to investigate options to reduce emissions, including NO_x, from the WGCP stack.

Waste Gas NO_x Concentration vs Ammonia Injection

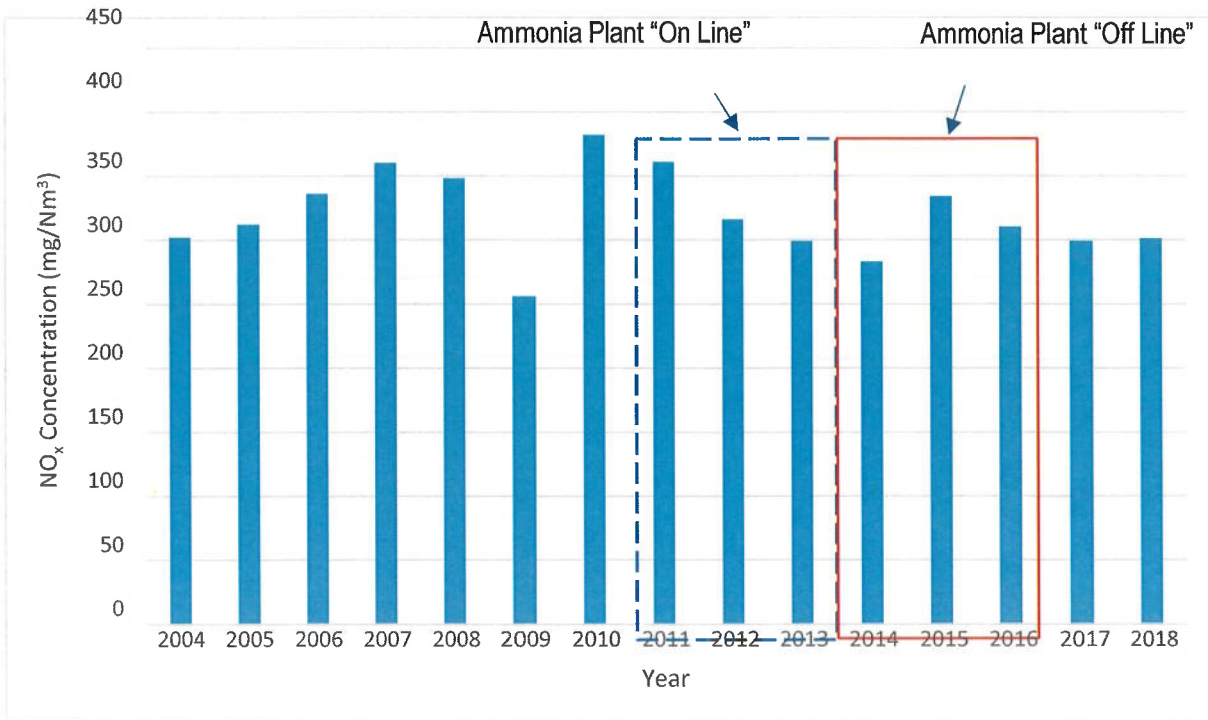


Figure 1 – Average Yearly NO_x Concentration (mg/Nm³). The highlighted section on the left depicts NO_x concentrations while the Ammonia Injection plant was running. The section to the right shows the NO_x concentrations while the Ammonia Injection Plant was “off line”.

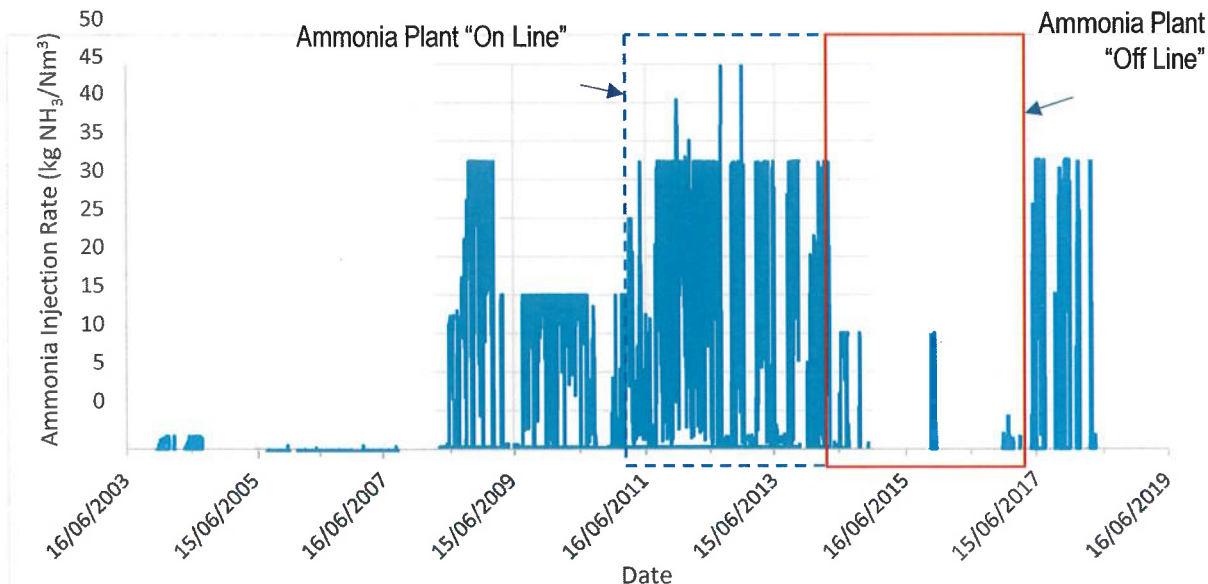


Figure 2 – Ammonia Injection Rate (kg NH₃/Nm³). The highlighted section on the left depicts the injection rate while the Ammonia Injection plant was running. The section to the right shows the injection rate while the Ammonia Injection Plant was “off line”.

7 February 2019

610.18002-L01-v0.1_Sinter Plant.docx

BlueScope Steel Limited
PO Box 1854
WOLLONGONG NSW 2500

Attention: Lorrie Zammit

Dear Lorrie

**BlueScope Steel Limited
Port Kembla Steelworks
Sinter Plant Compliance Noise Monitoring**

1 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by BlueScope Steel Limited (BlueScope) to conduct Compliance noise monitoring of the Sinter Plant, located within the Port Kembla Steelworks facility. Attended noise monitoring of the Sinter Plant was undertaken on Thursday 9 August 2018 and Friday 10 August 2018.

2 Criteria

Noise Limits for the Sinter Plant are specified within Condition L6.5 of the Port Kembla Steelworks Environmental Protection License (EPL 6029). The specific noise limits are reproduced in **Table 1**.

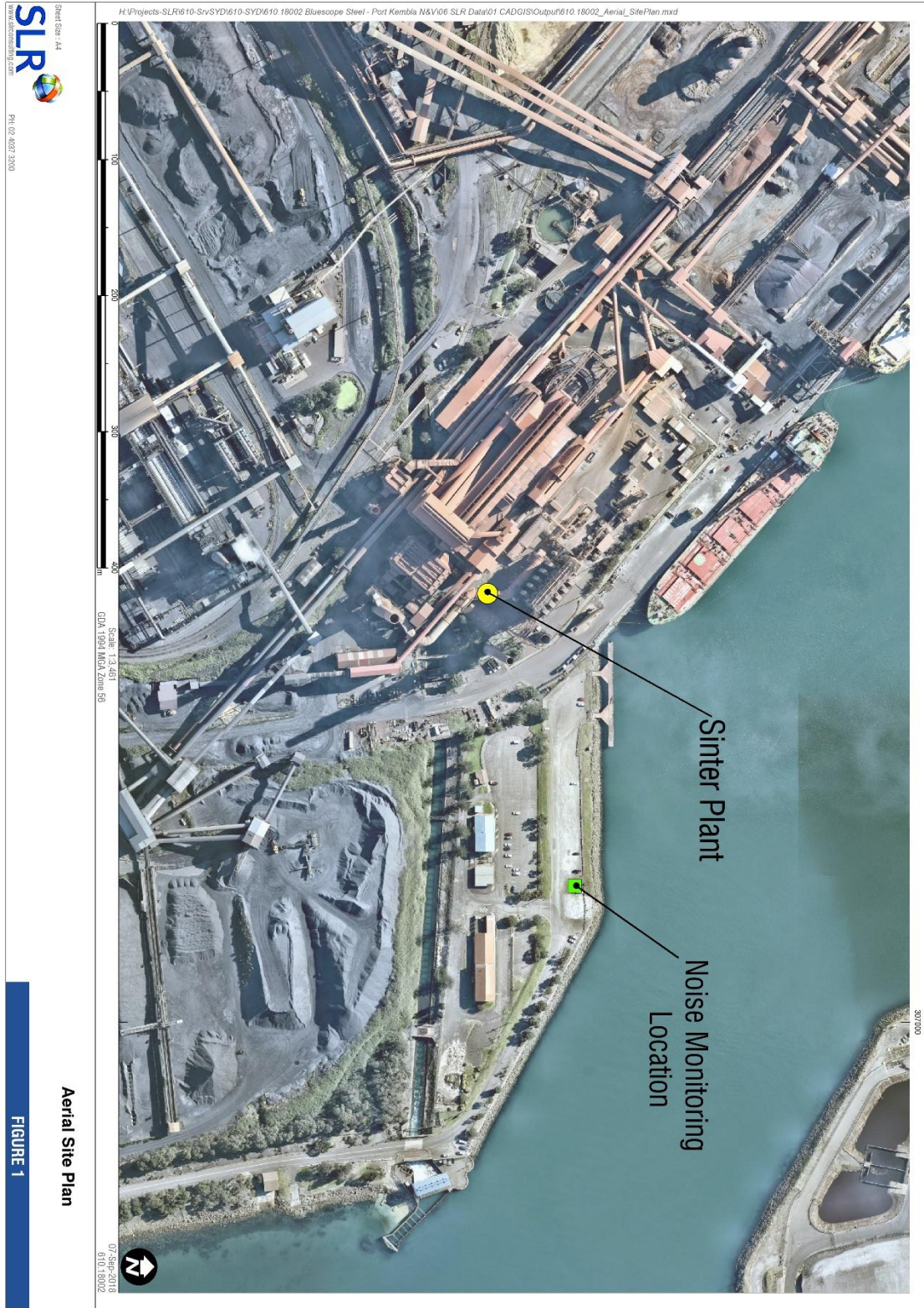
Table 1 EPL 6029 – Sinter Plant Noise Criteria

| Activity | Noise Limit LAeq(15minute) | Compliance Location |
|---------------------------------------|----------------------------|---|
| Sinter Plant Waste Gas Cleaning Plant | 70 | EPA approved monitoring site is nominated in plan titled "Figure 4 – Layout of Proposed Sinter Plant Waste Gas Cleaning Plant" 281963A6 |

The EPA approved monitoring site was nominated as the Gabriella Memorial Site on Christy Drive. This memorial has since been relocated with the noise monitoring undertaken at the original location in accordance with Condition L6.5. The location of the original Gabriella Memorial Site is shown in **Figure 1**.

The modifying factors outlined in Fact Sheet C of the Noise Policy for Industry (NPI) shall also be applied to the measured noise levels if the noise is substantially tonal and impulsive in character in accordance with Condition L6.6 of the EPL.

Figure 1 EPL 6029 Noise Monitoring Location



3 Results

Operator attended noise measurements were conducted using one-third octave integrating Brüel & Kjær Type 2270 sound level meter (s/n 3008204).

Results of the attended compliance noise monitoring are provided in **Table 2**.

Table 2 Compliance Noise Monitoring Results

| Date Start Time Weather | Primary Noise Descriptor (dBA re 20 µPa) | | | | | Description of Noise Emissions and Typical Maximum Noise Levels (dBA) |
|---|--|-----------------|------------------|------------------|------------------|--|
| | L _{Amax} | L _{A1} | L _{A10} | L _{A90} | L _{Aeq} | |
| 9/08/2018 16:04 1.5m: 1-2 m/s NE 21°C | 73 | 65 | 63 | 60 | 62 | Site Related Noise: Sinter Plant: 61-63 Release Valve: 63 Other Noise Events: Traffic: 68-73 |
| 10/08/2018 00:25 1.5m: 1-2 m/s NW 13°C | 65 | 63 | 62 | 60 | 61 | Site Related Noise: Sinter Plant: 61 Release Valve: 62 Other Noise Events: Cargo Ship Unloading: 64-65 |

Noise emissions from the Sinter Plant were not considered to be substantially tonal or impulsive in accordance with Fact Sheet C of the NPfI and as a result no modifying factors were applied.

Operator attended compliance noise monitoring results show the noise emissions generated as part of the operation of the Sinter Plant comply with the noise limits specified within Condition L6.5 of EPL 6029.

4 Conclusion

SLR was engaged by BlueScope Steel Limited to conduct Compliance noise monitoring of the Sinter Plant, located within the Port Kembla Steelworks facility in accordance with the plant specific noise limits specified within the Environmental Protection Licence.

Operator attended compliance noise monitoring was conducted at the EPL nominated monitoring location, with compliance of the EPL achieved during both measurements.

Yours sincerely



Nicholas Vandenberg
 Senior Project Consultant – Noise and Vibration

| |
|-------------------------------|
| Checked/ Authorised by: MR |
|-------------------------------|

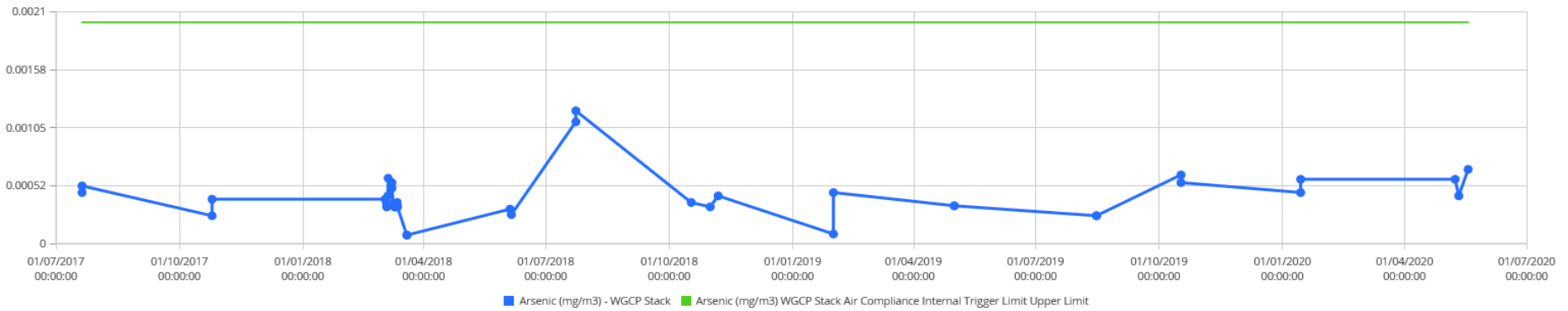
Attachment 4

Air Quality Monitoring Data

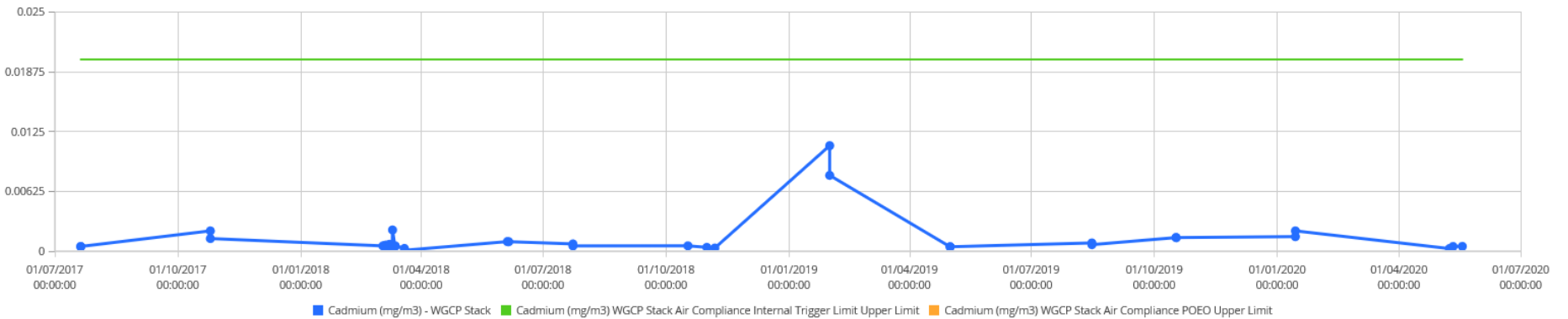
1 July 2017 – 30 June 2020

Sinter Plant Waste Gas Cleaning Plant (EPL Point 107)

Arsenic (mg/m³)

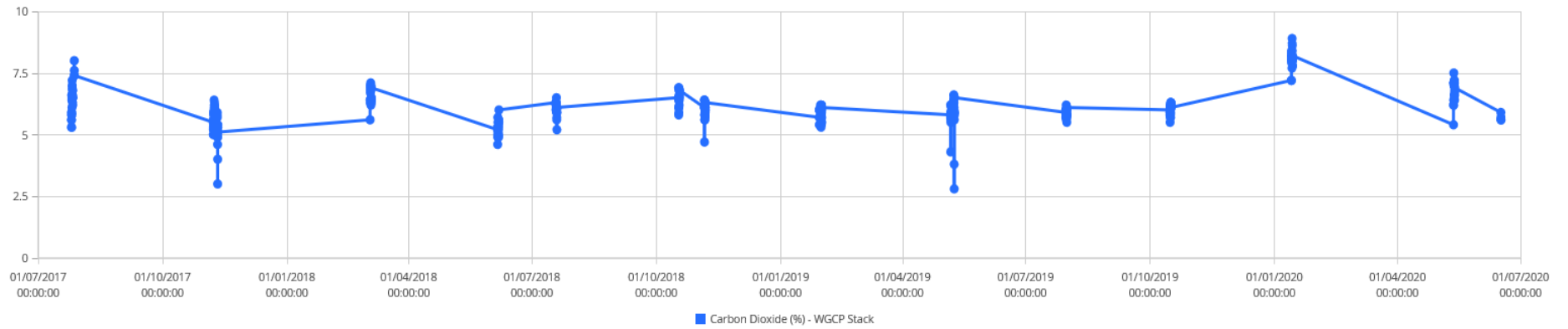


Cadmium (mg/m³)

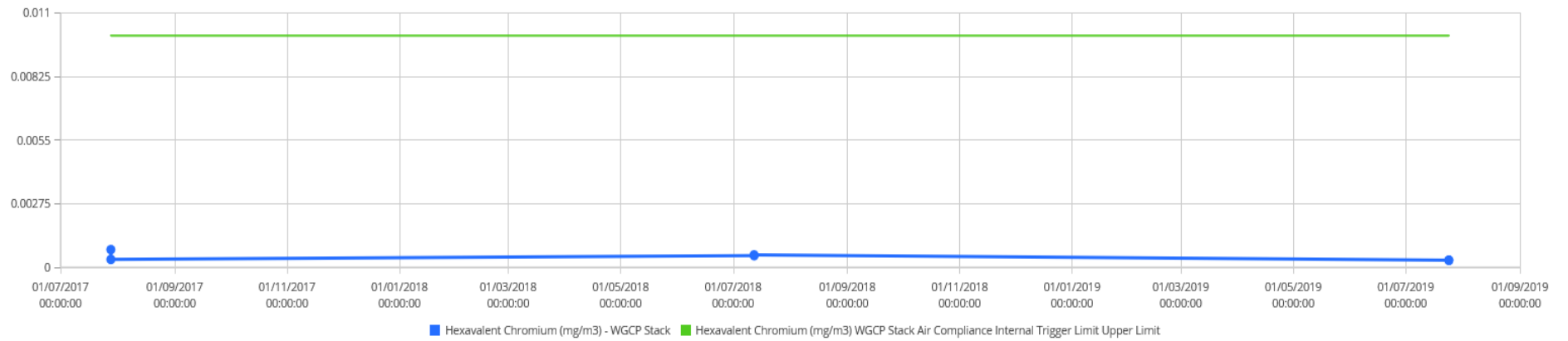


Note: POEO upper limit of 1mg/m³ not shown on graph

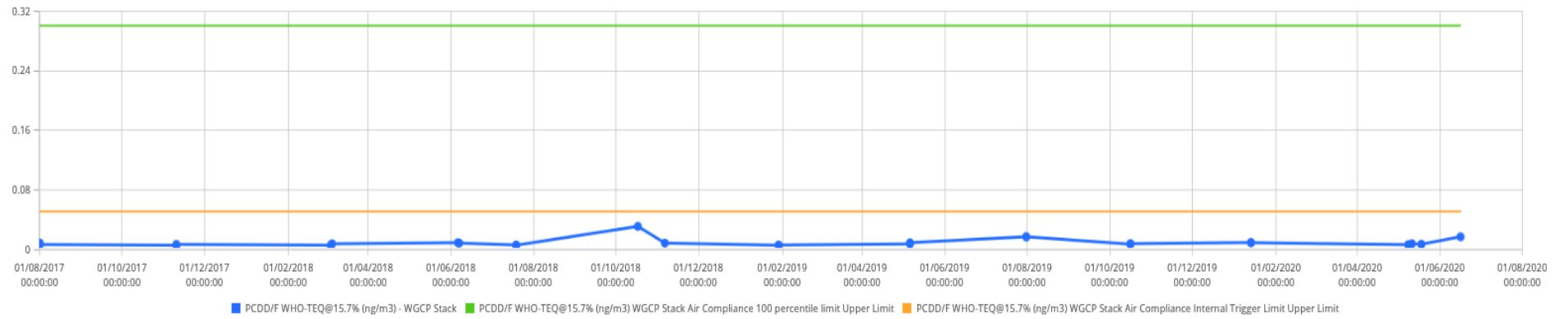
Carbon Dioxide (%)



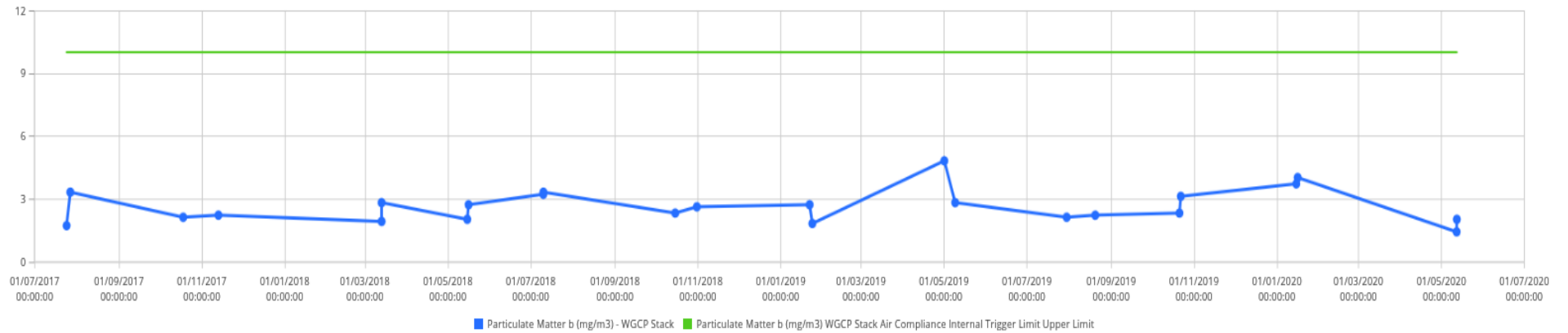
Hexavalent Chromium (mg/m³)



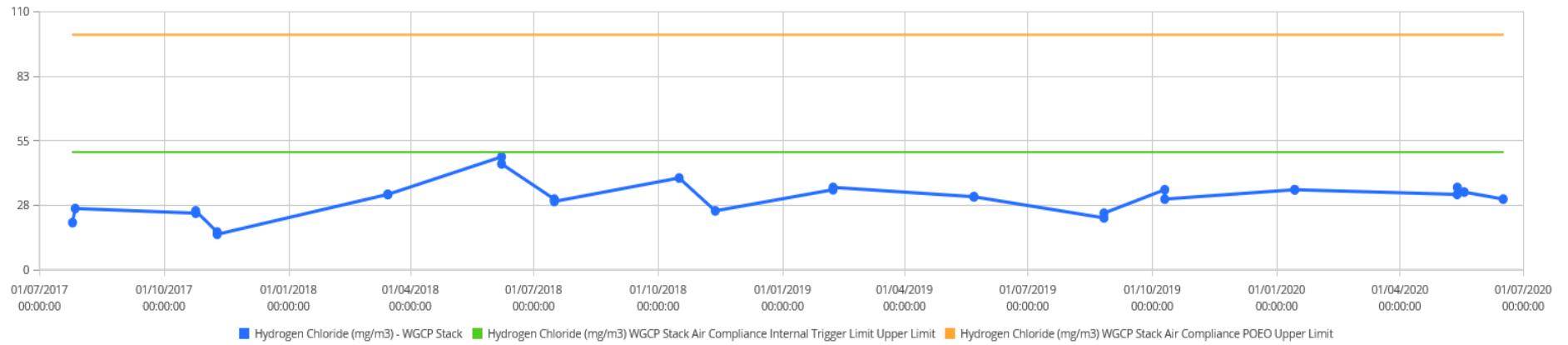
Dioxins and Furans (ng/m³)



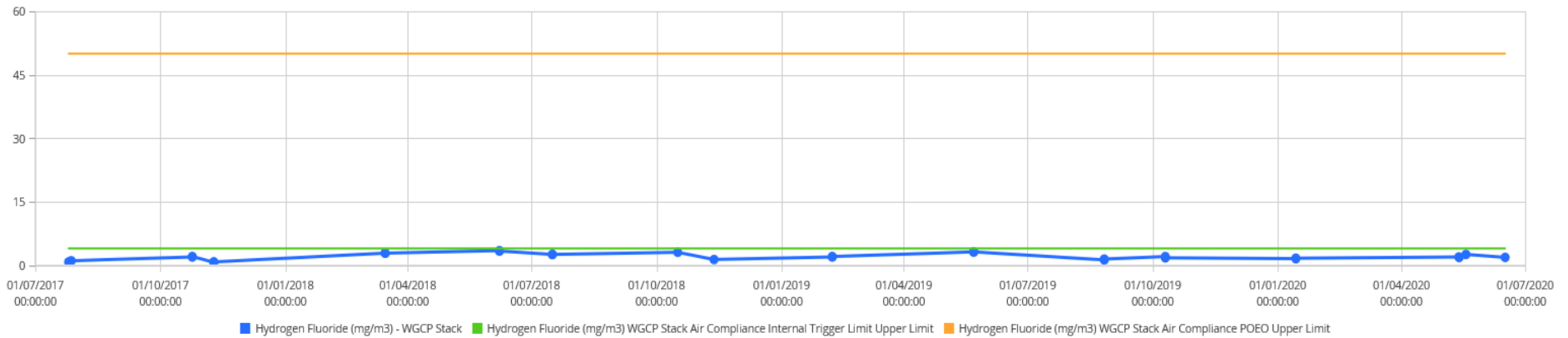
Fine Particulates (mg/m³)



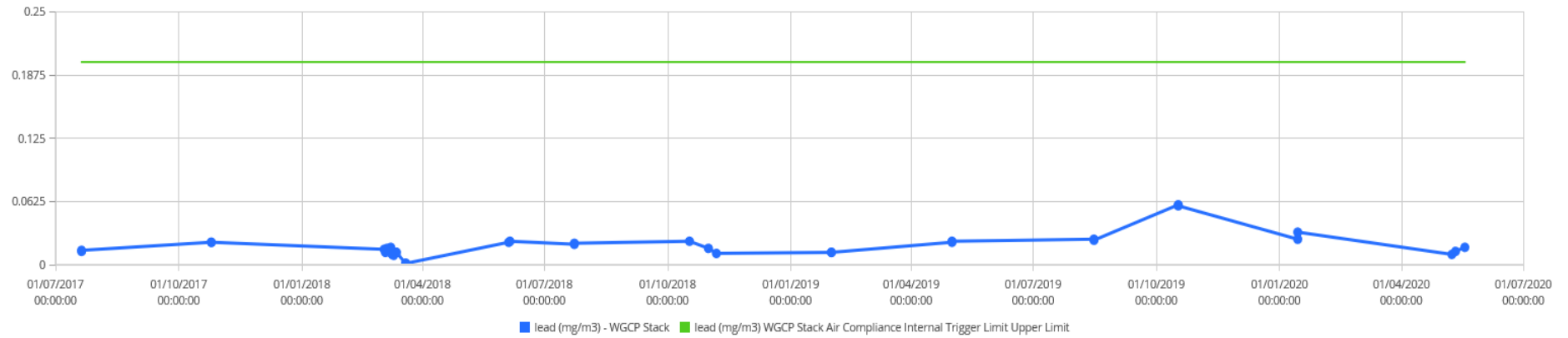
Hydrogen Chloride (mg/m³)



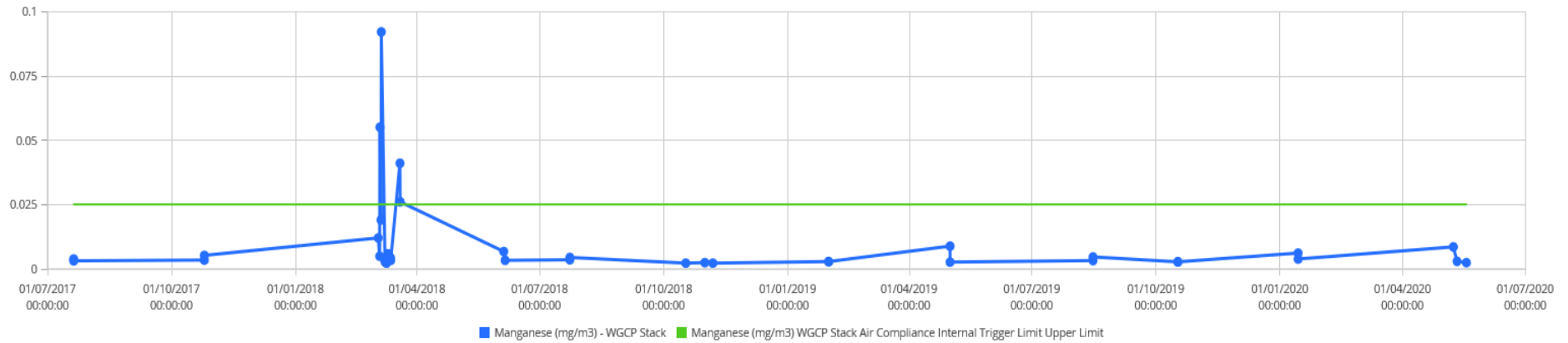
Hydrogen Fluoride (mg/m³)



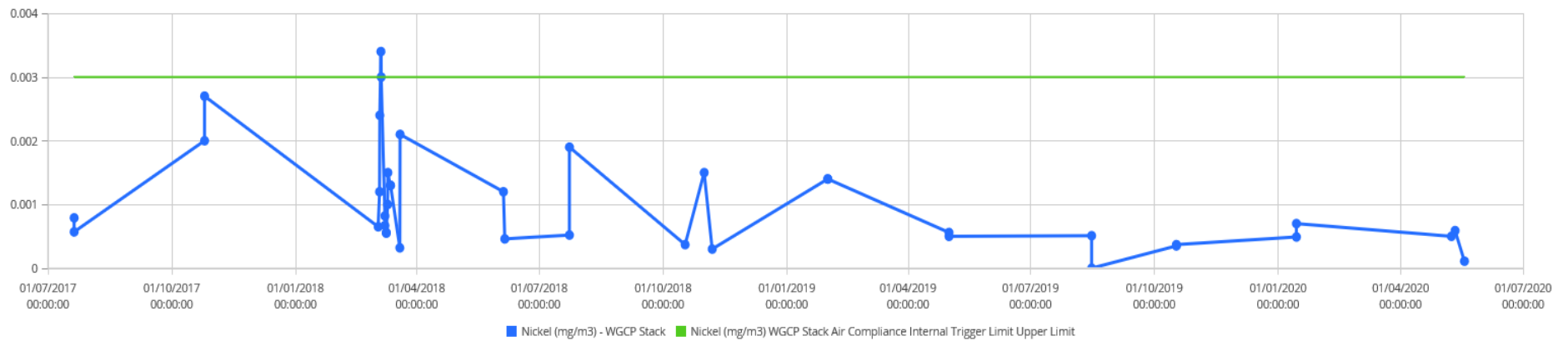
Lead (mg/m³)



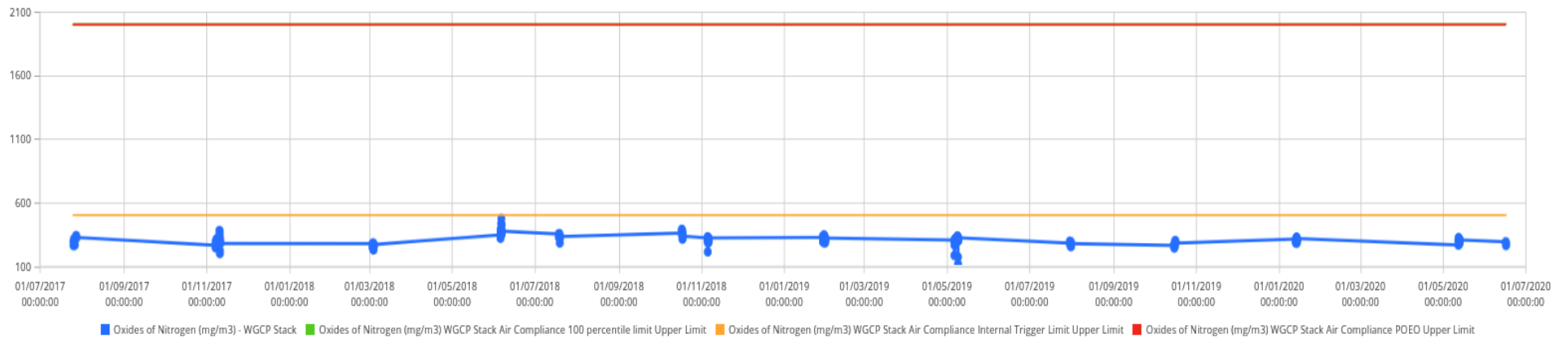
Manganese (mg/m³)



Nickel (mg/m³)

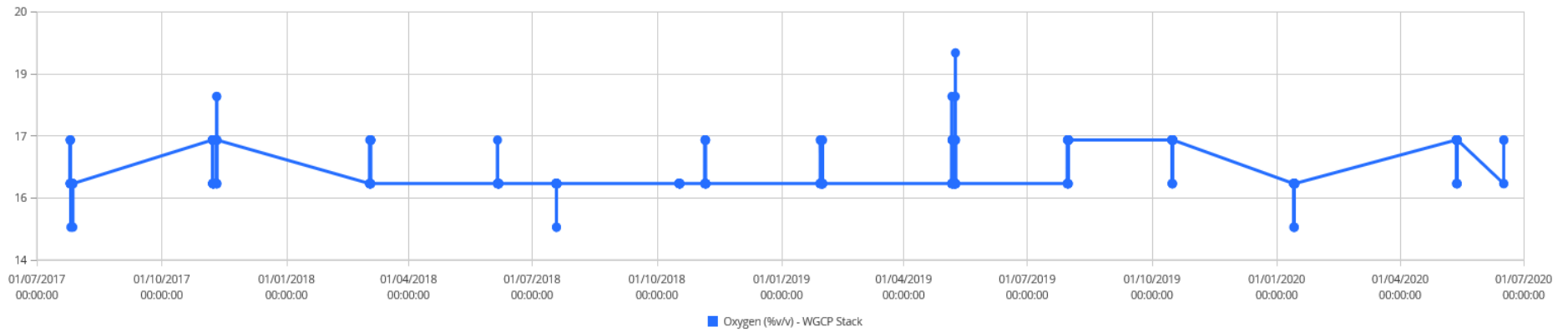


Nitrogen Oxides (mg/m³)

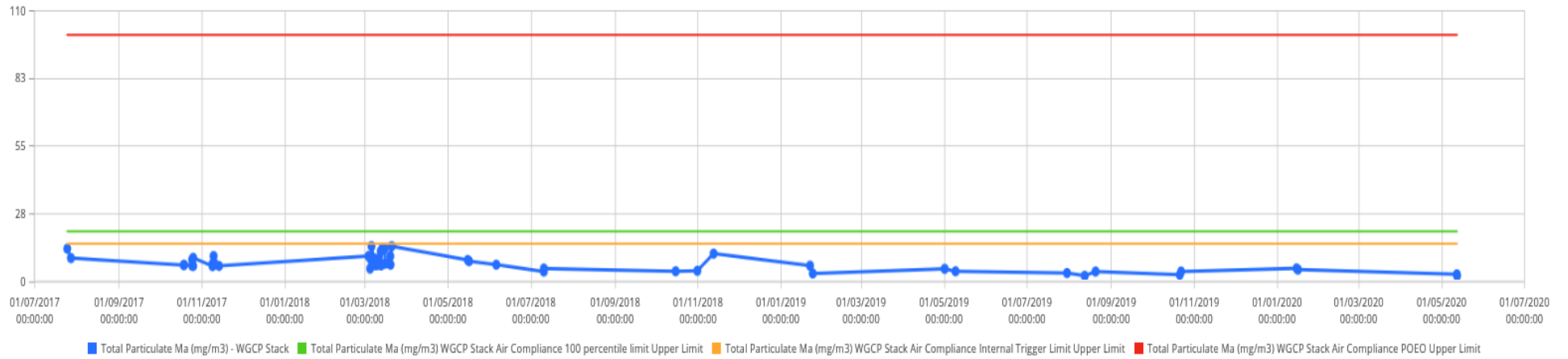


Note – POEO and EPL Licence limits are both equal to 2000mg/m³

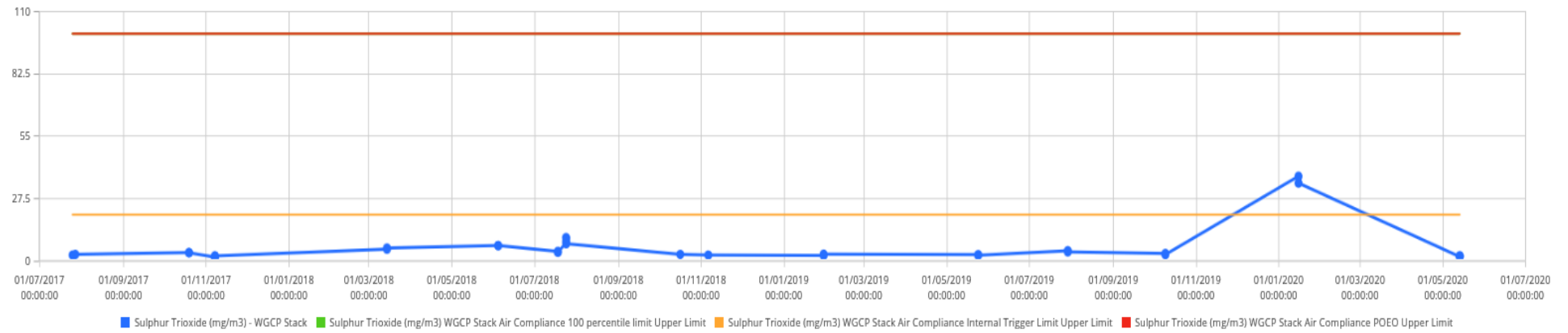
Oxygen (%)



Solid Particles (mg/m³)

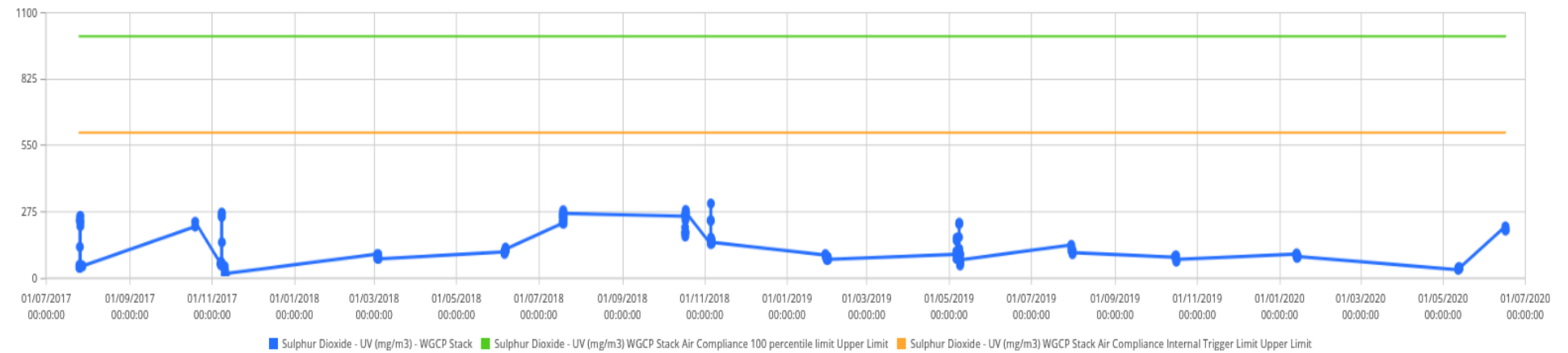


Sulfuric acid mist and Sulfur Trioxide (mg/m³)

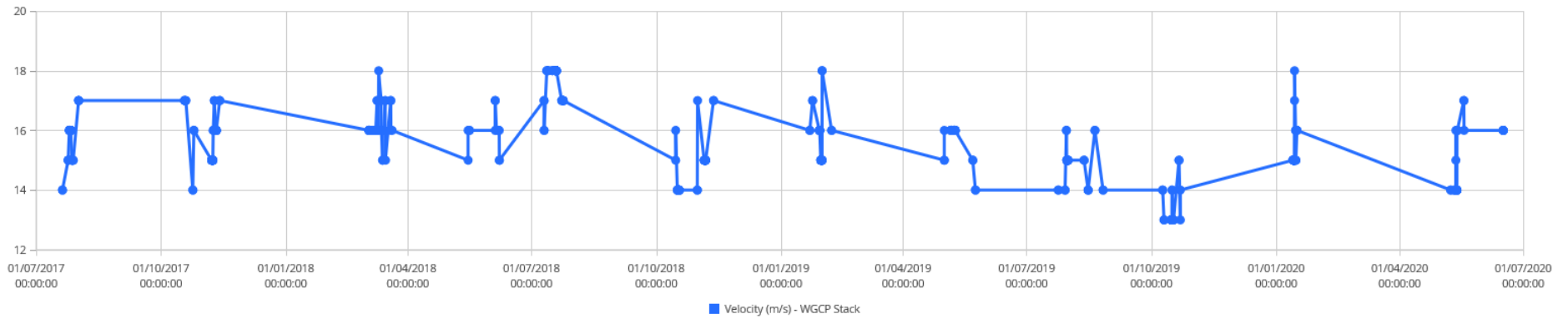


Note – POEO and EPL Licence Limit concentrations are both equal to 110mg/m³

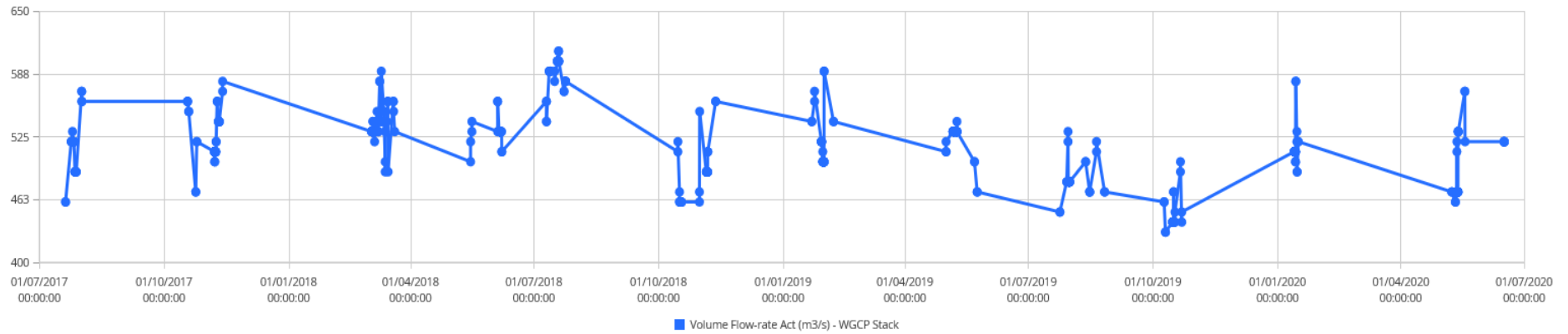
Sulphur Dioxide (mg/m³)



Velocity (m/s)

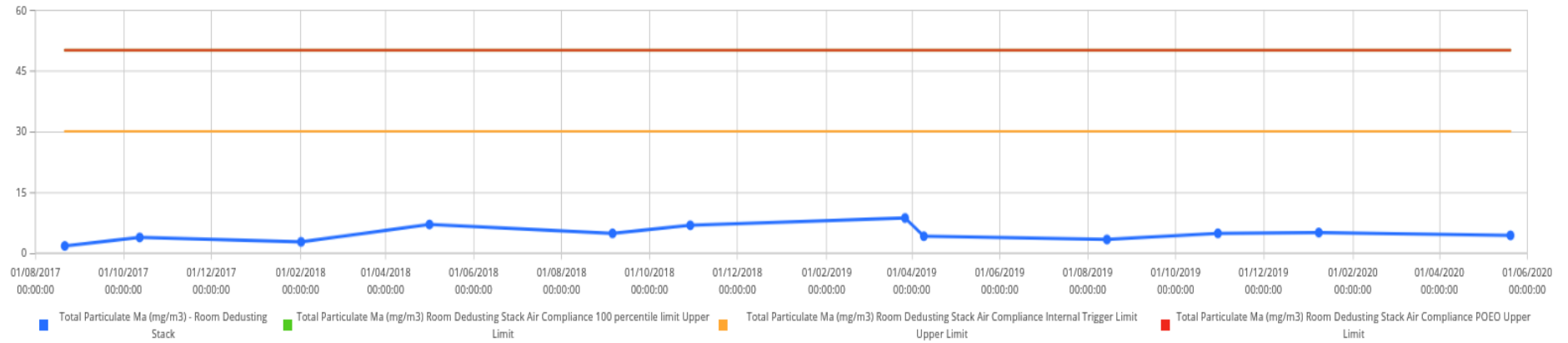


Volumetric Flowrate (m³/s)



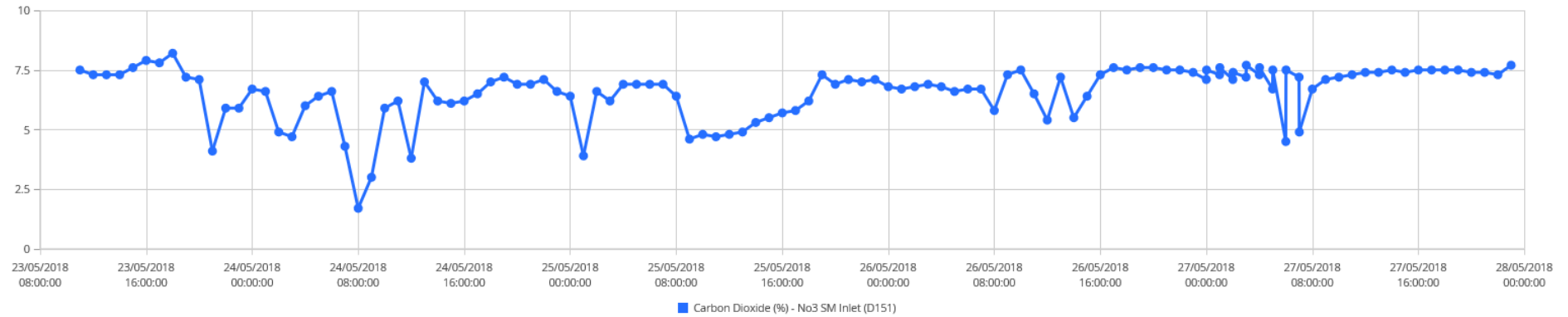
Sinter Machine Room Dedusting Stack (EPL Point 2)

Solid Particles (mg/m³)

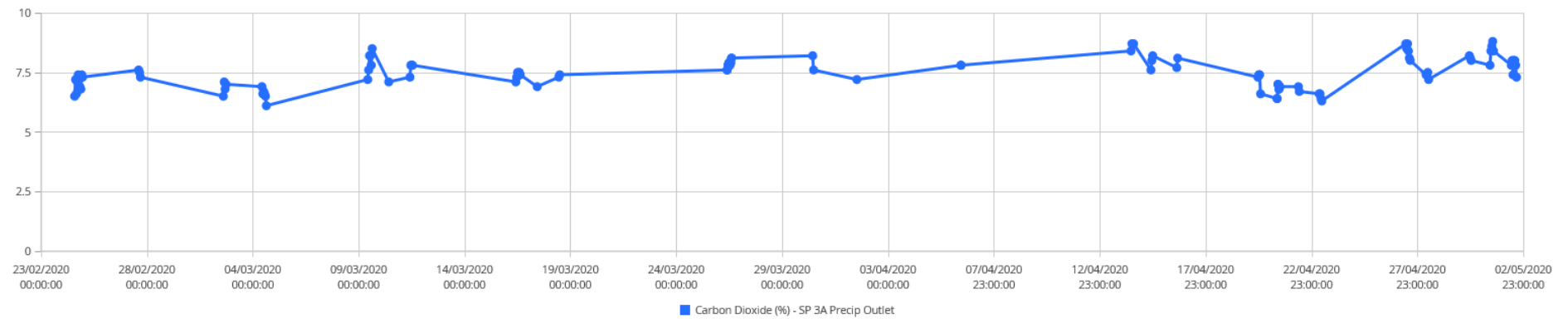


No 3 Sinter Machine Stack (EPL Point 151)

Carbon Dioxide (%)



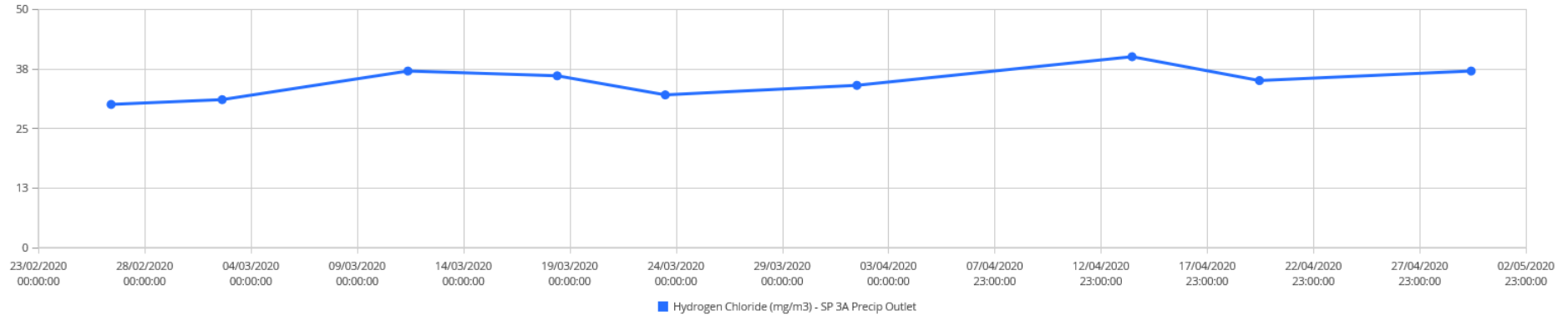
2018 Bypass



2020 Bypass

Hydrogen Chloride (mg/m³)

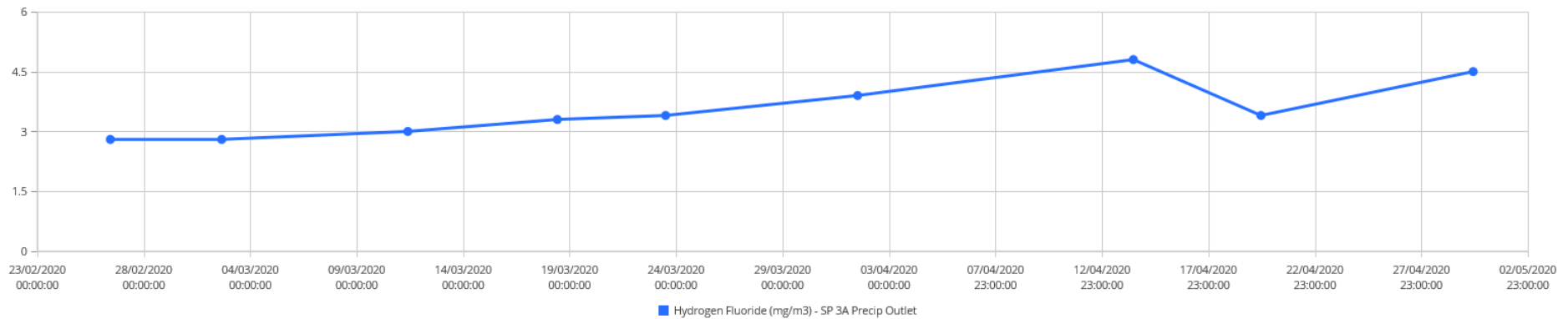
2018 Bypass – Not Tested



2020 Bypass

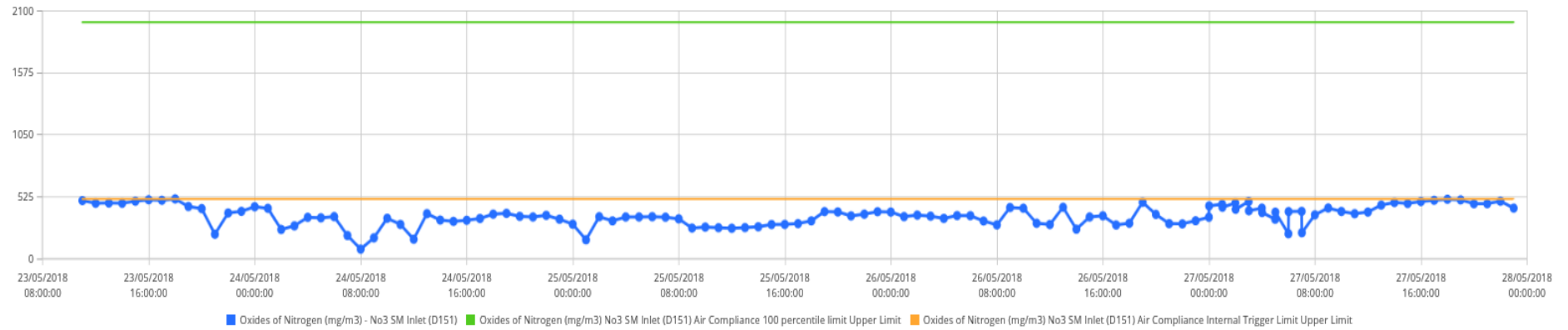
Hydrogen Fluoride (mg/m³)

2018 Bypass – Not Tested

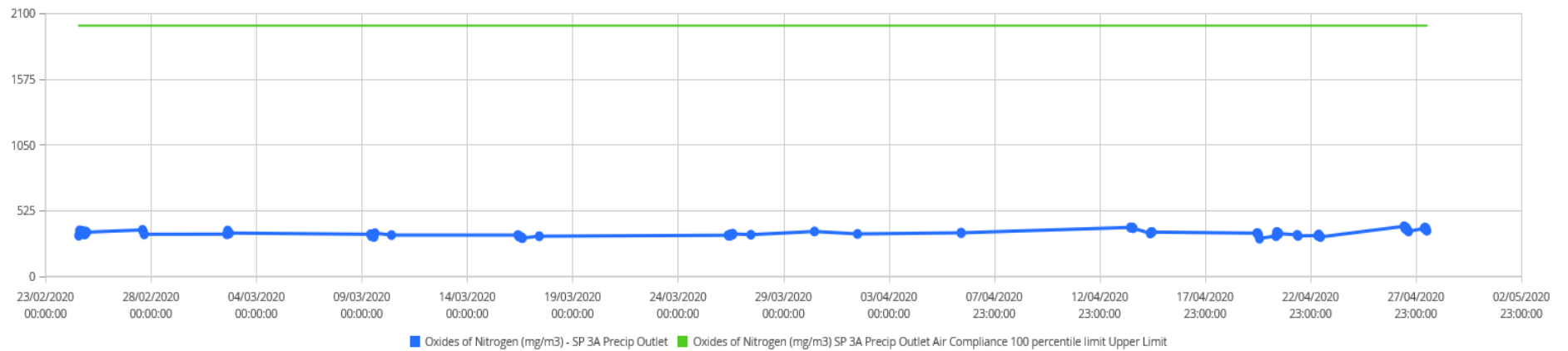


2020 Bypass

Nitrogen Oxides (mg/m³)

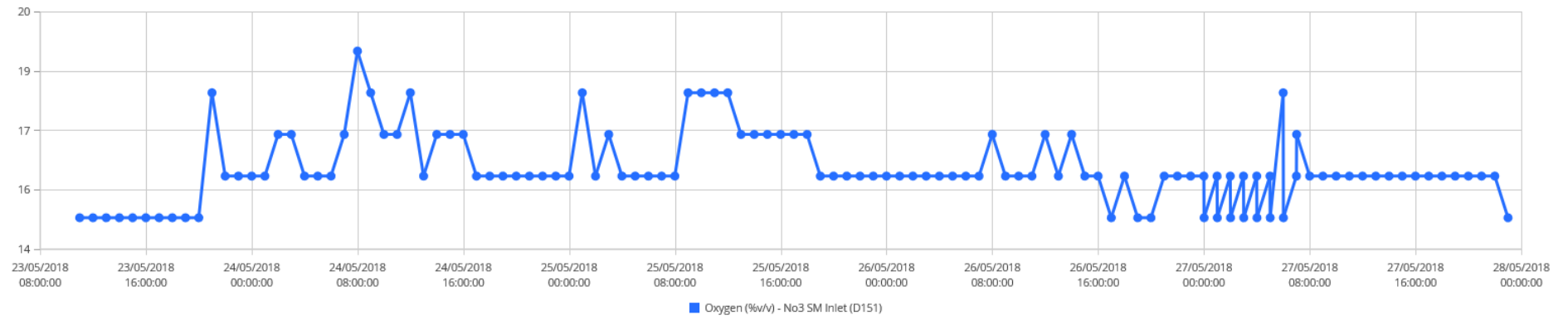


2018 Bypass

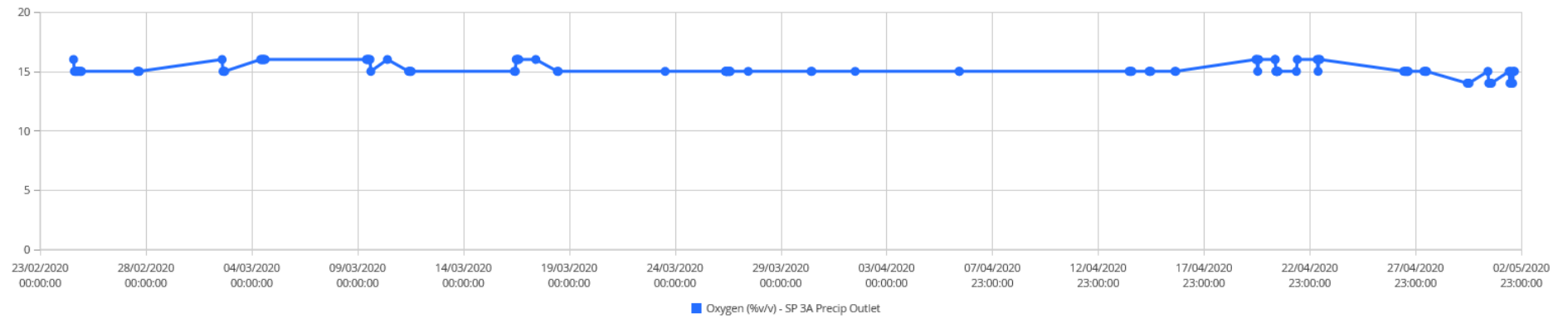


2020 Bypass

Oxygen (%)

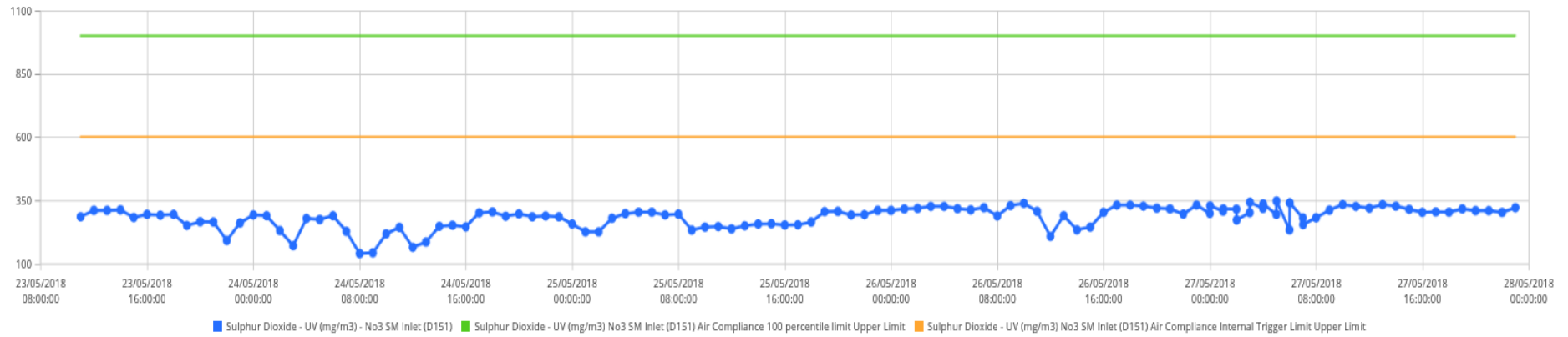


2018 Bypass

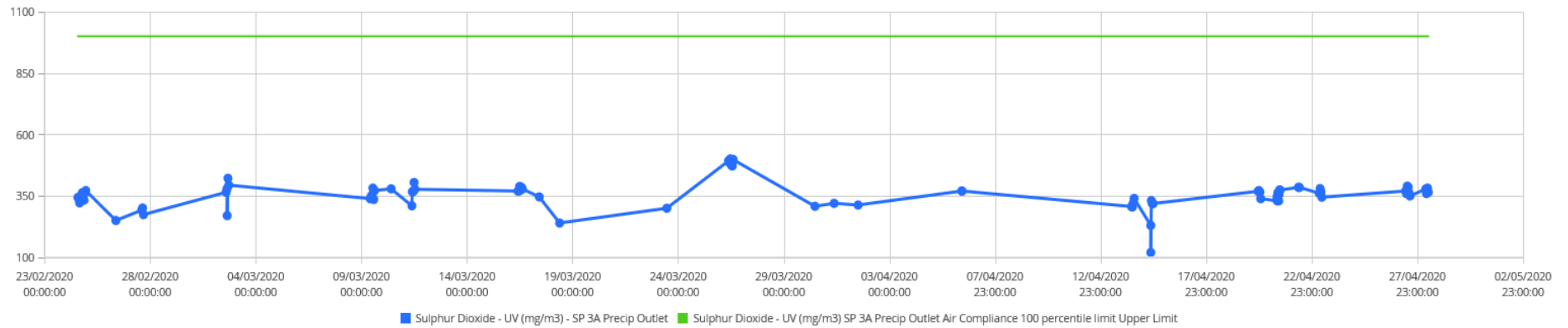


2020 Bypass

Sulphur Dioxide (mg/m³)

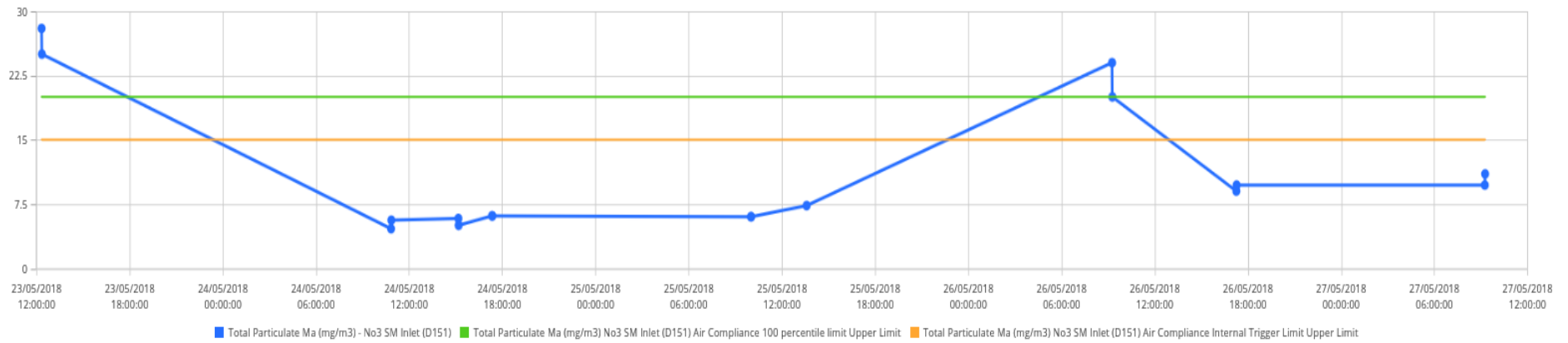


2018 Bypass

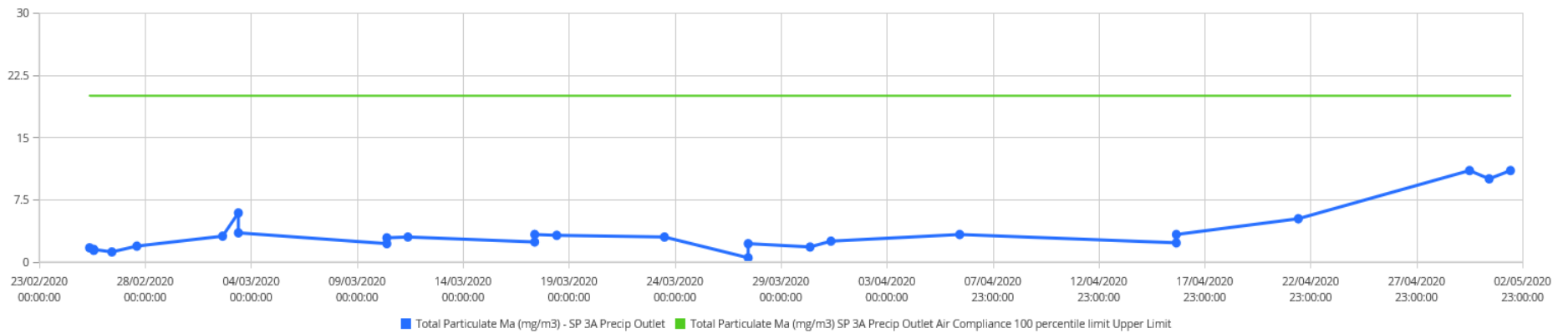


2020 Bypass

Solid Particles (mg/m³)

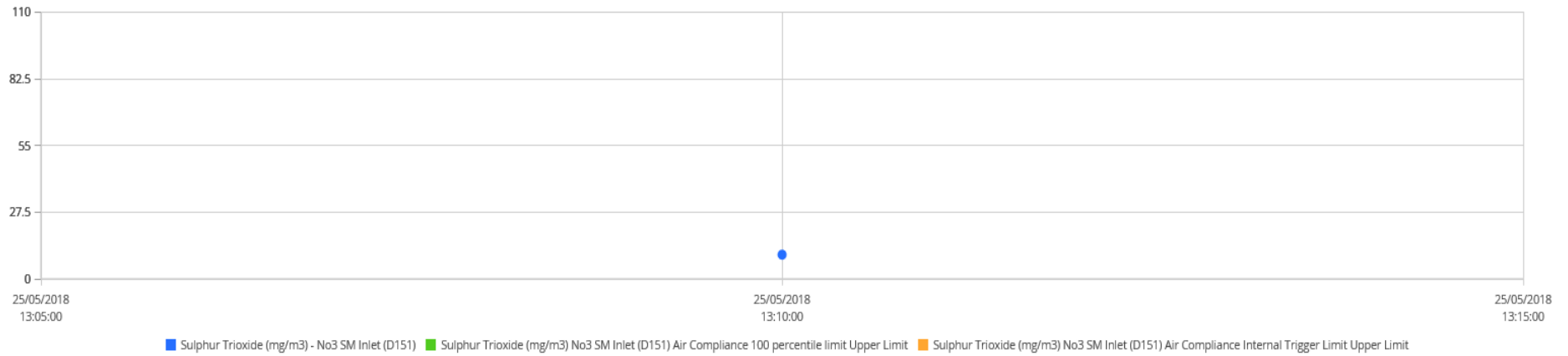


2018 Bypass

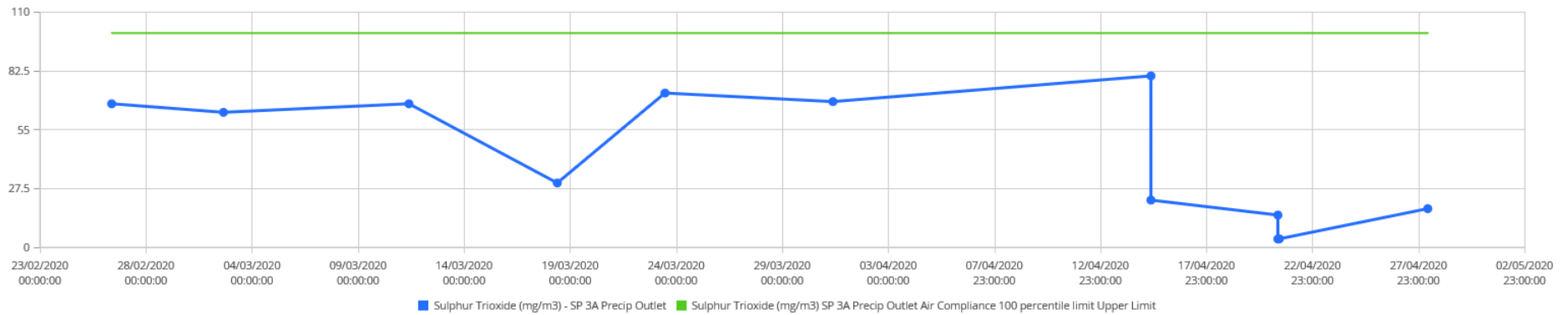


2020 Bypass

Sulfuric acid mist and sulfur trioxide (mg/m³)

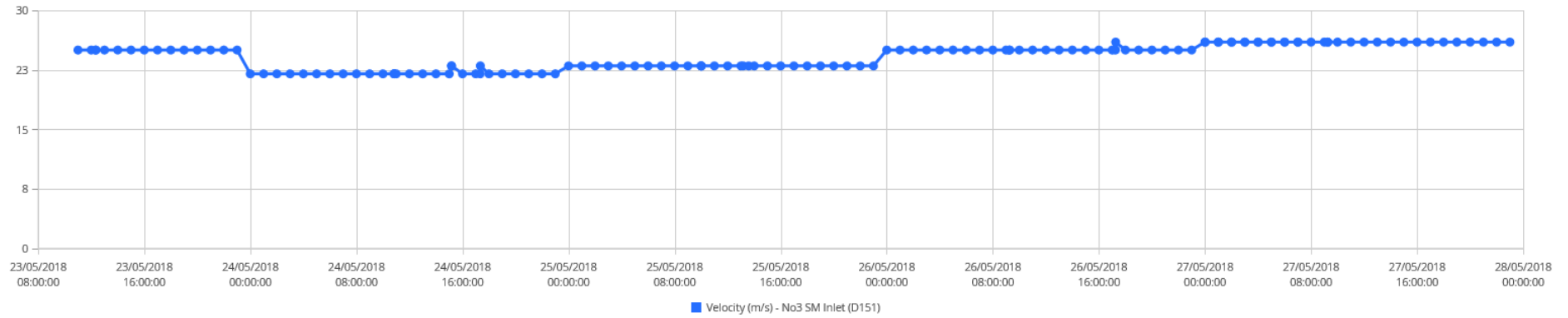


2018 Bypass

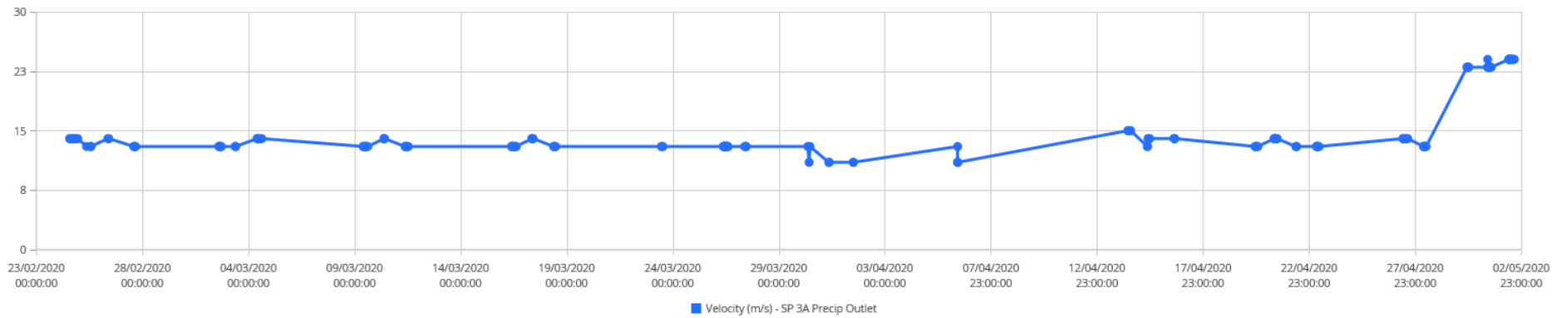


2020 Bypass

Velocity (m/s)

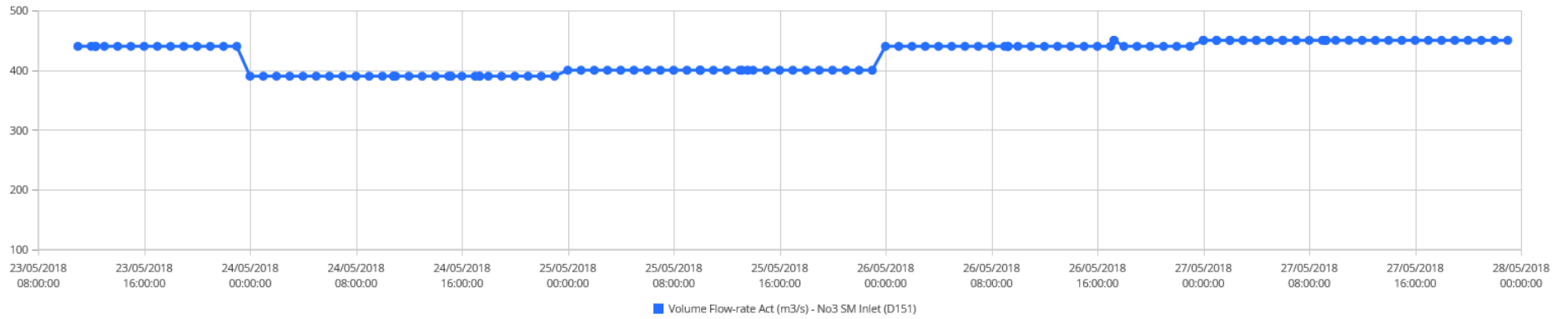


2018 Bypass

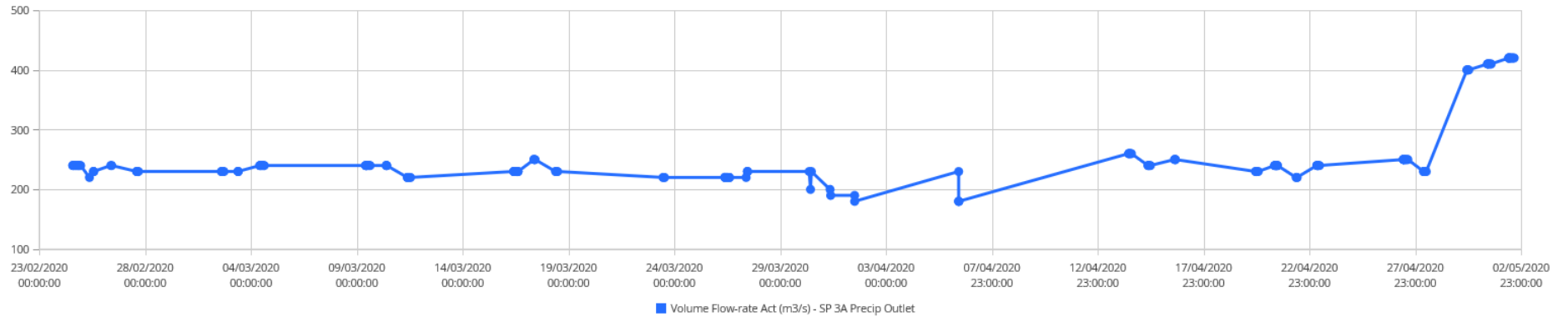


2020 Bypass

Volumetric Flowrate (m³/s)

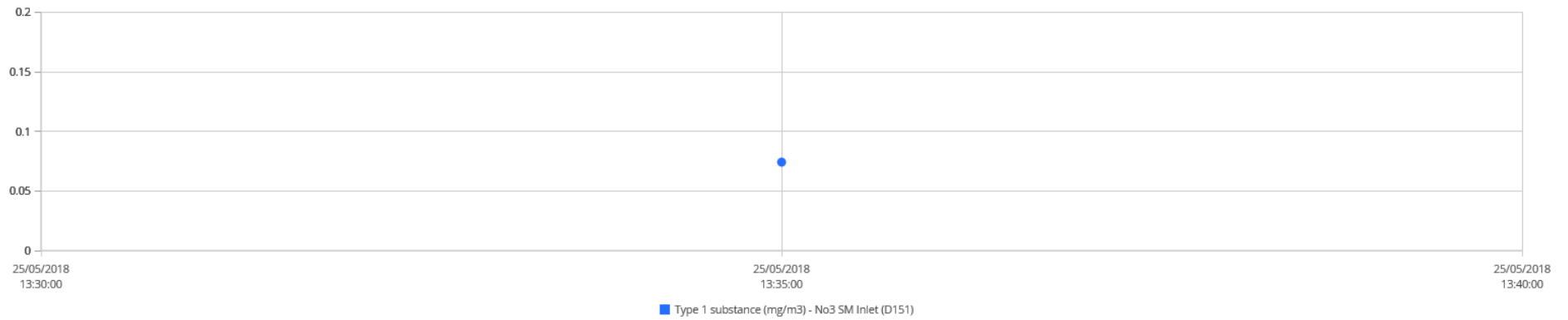


2018 Bypass

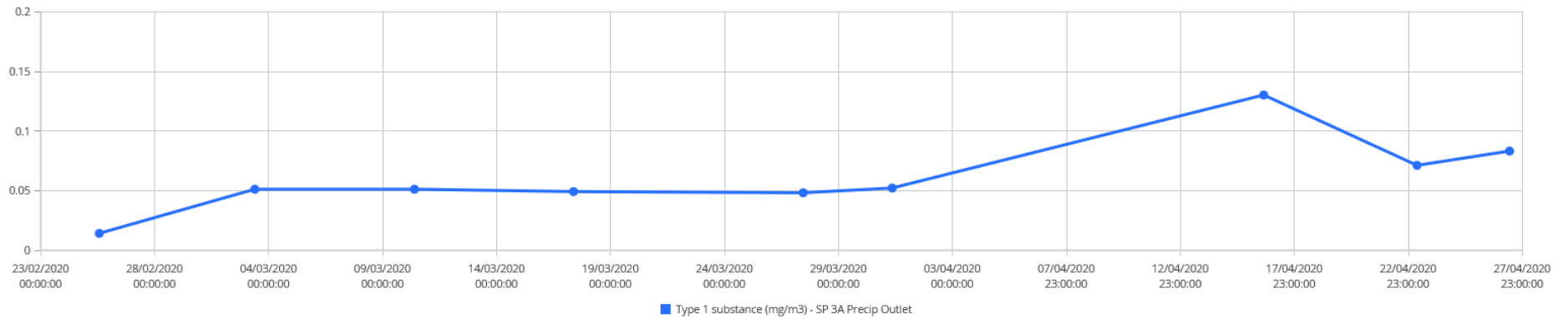


2020 Bypass

Type 1 Substances (mg/m³)

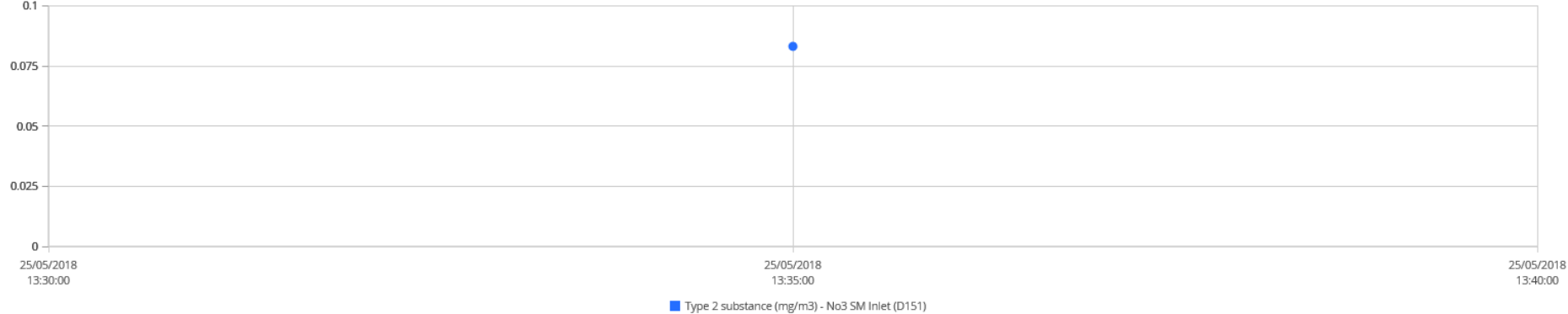


2018 Bypass

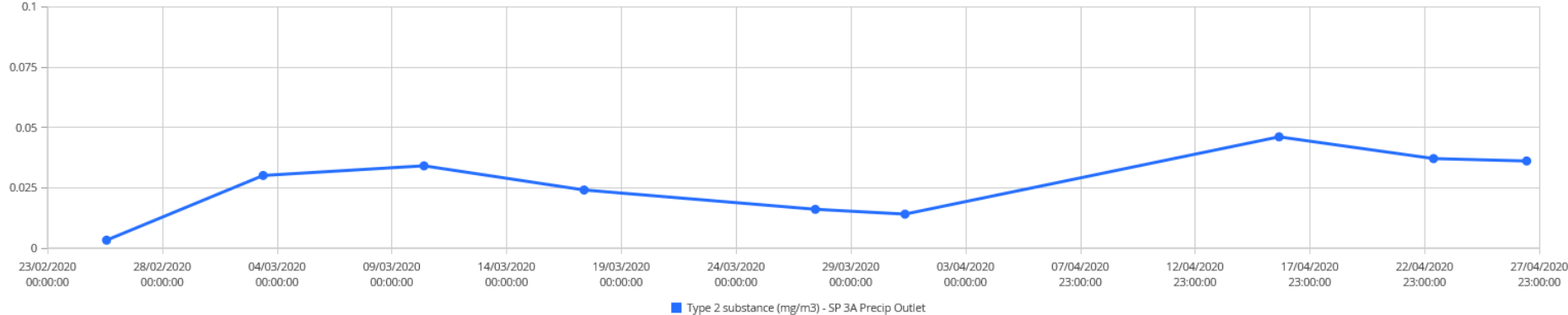


2020 Bypass

Type 2 Substances (mg/m³)



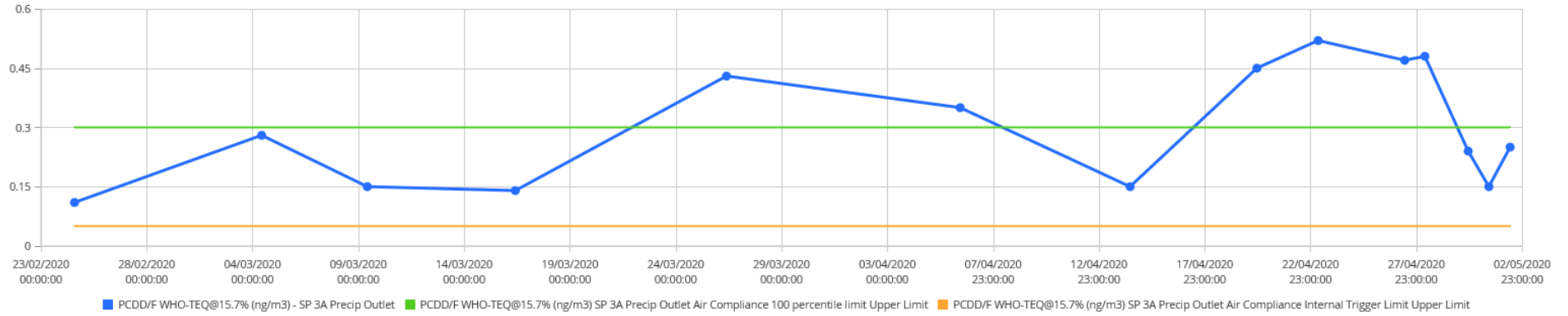
2018 Bypass



2020 Bypass

Dioxins and Furans (ng/m³)

2018 Bypass – Not Tested



2020 Bypass

Attachment 5

Water Quality Monitoring Data

1 July 2017 – 30 June 2020

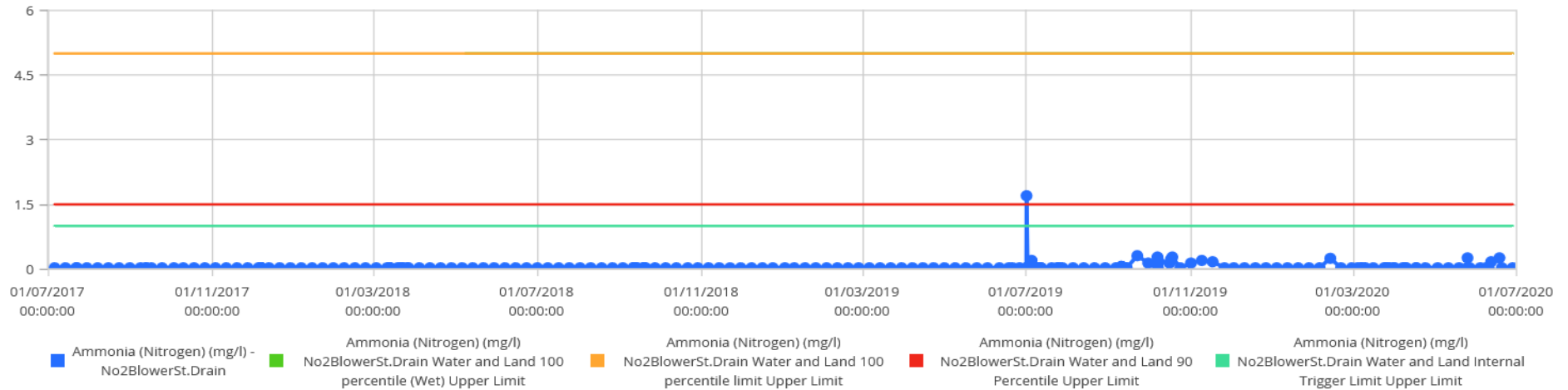
Ironmaking East Drain (Point 89)

No data available.

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

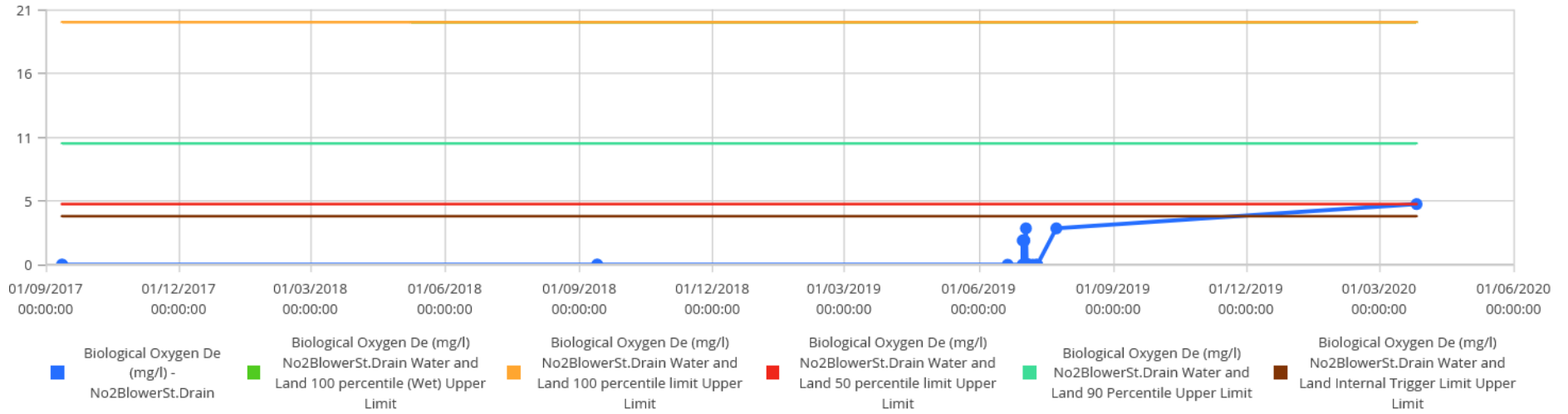
No 2 Blower Station Drain (Point 79)

Ammonia (mg/L)



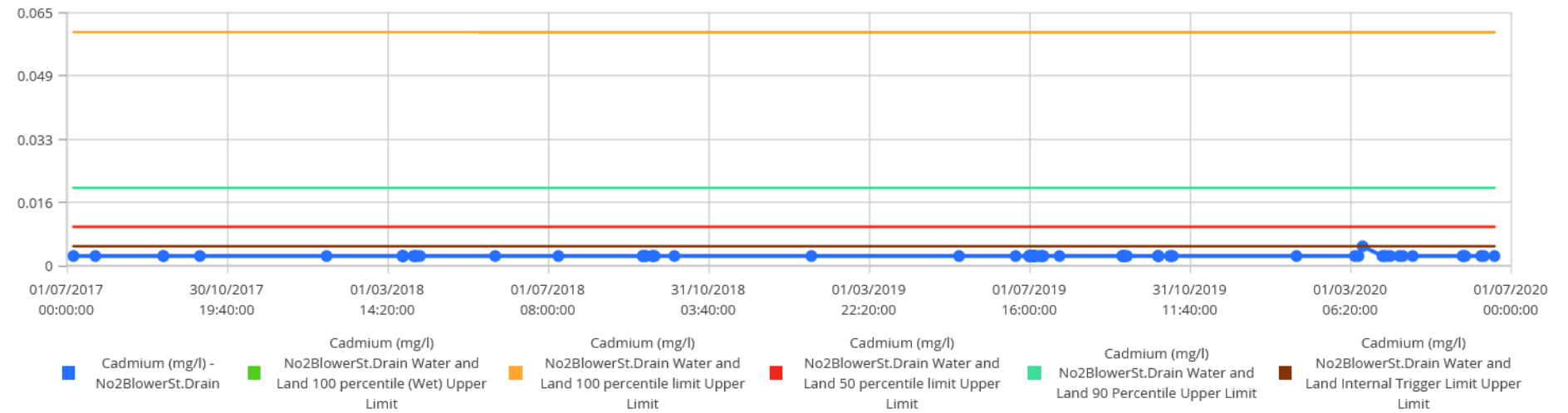
Note: Wet weather limit equal to dry weather limit

Biochemical Oxygen Demand (mg/L)



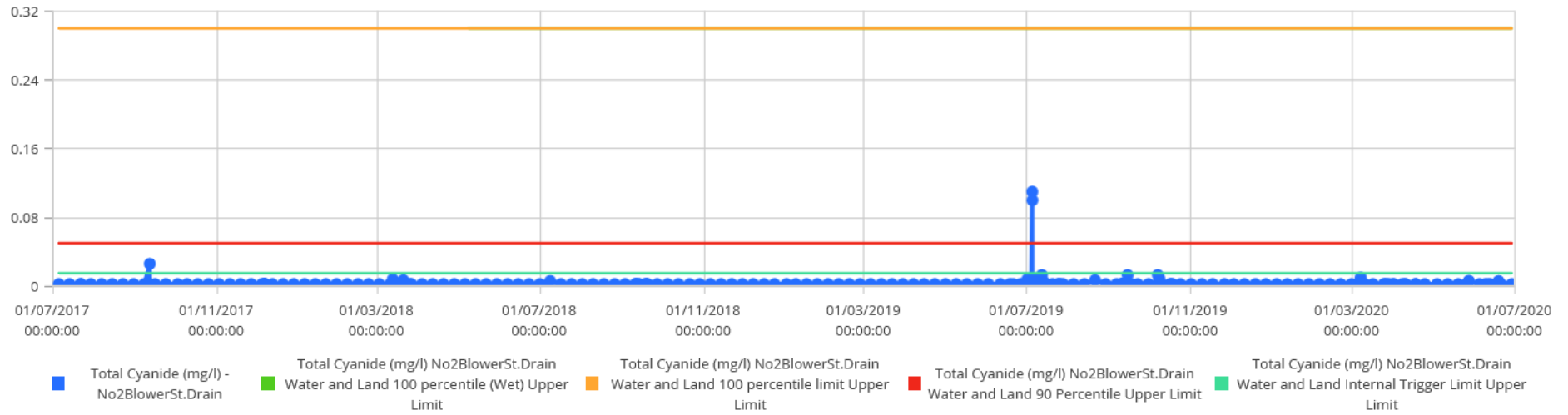
Note: Wet weather limit equal to dry weather limit

Cadmium (mg/L)



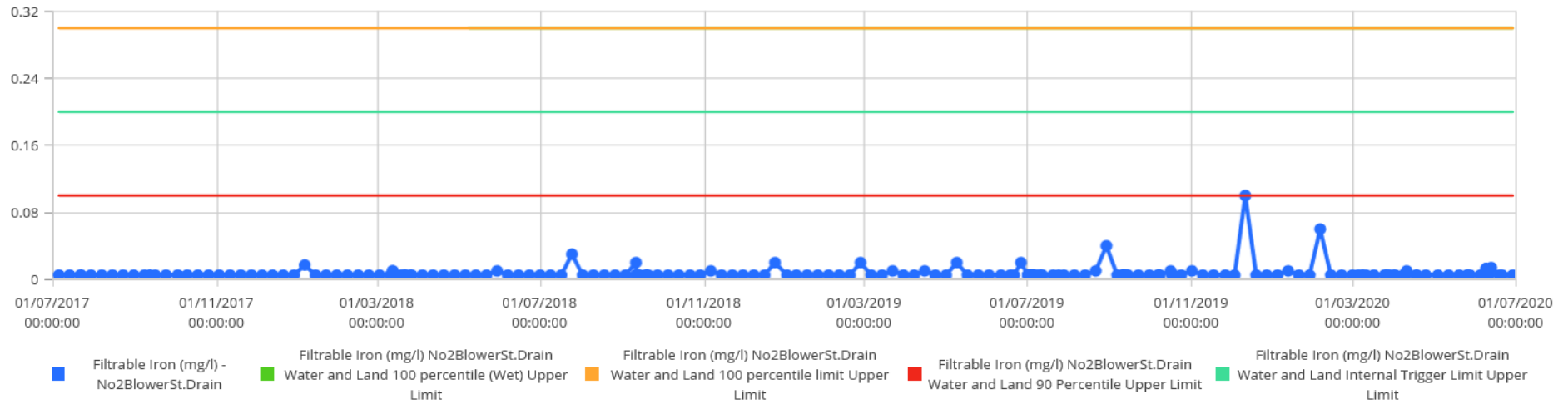
Note: Wet weather limit equal to dry weather limit

Cyanide (mg/L)



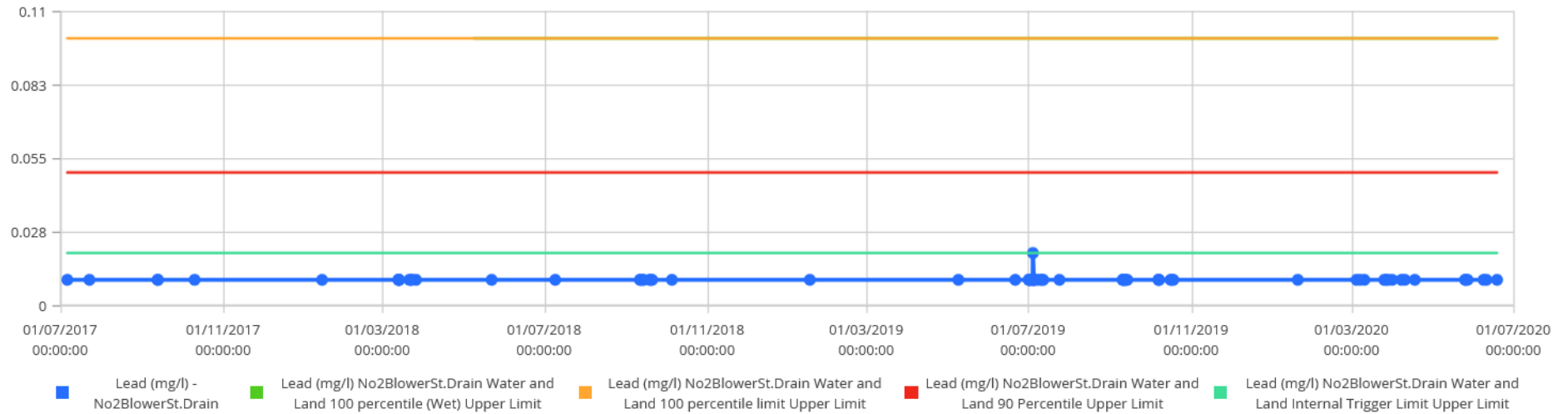
Note: Wet weather limit equal to dry weather limit

Filterable Iron (mg/L)



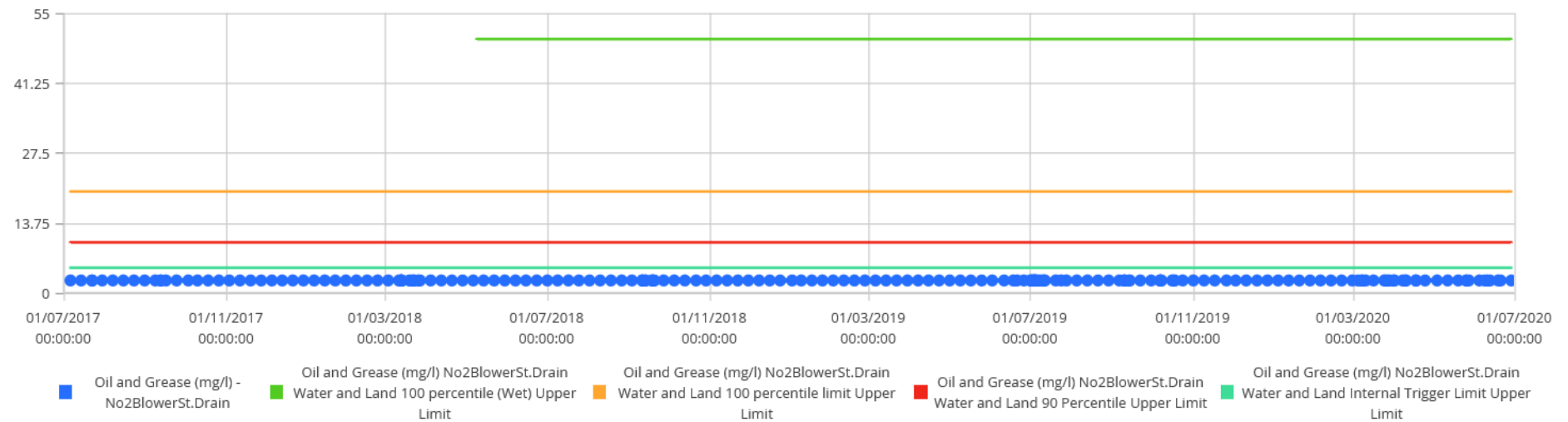
Note: Wet weather limit equal to dry weather limit

Lead (mg/L)

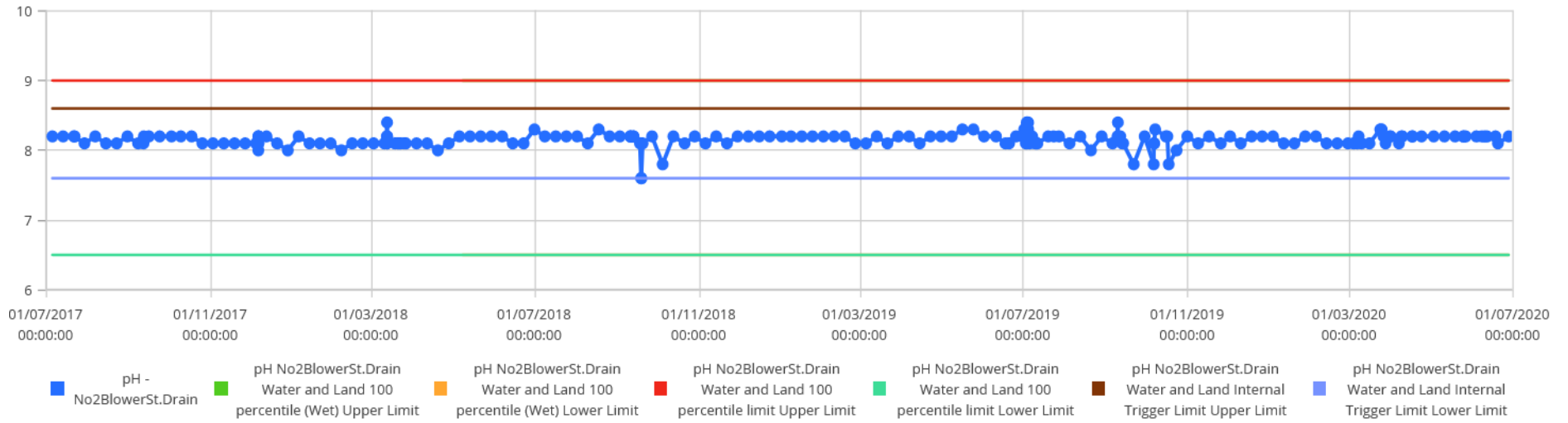


Note: Wet weather limit equal to dry weather limit

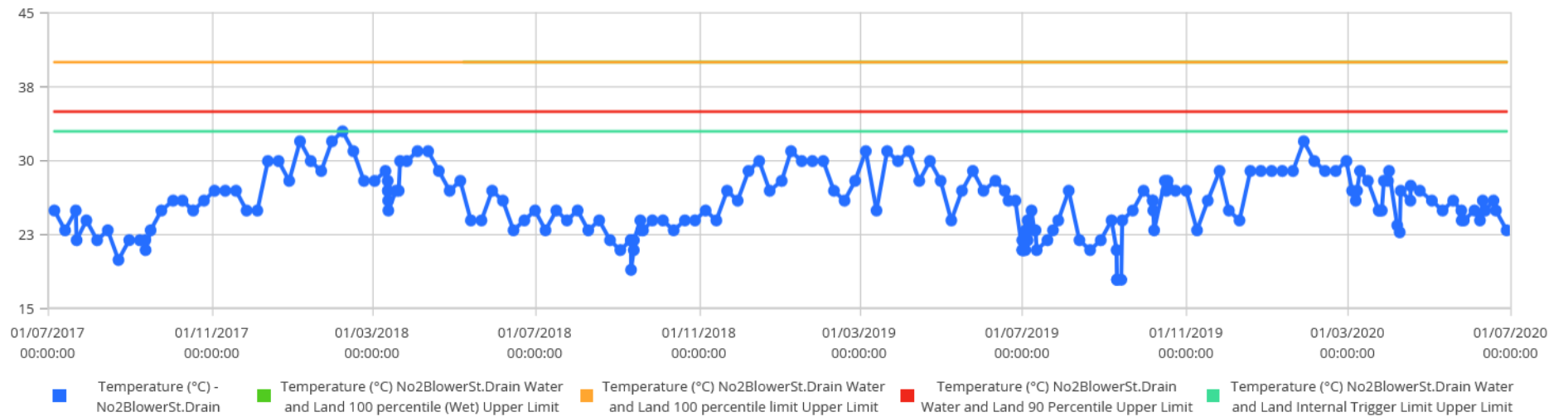
Oil and Grease (mg/L)



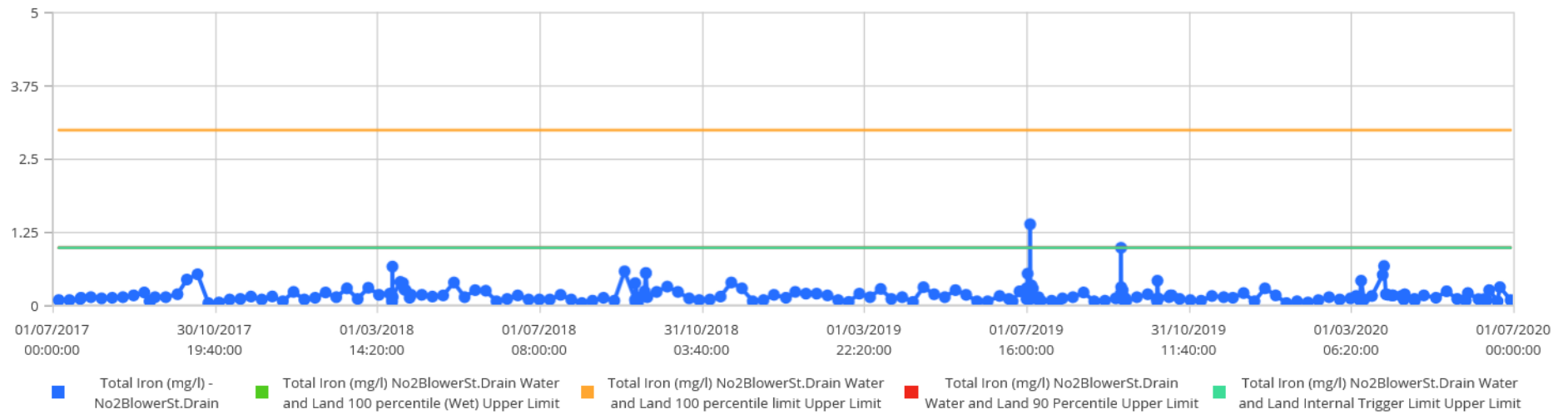
pH



Temperature (°C)

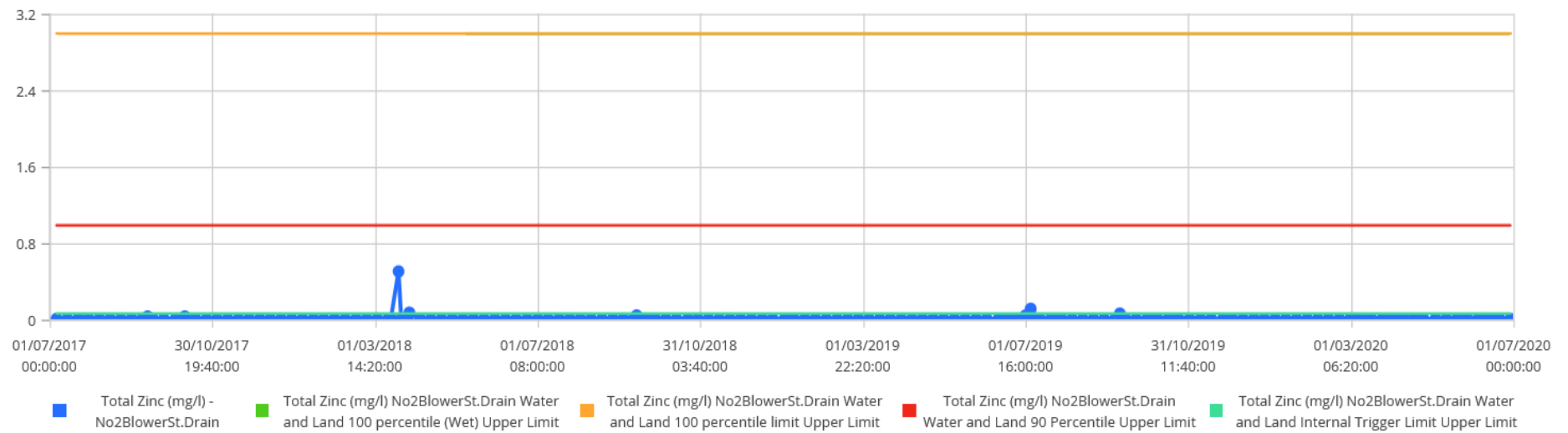


Total Iron (mg/L)



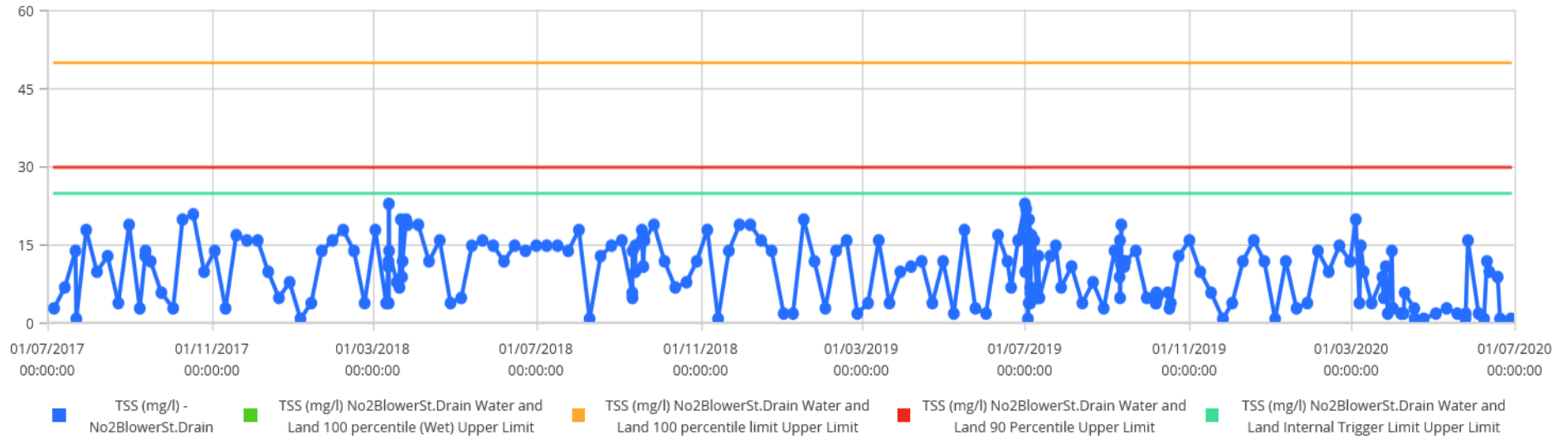
Note: Wet weather limit of 50mg/L not shown on graph

Total Zinc (mg/L)



Note: Wet weather limit equal to dry weather limit

Total Suspended Solids (mg/L)



Note: Wet weather limit of 500mg/L not shown on graph