Boral Cement Works Berrima Kiln 6 Upgrade (DA 401-11-2002-i)
Independent Environmental Audit Non-Standard Fuels
May 2025

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1. Introduction

This audit has been prepared in response to Condition 4.6 of Development Consent 401-11-2002 MOD15. The audit has been conducted in accordance with Independent Audit Post Approval Requirements dated June 2018 and covers the use of Non-Standard Fuels (NSF) at the Berrima Cement Plant. The audit was commissioned by Boral Cement in January 2025 following approval of the appointment by the Department of Planning, Housing and Infrastructure (DPHI) in November 2024.

This audit is undertaken in conjunction with the external QA/QC audit of current three NSF suppliers given the need to analyse NSF quality and stack emissions for the same period.

1.1 Background

Boral Cement Limited (Boral) own and operate the Berrima Cement Works under two development consents, DA401-11-2002 (Kiln 6, May 2003) and DA85-4-2005 (Mill 7, August 2005). The use of Non-Standard Fuels is listed under DA401-11-2002. The cement plant produces clinker by heating a combination of limestone, clayshale and iron which is fed into the kiln. The plant has traditionally been fired by coal, at temperatures of between 1,000 to 1500°C. The clinker is then ground with other additives such as gypsum to produce cement. The ash produced by the coal forms part of the clinker which also provides other mineral silicates which are necessary for the final product. Not all fuel types are suitable to replace coal in clinker production.

Between 1926 and 2013, the coal was supplied by Berrima Colliery at Medway however since its closure, coal has been sourced from other suppliers. In 2004, Boral commenced investigating the use of alternative fuels. This initially involved using waste tyre chips (AKF5) but with subsequent modifications the list of alternative fuels was expanded to include liquid waste oil (AKF1), spent aluminium electrode carbon (HiCal50), wood waste and refuse derived fuel (RDF). The current consent (Modification 15) lists the maximum amount of alternative fuels to be used with the remainder of the plant requirements to be serviced by standard fuels. The current limitations are listed in Table 1. These amounts were increased in the 2024 reporting period with the approval of Modification 14.

The plant operates 24 hours per day, seven days per week. Planned shutdown generally occurs at least once per year for maintenance but can occur more often in the event of unplanned shutdown. Start-up of the kiln requires the use of natural gas, diesel and/or fuel oil before gradual incorporation of coal once temperature has reached 850°C. Non-standard fuels (with the exception of HiCal50) can only be used when kiln temperature is at 850°C and above, which is the ignition point for coal while the kiln generally runs at temperatures in the order of 1,500°C.

During the reporting period for this audit, the main non-standard fuels used was wood waste and RDF both are wood based material and are also referred to as Solid Waste Derived Fuel (SWDF). A small quantity of Tyre Chips (AKF5) was also used.

The consent allows up to a combined 250,000 tpa of SWDF to be used, but individually no more than 100,000 tpa of wood waste and 200,000 tpa RDF. These limits were increased to these levels as a result of Modification 14 which was approved in November 2023.

The use of NSF was originally approved by MOD9, while on 25th October 2019, MOD11 was approved by the now named Department of Planning, Housing and Infrastructure (DPHI) which permits HiCal 50 to be used during start up and shut down. HiCal 50 is a high calorific value carbon anode material with similar properties to coal. HiCal 50 can only be fed into the kiln via the coal mill and is used as a blend with other coal material. It would therefore not be feasible to separately feed the material with other non-standard fuels.

MOD13 allowed for the installation a chloride bypass system which was commissioned in early 2024. This system allows for a more efficient and effective fuelling process for the kiln which increases the kiln's ability to consume SWDF. This modification also allowed for the use of forestry woodchips sourced from forestry operations. These woodchips are sourced from fire affected plantations where the trees are no longer viable for timber or pulp. This material is considered a standard fuel and therefore falls outside the scope of this audit.

A summary of the approved fuels used in the kiln is provided in Table 1.

Table 1 – Fuels Used at the Berrima Cement Works

Fuel	Category	Tonnes Per Annum	Comment
Natural Gas, Fuel Oil, Diesel	Standard Fuel	No Limit	Used on start up of the kiln
Coal	Standard Fuel	No Limit	Historically used but volume has reduced with the use of NSF
Coke Fines	Standard Fuel	No Limit	Little use
HiCal50	Non-Standard Fuel	10,000	Generally used in kiln start up
AK1	Non-Standard Fuel	20,000	Only used in kiln start up
AKF5	Non-Standard Fuel	30,000	Used tyres
Wood Waste	Non-Standard Fuel	100,000	Up to 250,000 tpa combined
Refuse Derived Fuel	Non-Standard Fuel	200,000	
Woodchips	Standard Fuel	150,000	Clean timber and sawdust

1.2 Audit Scope

This audit specifically deals with conditions relating to the use of Non-standard Fuels, that is, Condition 4.6 and related conditions. The scope of this audit includes consideration of:

- ❒ Specific development consent conditions relating to Non-Standard Fuels;
- ❒ Management plans prepared or updated to include the use and management of Non-Standard Fuels;
- ❒ Reporting requirements under the consent in relation to Non-Standard Fuels;
- ❒ Monitoring data and internal compliance reporting;
- ❒ Environmental Risks and outcomes in terms of AS/NZS ISO 19011;
- ❒ The predictions of environmental impact assessments;
- ❒ The performance of the operation;
- ❒ Any incidents or community complaints specifically in relation to the use of Non-Standard Fuels;

- ❒ Compliance with previous audit recommendations; and
- ❒ Environmental performance of existing controls and procedures.

As this is the third audit since the commencement of the use of Non-standard Fuels, the preconditions that needed to be satisfied before the commencement of using Non-standard Fuels have been satisfied. This audit explores the performance of the controls in more detail.

1.3 Audit Objectives

The conduct of this audit included the following activities:

- ❒ Review any updated environmental management plans;
- ❒ Review of all collected environmental monitoring data since the previous audit;
- ❒ Interviews with key management personnel; and
- ❒ Detailed site inspection.

The following report provides an assessment of compliance in relation to the use of non-standard fuels at Berrima Cement Plant. The assessment has centred on the use of non-standard fuels as described in condition 4.6:

Condition 4.6 – Non-Standard Fuels Auditing

> Within 12 months of the receipt of the first load of any Group 1 or Group 2 Non-Standard Fuels under this consent, the Applicant shall arrange for and bear the full cost of an independent and comprehensive audit of the use of Non-Standard Fuels at the development. Further Audits are to be conducted every 12 months, or as otherwise directed by the Planning Secretary. The Audits are to be carried out by a duly qualified and independent person or team to be approved by the Planning Secretary, and submitted directly to the Planning Secretary, the EPA and NSW Health unless otherwise directed by those agencies. The Audits shall be carried out in accordance with *ISO 19011:2002 - Guidelines for Quality and/ or Environmental Management Systems Auditing* and shall cover all aspects of the use of Non-Standard Fuels at the development, including, but not limited to:
>
> a) an assessment of compliance with the requirements of this consent, and other licences and approvals that apply to the use of Non-Standard Fuels at the development;
>
> b) a review of management practices and operating procedures regarding the proper and efficient operation of Kiln 6 whilst using Non-Standard Fuels, especially with regards to the minimisation of dioxins emissions;
>
> c) assessment of quality control and quality assurance measures implemented by the Non-Standard Fuel suppliers, especially with regards to the sampling and analysis undertaken to ensure that Non-Standard Fuels comply with the relevant fuel specification;
>
> d) a review of the fuel quality control management procedures implemented by the Applicant including assessment of the Applicant's handling, processing, verification and analysis of information generated by the Applicant and received from the Non-Standard Fuel suppliers;
>
> e) suggestion of any recommendations with respect to any of the matters listed above; and

f) a review of compliance with the process parameters specified in Condition 3.24 of this consent, including a report of the number of events and total number of hours required to cease the feed of any Group 2 Non-Standard Fuels.

The consent also allows for the non-standard fuel audit to be combined with the overall facility audit however Boral has determined that this audit should be conducted separately. Future audits may be combined.

1.4 Audit Criteria

The criteria used to determine compliance include:

- ❒ Emission criteria listed in the Environment Protection Licence 1698.
- ❒ Limits listed in DA No. 401-11-2002-i MOD15.
- ❒ Supplier criteria listed in the QA/QC Plan attached to DA No. 401-11-2002-i MOD15.
- ❒ Predictions made in the air quality model contained in the environmental assessment which supported Modification 9, approval to use Solid Waste Derived Fuel.

1.5 Endorsement of Auditor

Robert Byrnes of International Environmental Consultants Pty Ltd was approved by DPIE to undertake the independent audit. Correspondence from DPIE is attached in Appendix D. Mr Byrnes holds a Bachelor of Science and post graduate qualifications in environmental science and has 41 years experience in environmental assessment and management of mining and extractive industries and holds Exemplar Global Certificate Number C-458984 Lead Auditor Environmental Management Systems.

1.6 Audit Period

This audit covers the period 30th September 2023 to 1st October 2024. Data used in this audit extended to 31st December 2024 to correspond with QA/QC reporting from NSF suppliers.

2. Audit Methodology

This audit has followed the requirements of the Independent Audit Post Approval Requirements 2020 published by the then Department of Planning and Environment, however given that this audit does not cover the entire operation and centres on specific conditions in relation to the use of NSF, some components of the audit guidelines are not relevant. The audit also refers to the methodology contained in AS/NZS ISO 19011 Guidelines for Auditing Management Systems. The overall method has involved the following areas of investigation.

2.1 Audit Plan

In accordance with section 6.3 of ISO 19011, an Audit Plan was prepared for this audit. The plan included the formulation of the audit objectives and scope described in Chapter 1 as well as communication protocols with the auditee, details of information requirements, logistics, meetings and site interviews and detailed site inspections for both the cement works and the various NSF suppliers. This formed part of the overall audit methodology, which is described in more detail in the following sections.

The Audit Plan was discussed with Boral personnel and agreement was reached on the method of data review, particularly the 1 hour stack emission data, ambient monitoring data and supplier NSF quality data which represented several very large data files. The data was provided by external hard drive which was reviewed and graphed in order to assess compliance.

2.2 Review of Environmental Documentation

Boral has produced a number of key documents covering the use of alternative fuels. The full list of documents used in this audit is contained in Appendix B. This list has been updated with the newer documents provided at the end of the table in order to preserve the original document list. In summary, these documents include:

- Environmental assessment including air quality modelling.
- Operation Environmental Management Plan covering the use of NSF including updated documents resulting from Consent Modifications 14 and 15.
- Reports coving Non-Standard Fuels Pollutant Tracking.
- Independent Annual Emission Testing NPI Reporting.
- Independent Annual Testing Compliance Report.
- Emissions Report covering the use of Tyre Chips.
- Quality Assurance and Control plan data including independent testing of material received from suppliers.

Boral has continued to use the services of Ektimo to undertake specific third party external audits and compliance testing of emissions and monitoring equipment. At this stage of the compliance testing program, Ektimo does six monthly testing. The reports covering the last 12 months have been separated at the end of the table in Appendix B.

2.3 Environmental Monitoring Data

There are three components to the environmental monitoring program which cover ambient data, feed rate data and process emission data. Although the overall site monitoring program includes other parameters such as noise and water quality, of relevance to the use of NSF is the air quality data and process related data.

The consent deals with all three components which have been largely aligned with the Environment Protection Licence. For the purposes of this audit, all monitoring data collected since the commencement of using NSF has been reviewed. The results of this review are provided in Section 3.4.

Continuous monitoring generates large volumes of data. This audit has obtained all monitoring data in digital format and used this data to assess compliance. This assessment has also included identification of trends and anomalies in the data. All identified anomalies were raised in follow-up meetings with cement plant personnel.

This audit has also relied on the summaries provided by the independent testing consultant Ektimo Pty Ltd. Ektimo has been involved in the development of testing equipment and procedures and currently provide six monthly verification testing. They were also involved in the initial Proof of Performance reporting which were provided to the EPA and DPHI.

In order to assess environmental performance, this audit has included a review of ambient pollutant concentration and comparison with the predictions made in the Environmental Assessment and other documents provided to DPHI and the EPA in support of the various consent modification applications.

The primary purpose of the monitoring program is to assess the environmental performance of the plant when using NSF as well as confirm the impact predictions made in the Environmental Assessment documentation which supported Modification 9, to allow for the use of NSF.

2.3.1 Ambient Monitoring

The longstanding ambient air quality program consists of a combination of dust deposition gauges and a High Volume Air Sampler (HVAS). This program has been conducted for many years, however Special Condition E3 of EPL 16098 required the Cement Works to undertake a review of the existing dust monitoring network at the premises and provide a proposal for a revised air quality monitoring system that uses real-time dust monitors to inform a trigger action response plan. A program for implementation has now been accepted and is due to be fully operational by December 2025.

A Trigger Action Response Management Plan (TARP) for dust was previously developed which included monitoring of current and forecast weather to manage potentially dust generating activities on site. The TARP is currently under review given the move to continuous real time monitoring. It is understood that the new TARPs will be provided to the EPA in the second half of 2025. The infrastructure supporting the new real-time monitoring equipment was inspected as part of this audit.

2.3.2 Plant Operation Monitoring

The second component is process monitoring of the operation which includes feed rates, temperatures and air flow within various components within the mill and kiln. This system is continuously monitored within the control room and adjustments to feed rates are made accordingly.

2.3.3 Stack Emissions Monitoring

The third component is continuous stack emissions for various air quality parameters. This data is also continuously monitored at the control room. The data includes particulate matter, sulphur dioxide, oxides of nitrogen, metals, and a range of volatile organic compounds. Stack emission data is usually recorded each minute but averaged over an hour. Depending on the parameter, some data is averaged over a 24 hour period.

2.4 Site Interviews and Inspections

This audit commenced with a meeting at the Berrima Cement Plant the in January 2025 with the receipt of emission data. This was followed up by meetings with NSF suppliers on 7th March 2025 and an inspection of the Berrima Cement Works on 18th March 2025. The results of the initial review of stack emission data were presented to cement works management and discussions were held over several days in early March in relation to the data, calibration systems, trends and variabilities.

The site inspections covering the cement works included the NSF receival building, delivery and storage facilities, reclaim system and delivery system to the kiln, while inspections of NSF supplier premises included material delivery area, processing and separation systems and final product areas. Key Boral personnel were involved in the inspections were Gabriel Paicu (Technical Manager Boral Cement Works) and Sharon Makin (Environment Business Partner NSW/ACT).

2.5 Authority Liaison

Boral has been in close consultation with both the EPA and the Department of Planning, Housing and Infrastructure and Environment over the past 12 months. Copies of correspondence is provided as Appendix A. The Department of Planning, Housing and Infrastructure (DPHI) in their letter of 20th November 2024 which stated that the audit should be conducted in accordance with Australian/New Zealand Standard: Guidelines for quality and/or environmental management systems Auditing (AS/NZS ISO 19011) and the department's Independent Audit – Post Approval Requirements 2020. The latter requirements specify that:

- The audit findings must be based on verifiable evidence such as relevant documents, records, interviews with site personnel, photographs and plans.
- a compliance table indicating the compliance status of each condition of approval and any relevant EPL;
- only use the terms Compliant, Non-compliant or not triggered as descriptors and do not use the term "partial compliance" or "administrative non-compliance";
- recommend actions in response to non-compliances;

- review the adequacy of plans and programs required under this approval; and
- identify opportunities for improved environmental management and performance.

2.6 Compliance Status Description

The compliance table in Appendix A uses the descriptors outlined in Table 2 below. These are based on the current DPHI Post Approval Audit Guidelines.

The current audit guidelines do not provide for degrees of non-compliance such as administrative non-compliance or issues which would not result in environmental harm or increased risk of environmental harm. However AS/NZS ISO 19011 provides for grading of nonconformities and non-compliances.

The purpose of grading is to reflect the severity of environmental risk associated with the non-compliance. AS/NZS ISO 19011 also outlines a risk-based approach that considers the degree of environmental risks and opportunities. This approach allows for discussing non-compliance in terms of potential environmental harm. In order to comply with AS/NZS ISO 19011 an Audit Findings and Recommendations section has been added to the compliance table which discusses each item in terms of risk of environmental harm.

Table 2 – Compliance Descriptors

Status	Description
Compliant	The auditor has collected sufficient verifiable evidence to demonstrate that all elements of the requirement have been complied with within the scope of the audit.
Non-compliant	The auditor has determined that one or more specific elements of the conditions or requirements have not been complied with within the scope of the audit.
Not triggered	A requirement has an activation or timing trigger that has not been met at the time when the audit is undertaken, therefore an assessment of compliance is not relevant.

This audit presents the findings in accordance with the three categories provided in the DPHI guidelines but also provides an additional comment where considered appropriate, on severity using the following grading:

- The non-compliance has or could result in an exceedance of assessment criteria or environmental harm.
- The non-compliance has not and would be unlikely to result in an exceedance of assessment criteria or environmental harm.
- The non-compliance is administrative in nature and has not and could not in itself result in an exceedance of assessment criteria or environmental harm.

In addition to the above descriptions of non-compliance, the audit has included observations and comments on the adequacy of environmental controls and procedures, including the efficacy of existing management and control procedures.

3. Audit Findings

The outcomes of the audit are discussed in the following sections. These include site inspections of the Berrima Cement Works and NSF suppliers, review of the monitoring program and resultant data, management plans and controls. The audit results in relation to the conditions of the consent are provided in detail in Appendix A.

3.1 Site Inspections

The site inspection for the Berrima Cement Works on 18th March 2025 while the site inspections for the NSF suppliers were completed on 7th March 2025. The results of the inspections are discussed in the following sections.

3.1.1 Berrima Cement Works

This inspection provided an overview of the operation and any changes since the 2021 inspection. It included the kiln and surrounding area, tyre chip storage, NSF storage shed, material receival, reclaim system and conveyor delivery systems. An inspection of the control room was undertaken during the interview process and included general discussions on the shut down procedures and trigger action responses.

The material is delivered by truck which reverses into the shed. NSF is then shaken into the receival bunker which is then "grabbed" by an overhead crane which can either reclaim the material into the main storage bunker or into the conveyor hopper. The material is weighed on the conveyor to control fuel dosage to the kiln. Data transferred to the control room includes conveyor speed and material weight which can be adjusted as required based on operating data from the kiln. The receival area of the shed is shown in Plate 1 below.

Plate 1 – NSF Storage Shed

Trucks currently enter through the main entrance off Taylor Avenue and travel along the main sealed access road to the receival shed. There is adequate signage and safety barriers for the safe passage of articulated heavy vehicles.

Although not part of this audit, it was noted that Modification 14 also includes a new access road off the Old Hume Highway which will reduce impacts on the village of New Berrima located adjacent to Taylor Avenue. Once implemented, this project will result in an alternative entry to the bulk materials delivery area directly off the Old Hume Highway.

The truck trailers have been modified specifically for the transport of NSF. They are well sealed to prevent dust during transport but can open up between the trailers to allow the contents of both to be discharged into the bunker as one action as shown in Plate 2.

Plate 2 – Internal Operation of NSF Storage Shed

Separate doors are manually opened and sealed prior to the floor vibrator being activated. The vibrating action helps separate the finely shredded waste while all dust is kept within the building.

A purpose built grab is used to pick up the material to deliver onto the feed conveyor. Some dust is generated during this process however the grab has a lockout which prevents it working while the receival doors are open. This ensures that internal dust generated does not leave the building.

The inspection covered all sides of the receival shed and there was no visible dust leaving the facility. There were no signs of NSF spillage outside of the shed including the feed conveyor area, truck access areas, hardstand or surrounding landscaping. An elevated view of the area around the receival shed is provided as Plate 3. The stockpile area at the rear of the shed was used for the tyre chip trial, which has been replaced by a dedicated storage area. Tyre chips are fed directly onto the NSF conveyor via a hopper located adjacent to the shed.

Plate 3 – NSF Conveyor top of Preheater Tower

There have been several upgrades that have occurred since the previous audit. These include improved dust control systems within the plant, electrical upgrades to the electrostatic precipitators, SWDF feeding systems and real time monitoring. Plate 4 shows the installation of the Multiflex feeding system which measures and feeds SWDF into the process. The Multiflex feeding system has 2 main components: a small surge hopper and two weighing screw conveyors.

Plate 4 – Multiflex System which Weighs SWDF Fed into the Plant

At the time of this audit, Ektimo was undertaking a 6 monthly round of compliance monitoring of the stack emissions. Their set up was recorded and Ektimo personnel described their methods to test and verify stack emissions. Their set up is provided in Plate 5 below.

Plate 5 – Ektimo Equipment undertaking 6 monthly Stack Emission Verification Testing

Over the past 12 months, Boral has been advancing a real time monitoring system. The data from the real time monitors is used as a management tool to notify staff when TARP triggers are met to enact the corresponding management response. The real-time dust monitors is an extra tool to alert the site to potential fugitive dust events that could impact the New Berrima village residents and surrounding rural residences. The TARP triggers are currently being developed and it is understood the system will be fully operational towards the end of 2025.

Plate 6 – Real Time Monitoring Equipment

Plate 7 below shows screen shots of the real time data as received by cement plant management.

Plate 7 Real Time Monitoring Equipment data interface

3.2 Management Plans

The main management plan covering the use of NSF is the Operation Environmental Management Plan (OEMP) dated June 2023. The OEMP is updated regularly as well as every time there is a consent amendment. This is a comprehensive document which includes the following individual management plans:

- Community Consultation and Engagement Plan
- Air Quality Management Plan
- Dust Management Plan
- Noise Management Plan
- Emergency Plan
- Pollution Incident Response Management Plan
- Transport Code of Conduct
- Waste Management Plan
- Water Management Plan.

The OEMP was updated in 2023 to include the construction and operation of the new tyre chip storage facility approved by Modification 15. Modification 15 was approved on 17th March 2023 while Modification 14 was approved later in November 2023. Modification 14 involves the increase in the use of SWDF as well as the construction of a new site access road to allow 24/7 delivery of SWDF. The current OEMP has yet to be updated to incorporate MOD 14 as the new access road has yet to be built and there has been no increase as yet in the volume of received Solid Waste Derived Fuels (SWDF).

The community engagement plan also deals with NSF, and the use of NSF has been regularly presented and discussed in the Community Liaison Group. All the remaining environmental management plans were updated in 2023. These plans adequately address the use and management of NSF including the new tyre storage and feeding system but should be updated prior to the development of the new access road and increased delivery and usage of NSF.

3.3 Quality Control Procedures and Tracking

There two components to these procedures, the first is undertaken by the suppliers and the second is a cross-check undertaken by Boral. There are currently four suppliers of NSF, three of which supply SWDF to the cement plant. These are:

- Benedict Recycling Pty Ltd, Chipping Norton. This is a purpose built facility which was recently approved as a supplier of waste wood derived fuel to the Berrima Cement Plant.
- Brandown Pty Ltd, Range Road, Cecil Park. This Resource Recovery Facility produces a range of recycled products from mixed general refuse.
- Bingo Pty Ltd, 1 Kangaroo Ave, Eastern Creek. This is a purpose-built waste recycling and recovery operation that has recently become a supplier to Boral. The facility services the construction, demolition and commercial industries and already has a timber recovery system for mulch and particle board manufacture.
- Tyrecycle, 36 Stenhouse Drive, Cameron Park NSW 2285, which is owned by ResourcCo Pty Ltd which previously provided SWDF to the cement plant. Tyrecycle is currently the main tyre recycling operation in NSW. Tyre chips are classified as AKF5 and are not derived from solid wastes.

As originally envisaged, suppliers of NSF will change over time as the waste to energy industry evolves and matures. AKF5 material has also been supplied by Molycop 360 in Cootamundra. There has been a gradual change in suppliers of SWDF since the commencement in July 2018. This was envisaged by Boral in the preparation of the QA/QC system listed in Appendix 1 of the

Berrima Cement Plant development consent DA 401-11-2002-i-MOD15. The purpose of the procedure is to define a standard approach for ensuring that the quality of SWDF received and used at the Boral Berrima Cement Works meets the specified fuel requirements and relevant statutory regulations and policies including the NSW Energy from Waste Policy irrespective of the supplier or the source material. The audits cover both Group 1 Non-Standard Fuels (AKF5, Hi Cal 50 and AKF1) and Group 2 Non-Standard Fuels (all SWDF suppliers).

The current three SWDF supplier companies provide a wood based waste material either from separating the wood from general non-putrescible refuse (Brandown and Bingo) or from separating the wood from the original source (Benedict). Generally, a greater degree of processing is required for the separation of waste wood from mixed refuse however additional procedural controls are required for operations who utilise at source separation of wood materials. The supply of AKF5 (tyre chips) commenced during the 2023 reporting period, while Tyrecycle commenced supplying tyre chips in July 2024. These tyres are generally sourced from tyre repair and retail outlets, large construction industries and transport companies. None of the tyres come from general waste and no separation is required.

The audit methodology has adopted a "technology neutral" approach to the processes used by each supplier and instead centred on the outcomes achieved by each supplier. These outcomes are measured in terms of consistency in quality of the material supplied and the ability to determine the cause of any exceedance in quality objectives.

The separate supplier audit forms part of Boral's overall QA/QC procedure which specifically states that:

"The suppliers' QA/QC procedures will be independently audited on an annual basis in order to demonstrate that the supplier is complying with these procedures. An initial audit of the suppliers QA/QC system will be conducted prior to the commencement of the supply of SWDF to the Works by the supplier. The QA/QC audits will be conducted in accordance with AS 19011-2014 Guidelines for Auditing Management Systems."

The results of the supplier audits was used as part of this audit. The internal supplier processes involve composite testing of the product on a monthly basis. Boral's processes also involve monthly composite testing of the product. The tracking process covers each truck load and provides adequate protection against the burning of material that is outside the required specification. The results of the monitoring work and separate compliance assessment for each supplier, are discussed in Section 3.7.

It is likely that additional suppliers will be used in the future. It will be important that any new supplier adheres to the current quality control and tracking procedures.

3.4 Monitoring Data Review

The monitoring and verification program detailed in the consent is comprehensive but also complex. Boral operate what is referred to as a Continuous Emission Monitoring System (CEMS) which covers a number of analytes within the gas stream of Kiln 6. The main analytes are oxides of Nitrogen (NO_x), Hydrogen Chloride (HCL), Sulphur Dioxide (SO_2), Volatile Organic Compounds (VOC), and particulate matter. Carbon Monoxide (CO), Carbon Dioxide (CO_2) and Oxygen (O_2) are also measured to determine the completeness of combustion and is a measure of the kiln performance.

This data can then be compared with other operating parameters such as temperature within each component of the process, feed rate and quality.

The stack pollutants of concern are generally measured as concentrations over a 1 hour average, while combustion data is measured in percentages. Temperature is an important parameter and is measured at several stages within the plant including the discharge point. Temperature and combustion efficiency measures are often interrelated. Triggers have been set to enable changes in feed rate and composition to maintain temperatures which in turn maximises combustion efficiency. By maintaining combustion efficiency, the concentration of stack pollutants reduces.

Ground concentration of dust is measured by seven deposition gauges and one atmospheric dust gauge. The deposition gauges measure dust in terms of grams per square metre over a month while the atmospheric dust gauge measures ambient concentrations of dust in terms of Total Suspended Particulates and the smaller 10 micron concentration referred to as PM_{10}. This is measured as micrograms per cubic metre over a 24 hour period every 6 days using a High Volume Air Sampler (HVAS). The deposition gauges are located around the cement plant site while the HVAS is located to the east of the plant. The HVAS was moved from its historic location to a position further south. This program has been conducted for many years but recently enhanced with the installation of a real-time dust monitor which links directly to the control room. Data from the real time monitoring system was reviewed as part of this audit.

For this audit, it was appropriate to review the raw data collected by Boral and to reassess any conclusions previously reported. Data included the stack emissions, ground concentrations and NSF quality as received from each supplier. The purpose of the review was not to confirm the accuracy of the data or to retest any particular parameter but rather to determine the efficacy of the monitoring system in verifying the impact predictions made in the original Air Quality Impact Assessment contained in Appendix D of the 2015 EA and subsequent assessments undertaken by SLR Consultants in support of MOD14 in 2021 and MOD15 in 2022.

The Air Quality Impact Assessment prepared in 2016 to support the application to use NSF provided a series of dispersion model results indicating anticipated changes to ground level concentrations for a number of pollutants. The model was based on atmospheric conditions using both the on site weather station and Moss Vale Bureau of Meteorology Station. Both sites indicate that the dominant prevailing winds are from the west and north-northeast sectors. The modelling results also indicate that three receptors in New Berrima may experience an increased frequency of PM_{10} 24hr exceedance, albeit as a result of fugitive dust rather than emissions from the use of NSF.

Updated modelling undertaken for MOD14 by SLR Consultants in December 2021 assessed the impacts of increasing Solid Waste Derived Fuel to 250,000 tpa, additional dust generated by the increased trucking of this material and various road realignments and storages. MOD15 provided additional modelling in October 2022 for the ongoing use of AKF5 (tyre chips) which is defined as a non-standard fuel and therefore also relevant to this audit process when approved.

3.4.1 Stack Emission Data

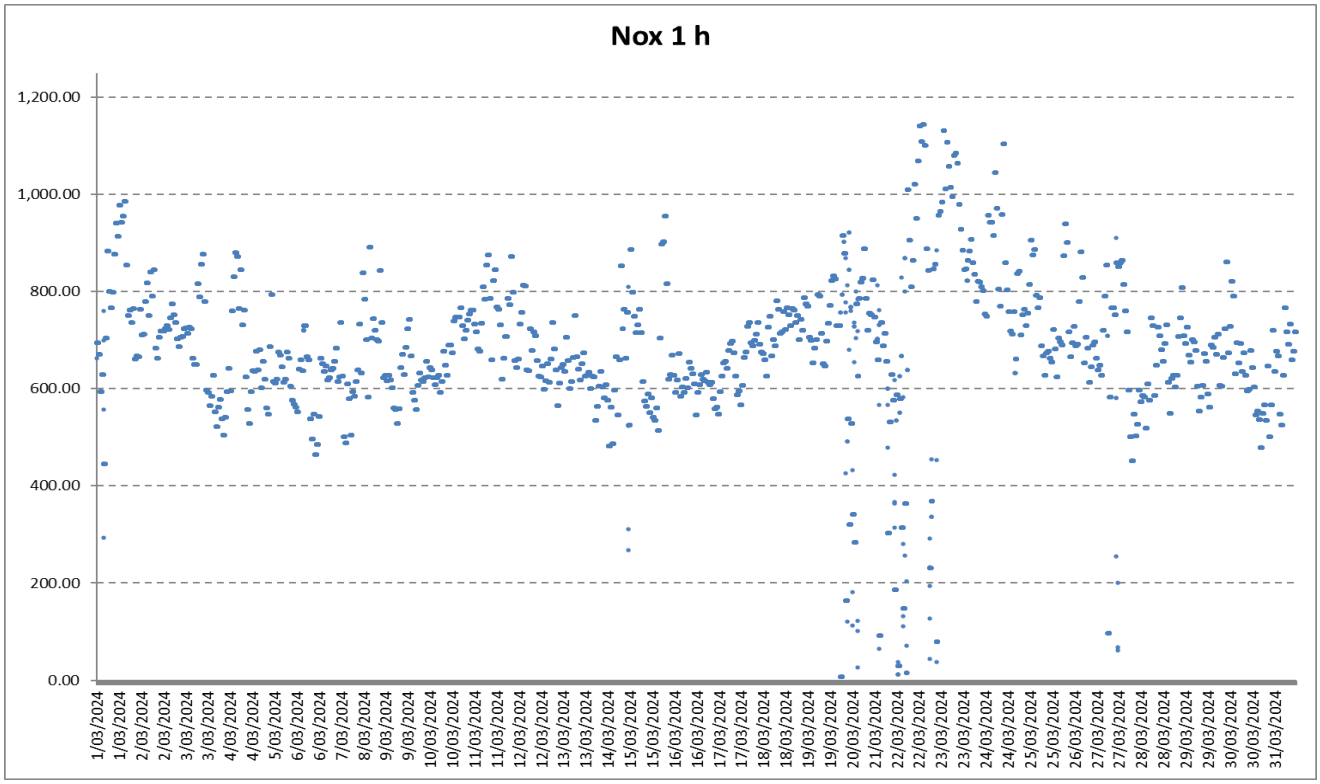
Stack emission data collected by Boral over the audit period was provided in Excel format. This data was reviewed in detail and analysed for the following:

- Positive and negative trends. These may indicate progressive issues that may lead to a non-compliance.

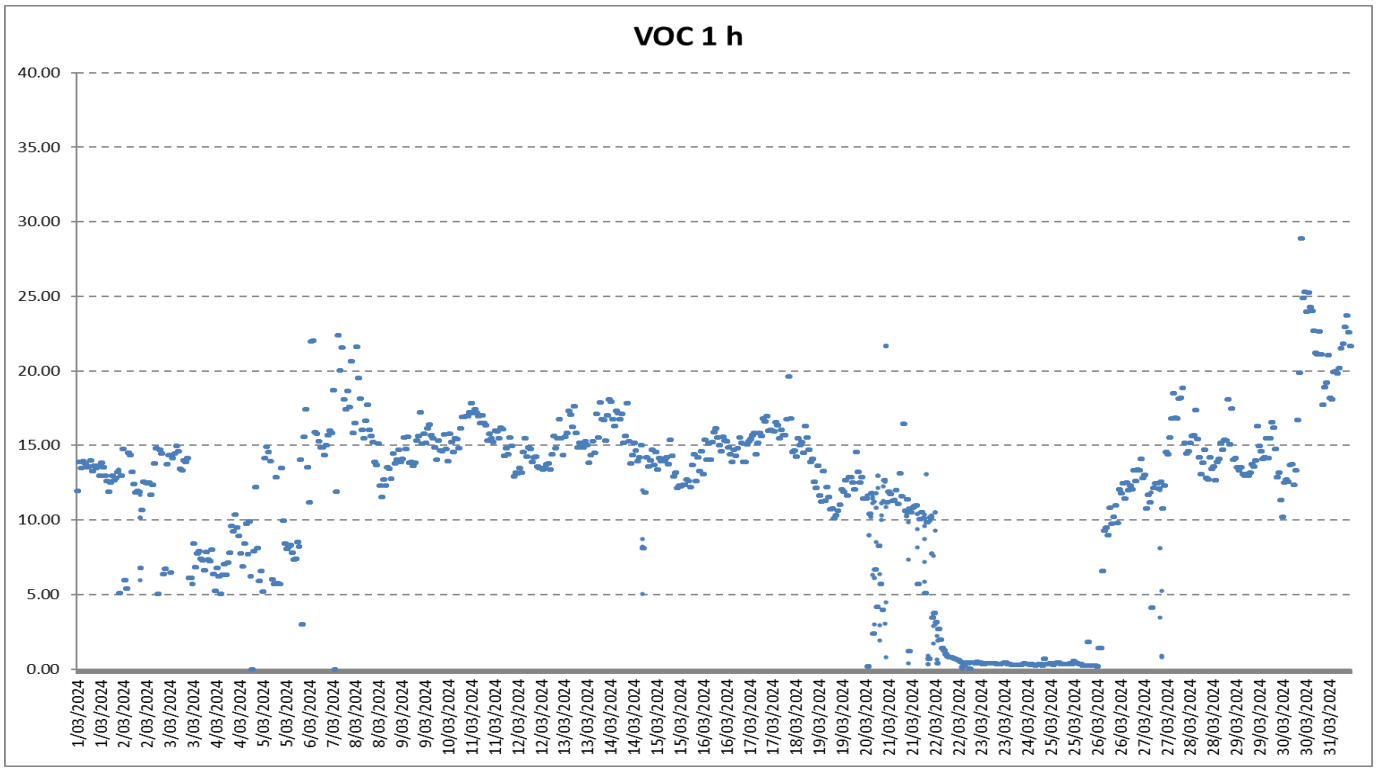
- ❒ Excessive variability. This may indicate the loss of controls within the cement plant, feed rate, kiln temperature variations or quality of NSF.
- ❒ Step changes. This may indicate a sudden change in fuel quality, or other issues with the plant process. Step changes in the data were found to be quite common and the reason was found to be related to plant stoppages.
- ❒ Flat lined data. This is where the monitoring results are too consistent and may indicate a probe malfunction.

Given the size of the data files, it was separated on a monthly basis for analysis. A selection of graphs is provided below which highlight the above issues. Each of the issues highlighted in the following discussion was raised with the cement plant management during the interview process.

The data reviewed noted that in March 2024 that some stack emission parameters all fell in unison but then the concentrations inverted, that is, some levels such as nitrogen oxides increased and approached the 1 hour limit of 1,250 mg/m^3 while volatile organic compounds (VOC) fell to almost zero and then flat lined. The relevant graphs for this period is provided on Graph 1 and 2.



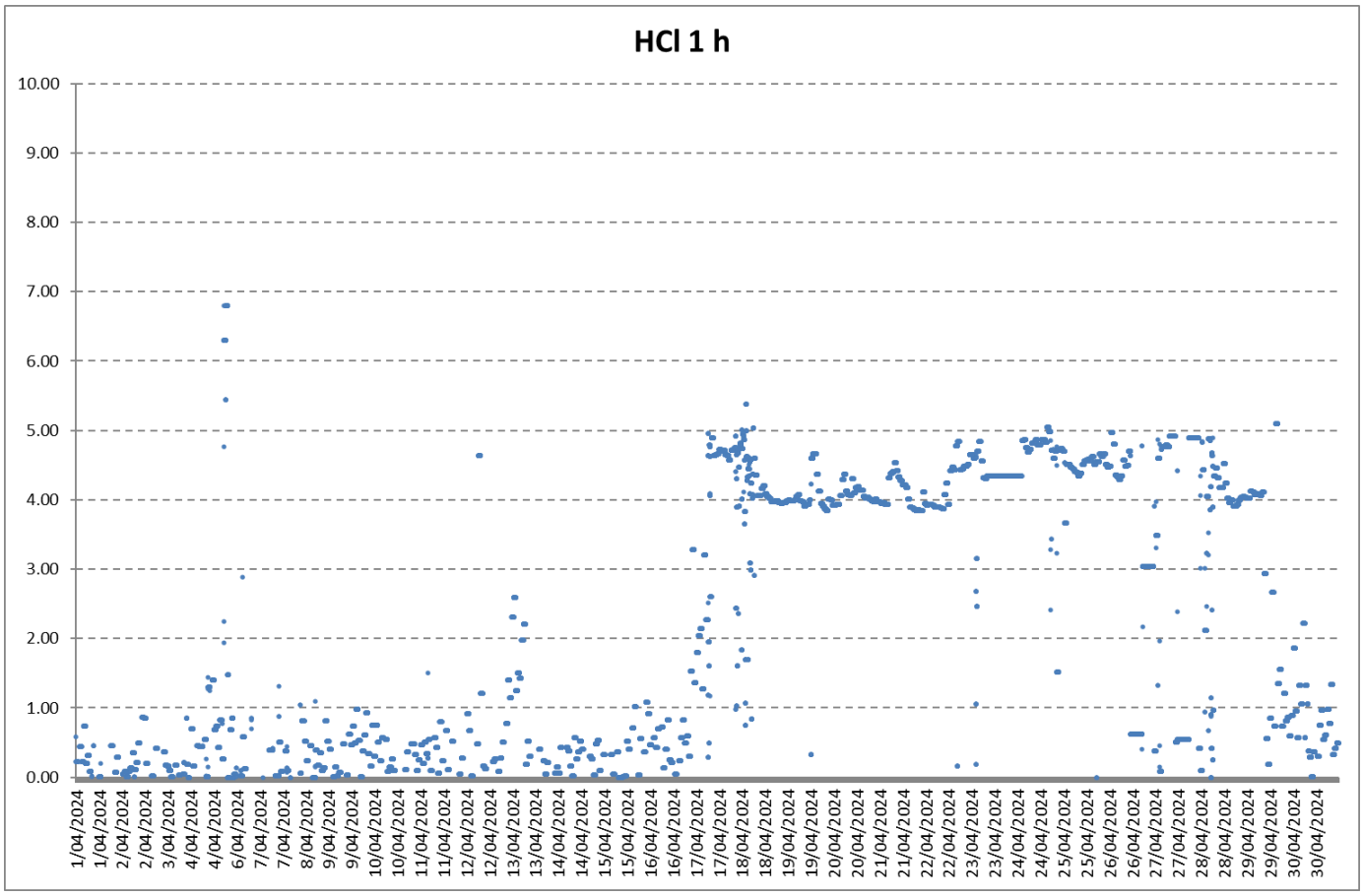
Graph 1 – March 2024 NOx 1 hour Stack Emission Data



Graph 2 – March 2024 VOC 1 hour Stack Emission Data

After liaising with Boral management, it was found and confirmed that this occurred at a time when the kiln was switched to producing off-white cement. The production of off-white cement requires a change in clay feed in the mill which requires a longer burn run to produce. This process produces a changed pattern of emissions. The emissions were all within EPL limits.

Significant variability in stack emission data was noted in the raw data from April 2024. This is shown in Graphs 3 to 5.

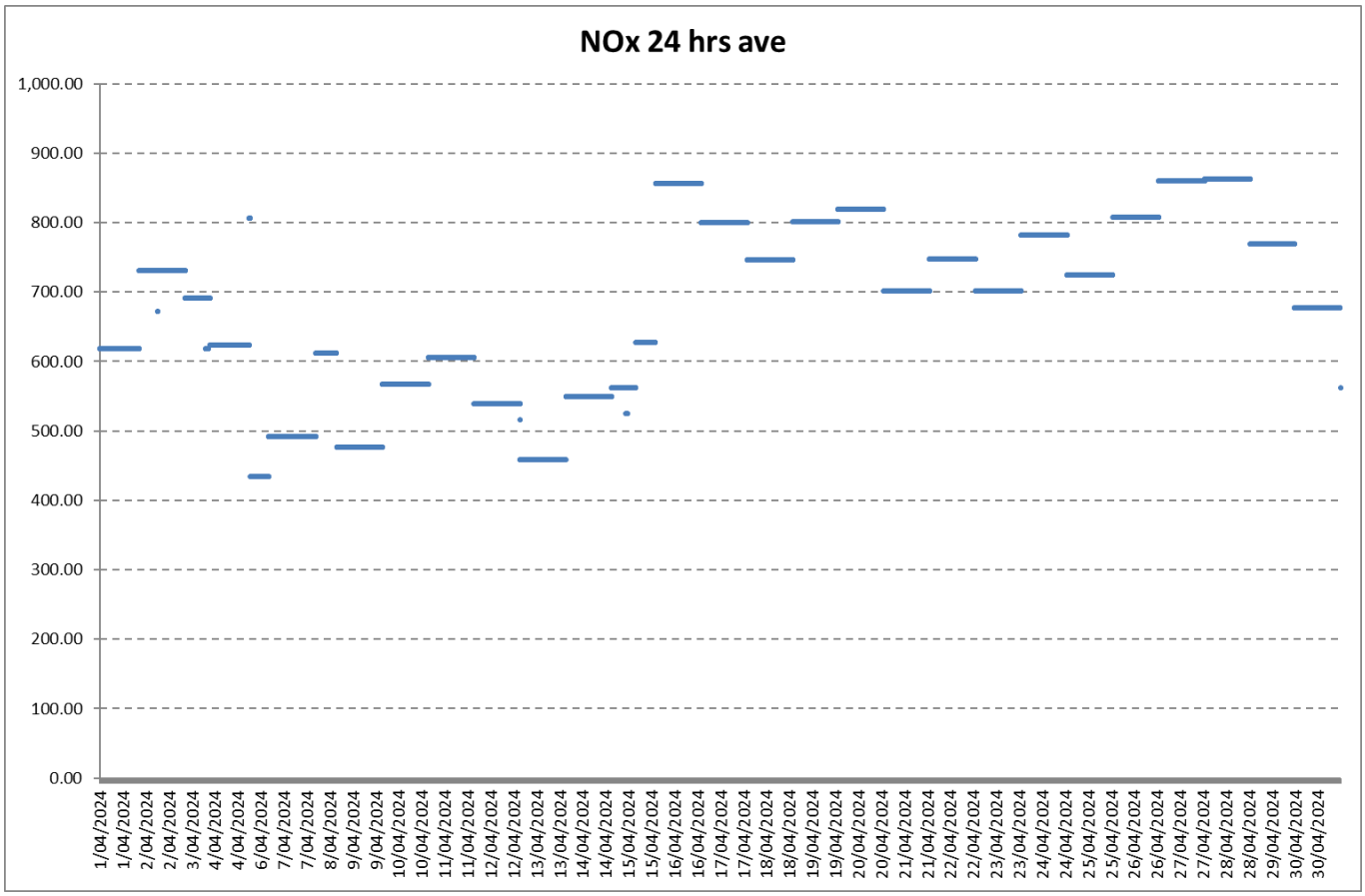


Graph 3 – April 2024 HCL 1 hour Stack Emission Data

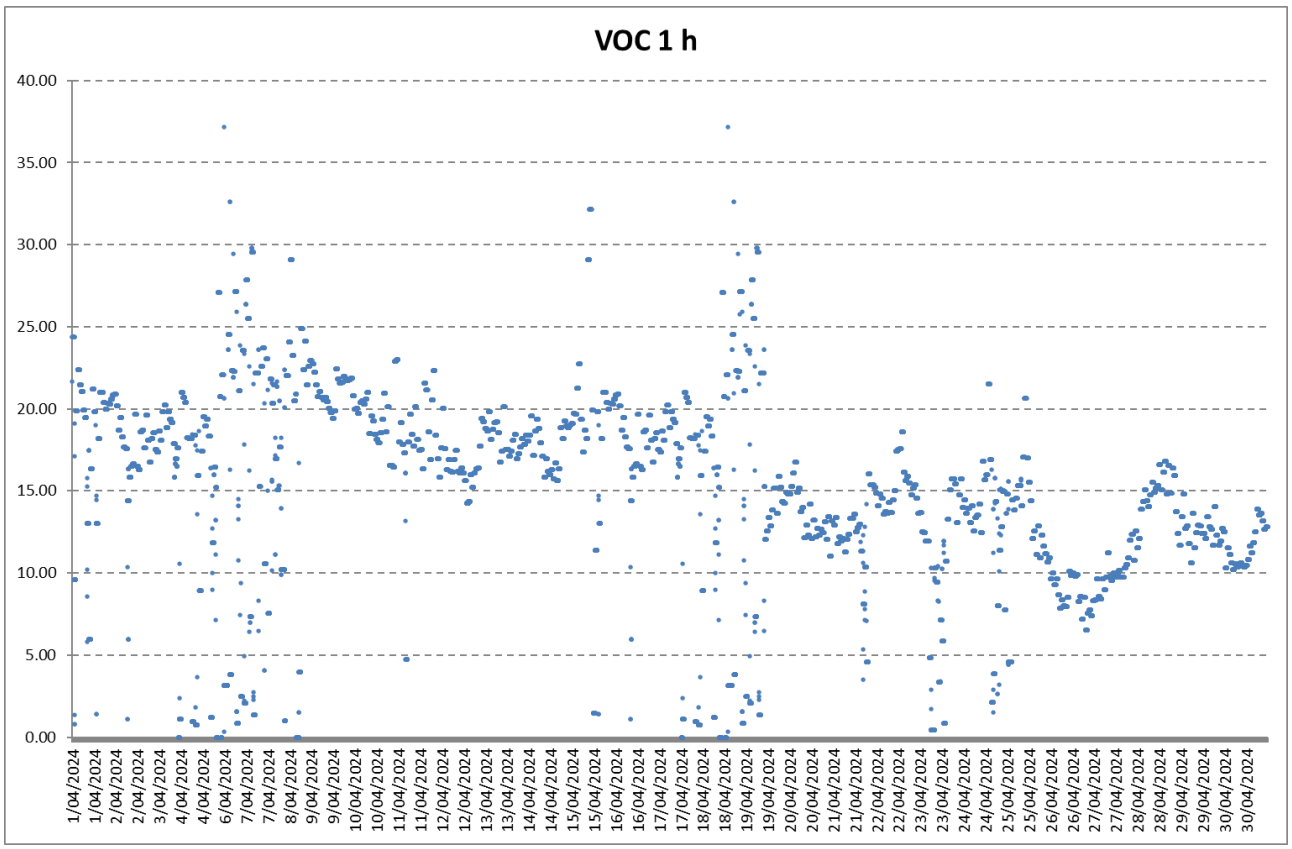
Although the EPL limit on hydrogen chloride (HCl) is 10 mg/m^3 (1 hour), there was significant variations between the 16th and 17th April and again after 29th April 2024. This movement was considered a block change which warranted further investigation.

This block change was also noted in the NOx 24 hour average which approached the 24 hour average limit of 1,000 mg/m^3, which is shown on Graph 4. The 24 hour average nitrogen oxide levels typically show less variability to the 1 hour average. Cement plant management advised that this variation was caused by a plant shut down and then restart. In this instance, the restart was the result of changing to an off-white cement product which also accounts for the decreasing VOC concentrations shown in Graph 5.

The EPL limit for VOC is 1 hour rolling average of 50 mg/m^3. Although Graph 5 shows the instantaneous readings, there appears to be elevated readings at times when the kiln is shut down and restarted. On each of these occasions, the limit was approached but not exceeded.



Graph 4 – April 2024 NOx 24 hour Average Stack Emission Data

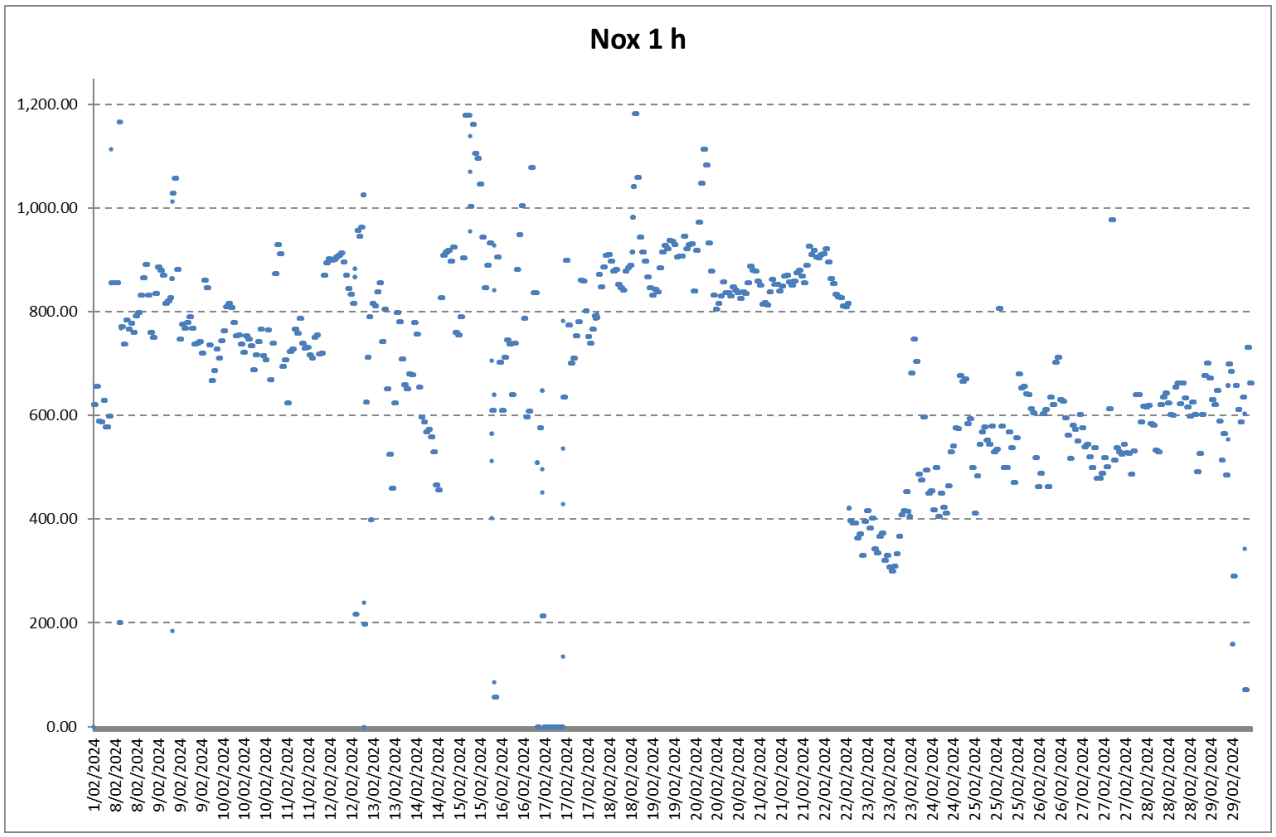


Graph 5 – April 2024 VOC 1 hour Stack Emission Data

A part of the data review process was an analysis of all stack emission data rather than random selection. It was considered that there was too much variability in the data for a random selection to provide an accurate assessment of compliance.

During this analysis of the data, there were some days when emissions were found to be elevated, and sometimes very close to the EPL limits, these included:

- 2/1/25 - NOx reached 979 mg/m^3 (1 hour) and 935 mg/m^3 (24 hour)
- Several days in February 2024, the NOx 1 hour limit of 1250 mg/m^3 was closely approached as shown on Graph 6.
- On 23/3/24 there was an exceedance of NOx 1 hour as shown on Graph 1.
- Throughout May 2024 and in December 2023, HCl 1 hour emission data varied significantly although the highest value of 9.17 mg/m^3 was below the licence limit of 10 mg/m^3.

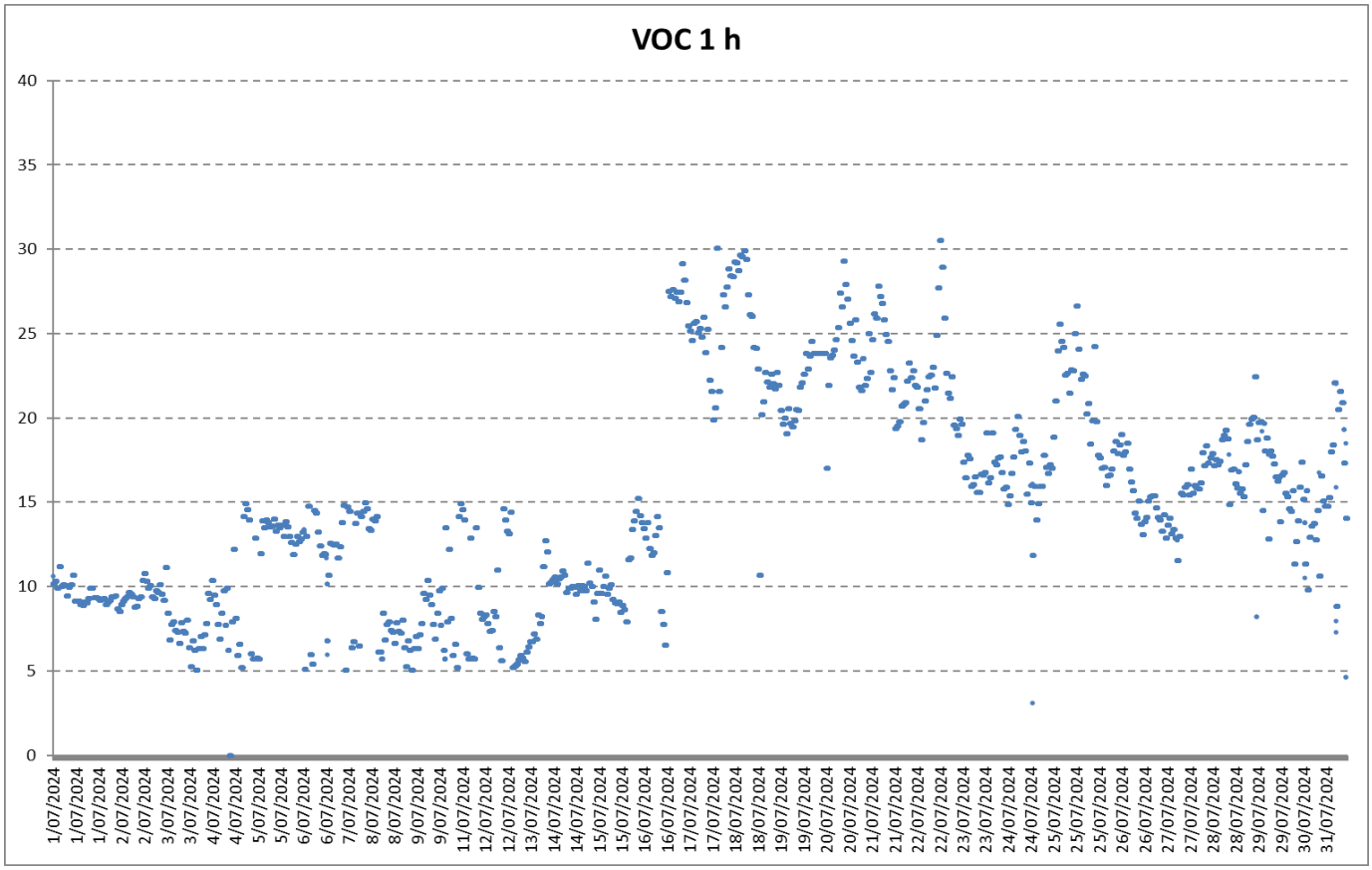


Graph 6 – February 2024 NOx 1 hour

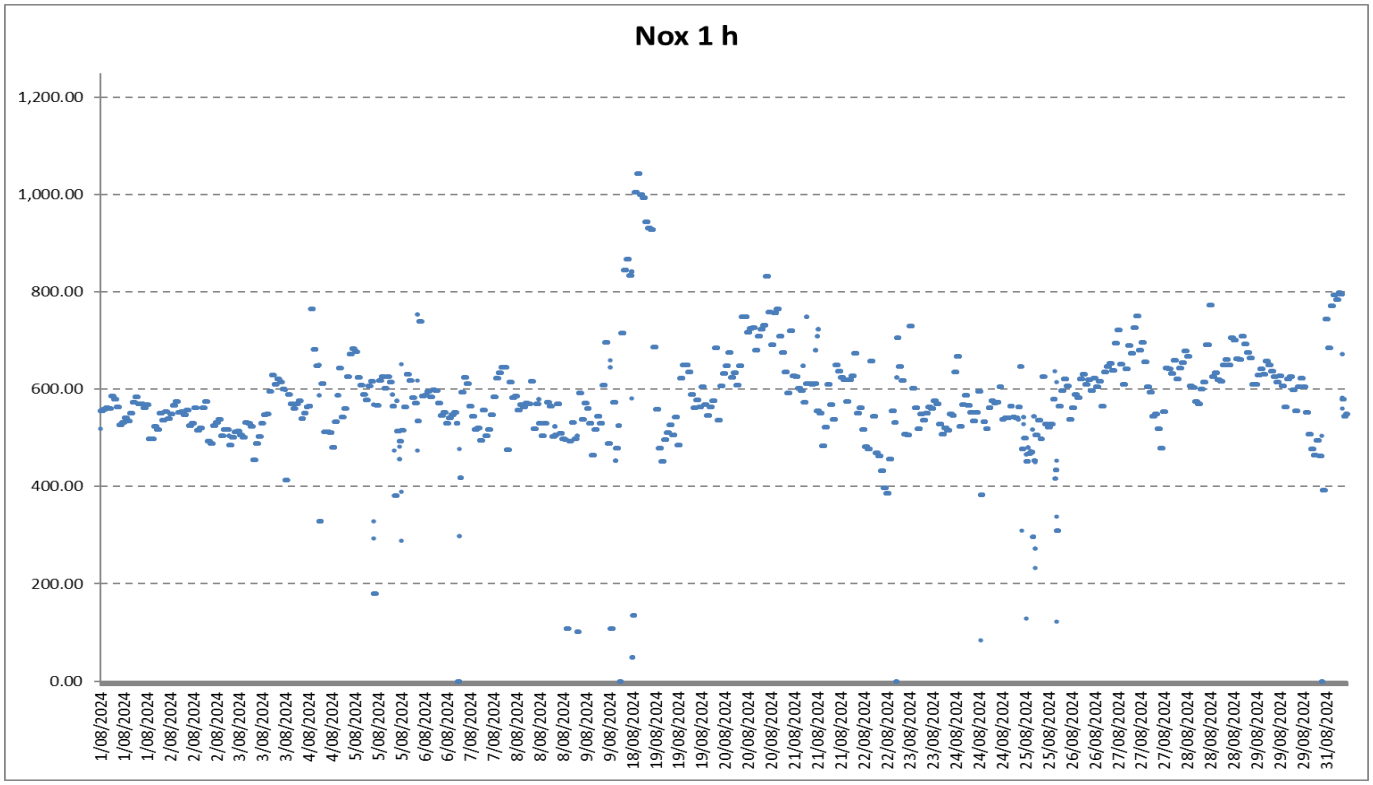
Graph 6 above shows the significant variability in NOx data ranging from zero to just below the hourly limit of 1250 mg/m^3. The graph also shows a step change in the data between the 22nd and 23rd of February when the concentration of nitrogen oxides halved. The auditor was advised during the interview process that over the period of the 22nd and 23rd February a number of power dips occurred resulting in several kiln stops and therefore influencing the NOx.

Graph 7 below shows a similar step change in VOC concentration in the stack emissions on 17th July 2024. In this case, there was no other changes in other emissions on that day. There were no trends apparent and there was no indication that the oscillation in concentrations was a result of NSF feed rate. Kiln operational records show that the kiln daily production had been decreased due to

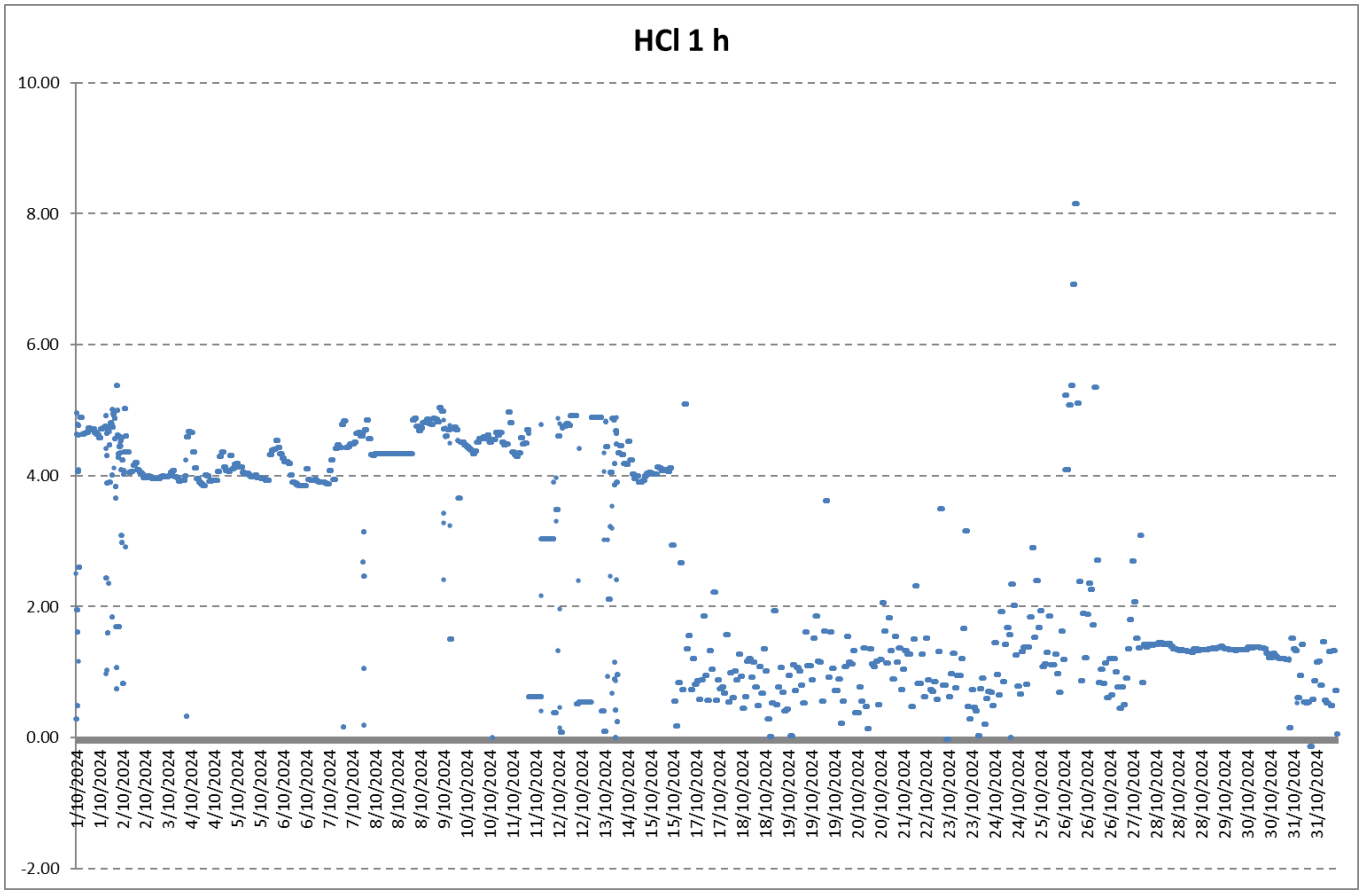
high clinker stock availability. With the slow down in production, the mix of raw materials changes resulting in the change in VOC concentration.



Graph 7 July 2024 VOC 1 hour Stack Emission Data



Graph 8 – August 2024 NOx 1 hour Stack Emission Data



Graph 9 – October 2024 HCL 1 hour Stack Emission Data

There were no trends apparent in the data although the variability, such as shown in Graph 8 could be caused by changes in feed rate of NSF and in Graph 9 with plant shut down. Although there are records of all plant incidents and activities, changes in product line, planned and unplanned shutdowns, it is important to combine this data with the emissions data in order to correlate any specific emission changes that may arise. This is particularly important if the changes may give rise to greater short term emissions that may cause an exceedance.

The data also shows that in many instances, the emissions from the plant were equivalent to, or lower, than produced using standard fuels. There were some exceptions to this, however the emissions were all below the required limits.

3.4.2 Ambient Air Quality Data

Monitoring results of ambient concentrations of dust outside of the plant were reviewed. A review of the dust deposition and HVAS results show no discernible change between historic averages and the period since commencing the use of NSF.

The previous audit noted that the ambient monitoring program was considered adequate but could be improved. These improvements occurred in 2023 with the installation of a real-time dust monitoring system comprising 4 real time air monitors located around the boundary of the cement operations. All 4 monitors link directly to the control room. A Trigger Action Response Management Plan for dust is currently being prepared and will be provided to the EPA later in 2025. The aim is to commission the system over the remainder of 2025 to ensure the TARP is realistic. This system will

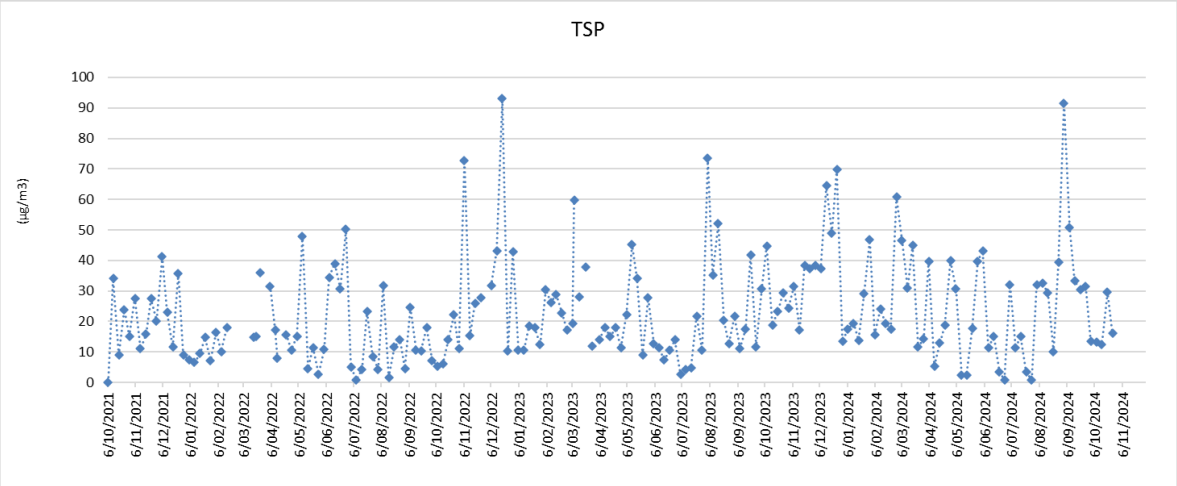
allow a proactive real time response through the identification and management of any dust generating activities to an identified increase in dust levels.

One of the real-time monitoring units and associated weather station has been located on the northern side of the cement works essentially equally distanced from the dust generating sources and the residential receptors of New Berrima. This is considered an ideal location to provide ongoing assessment of air quality impacts from the cement works, in relation to the community.

Monitoring data is reported on the Boral web site from the following link:

https://www.boral.com.au/environmental-reporting

At the time of this audit, all monitoring data was available online up to the end of December 2024. Ambient air quality data has been extracted for the period of this audit and combined with previous years data and presented in Graphs 10 and 11 below.

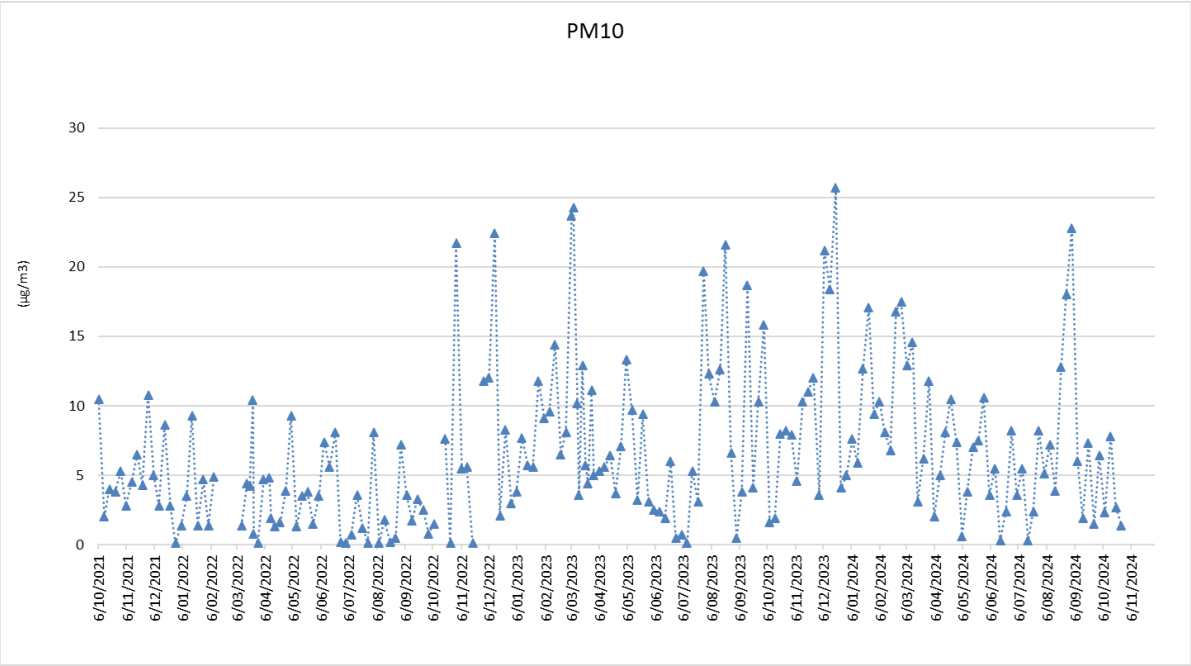


Graph 10- High Volume Air Sampling: Total Suspended Particulates (TSP)

Atmospheric concentration of dust around the cement plant could be derived from point sources such as the kiln, cooler, cement grinding and dispatch silos or diffuse sources such as material stockpiles and roadways. Other sources can include regional dust derived from further afield. For the purposes of this audit, dust that could be attributable to stack emissions from the kiln and specifically, any additional amount that may be derived or caused by the use of NSF is of particular interest.

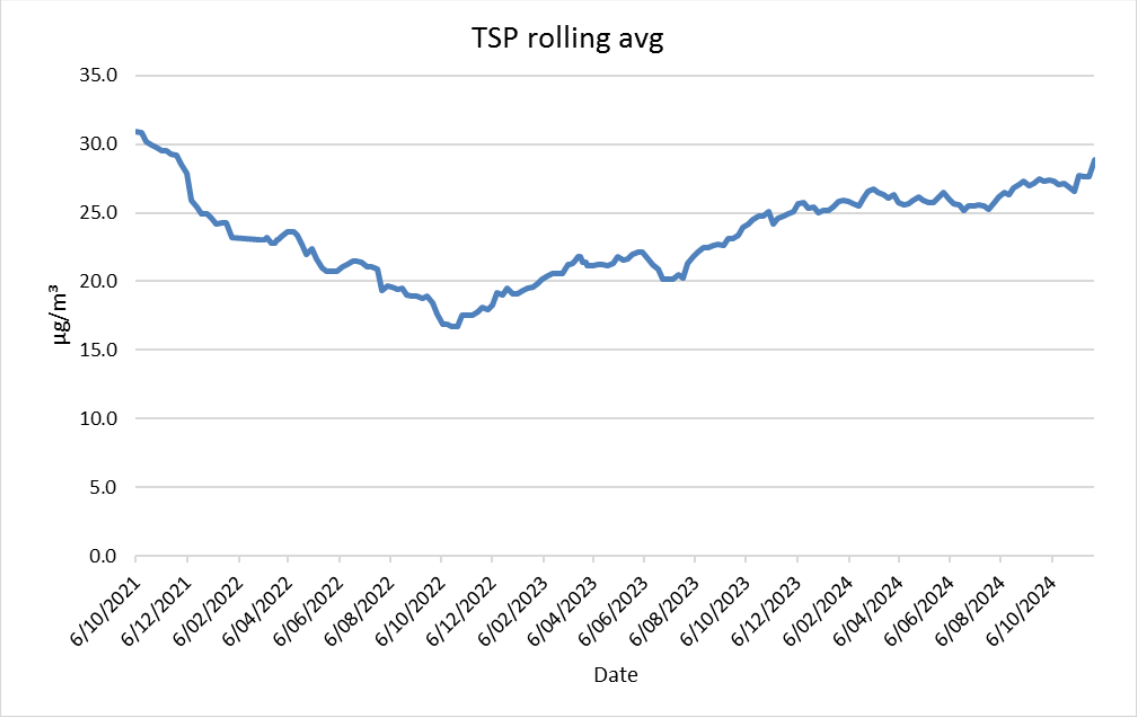
Graph 10 shows significant variations in TSP but the variations do not appear attributable to changes in NSF feed rates. Graph 11 shows the PM10 component which is the finer component with a diameter of 10 micrometres (0.01 mm) or smaller. This component is considered the most hazardous to health and includes smoke and fine windborne dust particles. This graph generally shows a similar variation pattern but with slightly greater amplitude.

Both Graphs 10 and 11 show several elevated readings. These were caused by the Electrostatic Precipitator (ESP) tripping and were reported to the EPA. The fault was found to be a failure in the high voltage supply. Upgrading of the electrical supply to the ESP has improved their reliability.



Graph 11 – High Volume Air Sampler: PM10

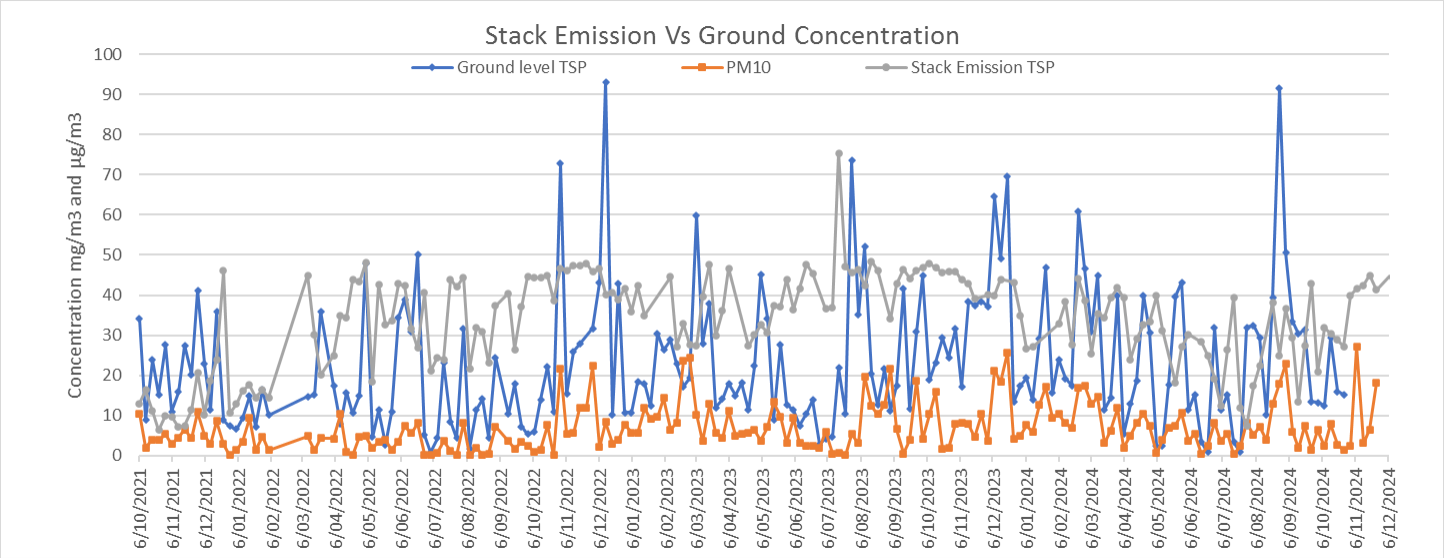
A method of terming trends is to graph the 12 month rolling average. As shown on Graph 12 below, the annual rolling average TSP declined until late 2022 and then gradually increased to the end of 2024. The current trend is concerning however reviewing the individual TSP results revealed that neither the earlier decrease nor the later increase correlated to NSF feed into the plant but rather a number of dust control system failures. The number of system failures, particularly the Electrostatic Precipitators, increased in 2023 which resulted in the increase in dust emissions. With the upgrading of the electricity systems to Electrostatic Precipitators, the number of elevated emissions has subsequently reduced and the average 12 month rolling average trend is anticipated to fall.



Graph 12 – High Volume Air Sampler: TSP Rolling Average

3.4.3 Adequacy of Monitoring Data

A means of determining the adequacy of the monitoring data is to verify if the measurement of ground concentration of dust can be related to stack emission data. Given the primary source of dust generated from the site is derived from defuse sources such as storage areas, transport and material handling, the contribution of dust from the Kiln 6 stack would be small. However, if a relationship can be established then the data can be used to verify the impact predictions from the air quality modelling used to support the granting of consent to use NSF.



Graph 13 – Stack Emissions Versus Ground Concentration

Graph 13 shows the level of particulate emissions from the kiln 6 stack versus ground level concentration for TSP. The data used is limited to corresponding days when both stack readings and the HVAS were available. It should also be noted that the HVAS is located on the south-eastern side of the cement works which is in the direction of the dominant westerly winds however other wind directions occur which can affect the correlation as would wind gusts and rainfall.

Due to these limitations, the graph shows only a weak correlation between elevated stack emissions and ground level TSP readings. There are some periods when ground levels were unrelated to stack emissions and it would be reasonable to suggest that these periods may have been affected by rainfall or wind direction. It is also interesting to note that the main peaks in ground level TSP concentrations generally do not result in elevated stack particulate matter. This may be a result of a mismatch in dates when the HVAS ran compared to the actual dates of elevated stack emissions.

Overall, the data suggests that the current ambient monitoring program can be used as an investigative tool to determine compliance with air quality management conditions contained in the development consent as well as previous modelling which the Department has relied on in its assessment process. However, it is believed that the proposed upgrade to the ambient monitoring program to include real time ground level dust measurements will be a significant improvement.

3.5 Operational Performance

The site inspection did not identify any environmental performance deficiencies in the use or management of NSF. The NSF storage facility is fully enclosed as is the feed conveyor and delivery

systems. High dust levels exist within the building but there was no evidence of dust leaving the building and the surrounding hardstand area was clean.

The operational controls are well integrated within the control room allowing the use of NSF to be continuously monitored at all times. A key parameter is temperature which is monitored at the preheater, furnace and stack. Adjustments can be made, including the complete removal of NSF feed, to keep operational temperatures at optimal levels. The removal process is undertaken simply by stopping the conveyor feed which is instantaneous.

3.6 Cement Works Compliance Status

The earlier NSF trials demonstrated that the material can be used as an alternative to coal and that emissions can be controlled to meet the assessment criteria contained in both the development consent and EPL. With over five years of operating with NSF Boral has demonstrated that it has established appropriate Quality Assurance and Quality Control (QA/QC) systems, monitoring programs and internal controls that enable the safe use of NSF.

This audit did not identify any non-compliances against conditions relevant to the supply, handling, monitoring and usage of NSF. There has been an improvement in the QA/QC systems with the consent however there were four elevated ground level TSP results over the 2024 reporting period. These high readings did not correlate to stack emission TSP and therefore likely caused by other localised or regional dust events.

This audit also noted that there has been a recent increase the percentage of NSF from 40% to 50% of total weight in line with the current development consent. The increase in NSF usage has not resulted in an increase in monitored pollutants from kiln and the latest half yearly Emission Testing Compliance Report by Ektimo confirmed the results from the second round of Proof of Performance Testing at the higher 50% rate.

3.7 Compliance with Environmental Assessment Predictions

The 2015 Environmental Assessment in support of MOD9, Use of Waste Derived Fuels Kiln 6, Berrima Cement Works made a number of predictions in relation to stack emissions and resultant ground concentrations. This was based on anticipated stack concentrations based on meeting current EPA goals. The model also included stack emission data using some NSF used during an earlier trial.

In order to verify the EA predictions, a comparison has been made between actual stack emissions during the 2024 reporting period and estimated emissions contained in the EA. These are provided in Table 3 below.

The results also compare emissions using NSF with emissions from using coal only. The latter represents an average from 2016 to 2018 when Berrima Colliery was operating. It should also be noted that the EA predicted values were used by the EPA to set limits within the EPL.

Table 3 – EA Predictions vs Actual Emissions (mg/m^3)

Parameter	EA Prediction	Average Coal Only*	Ektimo Audit Values 2024**
Mercury	<0.05	0.010	<0.02
Type 1 and 2 Substances	<0.5	0.040	<0.08
Solid Particles	<50	18	30
Nitrogen Oxides	<1250	907	750
Cadmium and Thallium	<0.05	0.006	<0.005
Chlorine	<50	0.009	0.49
Dioxins and Furans	<0.1	0.0005	0.0033
Hydrogen Chloride	<10	0.717	0.96
Hydrogen Flouride	<1	0.023	<0.04
Sulfur Dioxide	<50	0.143	<0.031
Sulfuric acid mist and Sulfur Trioxide	<50	0.537	0.064
Volatile Organic Compounds	<40	1.4	1.9

Note: *Average for coal was over the period 2016 to 2018.
** Corrected to 10%O_2

3.8 Non-Standard Fuel Supplier Compliance Assessment

Condition 4.6(d) of Development Consent 401-11-2002 MOD15 requires a review of the QA/QC systems for each supplier of non-standard fuels. Attached to the Development Consent is Boral's overall QA/QC procedure. This procedure sets up an overall audit objectives that can:

- Identify improvements that could be made to supplier management systems and their performance. This aspect becomes more important for subsequent annual audits of long term suppliers as the key issue being addressed is the ability for these suppliers to continuously improve.
- Verify conformity with contractual requirements with Boral. Of particular interest is the ability of each supplier to identify potential issues and implement mechanisms or actions to reduce the risk of non-conformance with any of Boral's contractual obligations.
- Obtain and maintain confidence in the capability of a supplier. This is achieved by demonstrating the ability to proactively manage incoming waste streams and processing systems to produce a consistent product quality. This is particularly important for any new suppliers of SWDF.
- Identify measures that could be implemented to continuously improve management systems. It is important for both new and long term suppliers to understand the monitoring data and to identify trends so as to avoid potential future non-compliance can be assessed.

Data from each supplier is checked against established criteria which is then checked again by Boral. Testing procedures are documented in a QA/QC system which includes sampling methodology and testing procedures. Variability in quality is expected for any waste derived fuel material as the input sources can vary. The material quality and emission rates are summarised in a Six Monthly Pollutant Tracking Report which is provided to the EPA and DPHI and Environment. These reports include summaries of the stack testing results, raw material inputs, kiln fuel inputs and emission factors per unit of clinker produced.

The tracking essentially provides a material balance of chemical compounds and metals starting with the raw material inputs, losses during the process (stack emissions) and the final balance with the finished clinker.

The QA/QC system involves three levels of auditing. These are first party audits (internal audits conducted by Boral personnel), second party audits (supplier audits) and third party audits (using an external independent auditor). For suppliers of NSF, Boral initially undertake an audit of suppliers to determine compliance capability. This audit represents the external audit of suppliers which is a requirement of the development consent.

For this audit, each of the current suppliers were inspected on 7th March 2025, with each inspection including an interview with key operating personnel. Prior to the meeting, a review was undertaken on the quality testing data provided by each supplier and the results was discussed at the meeting.

3.8.1 Brandown Wood Waste QAQC Sample Analysis

This operation is a typical Resource Recovery Facility receiving general waste from a number of private and public sources. The material is separated and processed to produce a range of recycled products which it on-sells. As the target wood waste is separated from general refuse, it is expected that some foreign material contamination would occur. Selected photos of the Brandown operation are provided in Plate 8.

Initial separation of wood based material from delivered wastes

Manual Separation of wood material

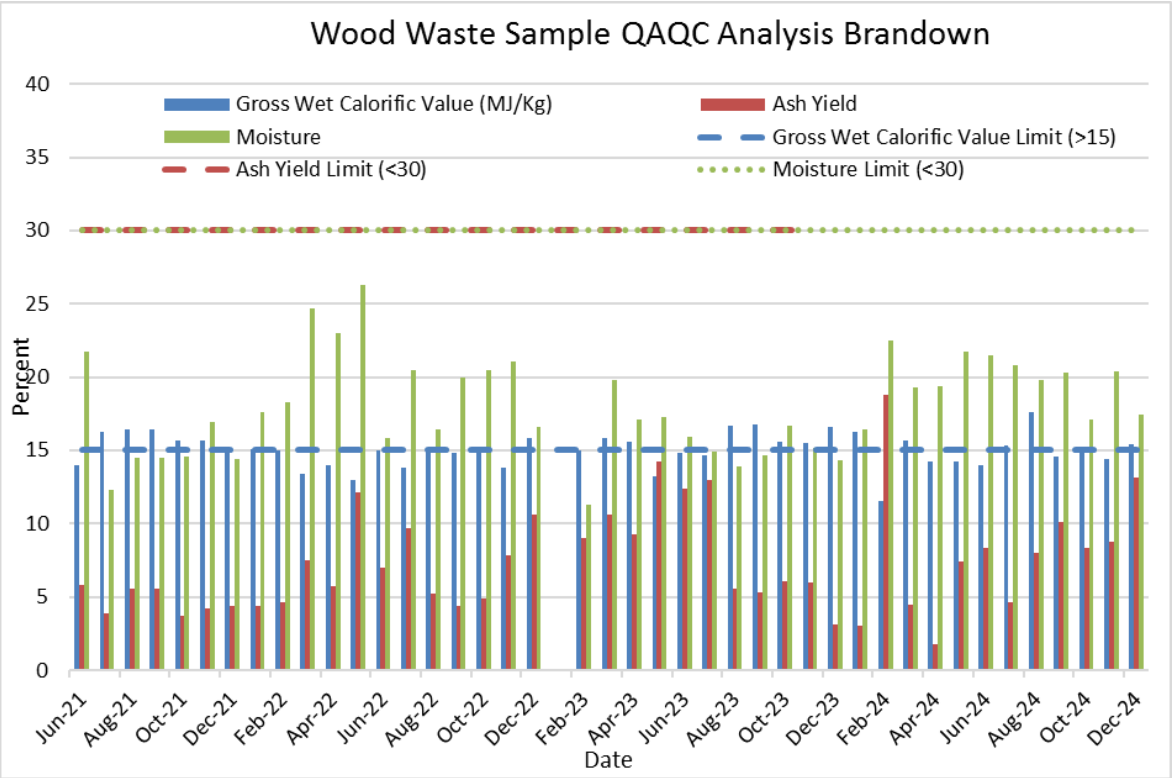
Screening and mechanical separation of foreign materials from the wood

Final product after crushing and screening

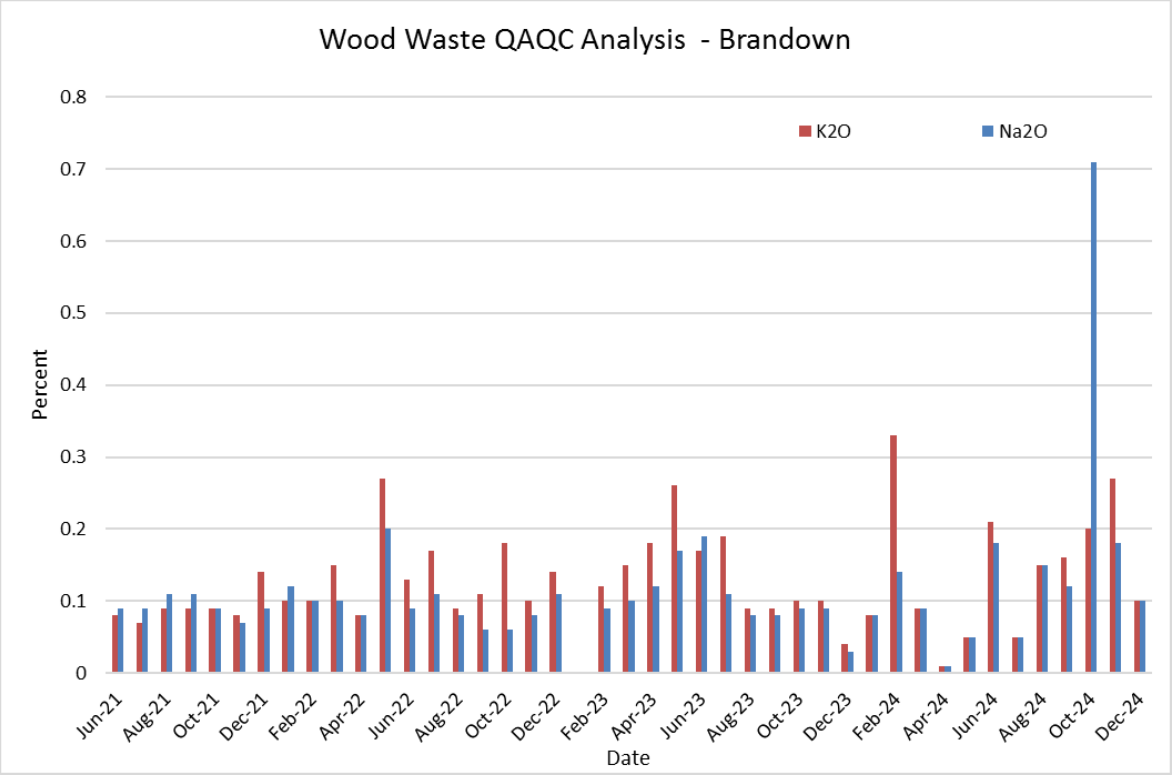
Plate 8 – Brandown Operation March 2025

Brandown has consistently met the quality specifications for the cement plant. Improvements implemented since becoming a supplier to the cement works have yielded more consistent testing results. The operation however is largely conducted in an exposed tipping and sorting area and therefore can be impacted during high rainfall periods. The results shown in Graph 14 below indicate that the quality was impacted due to heavy rainfall in 2022 and 2024.

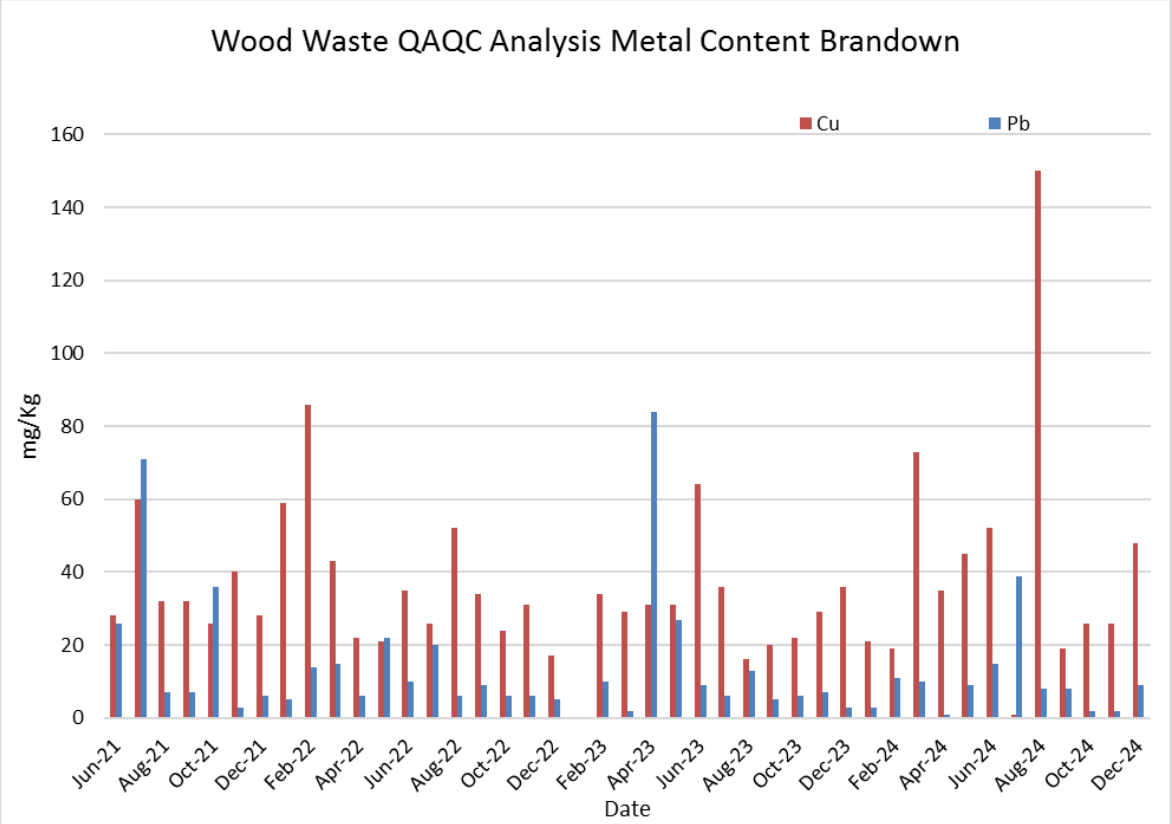
There were slight, but consistent increases in, Potassium Oxide and Sodium Oxides. Sulphur and Copper also increased but largely the result of one outlier each at 0.62 % and 150 mg/kg respectively. The monitoring data showed consistently good results for lead.



Graph 14- Brandown Wood Waste Moisture, Ash Yield and Gross Wet Calorific Value

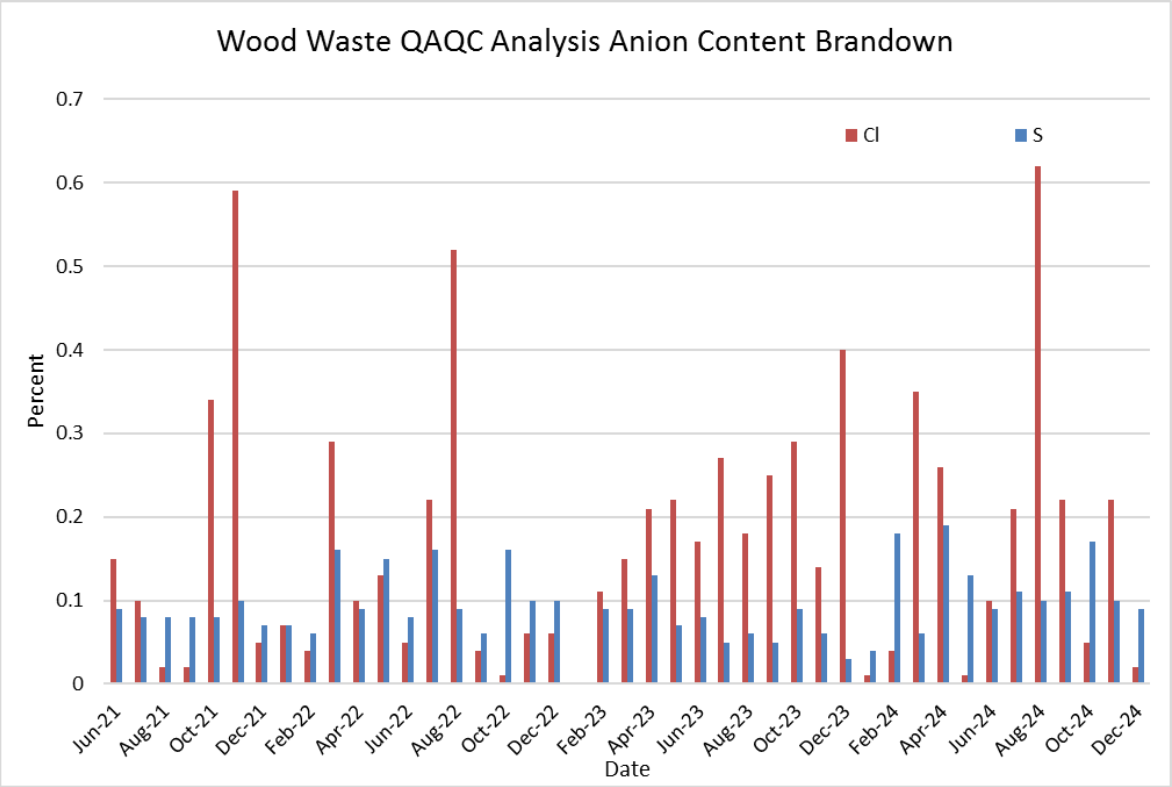


Graph 15- Brandown Wood Waste Potassium Oxide and Sodium Oxide Content



Graph 16- Brandown Wood Waste Metal Content

Graph 16 shows one elevated level for copper, which is likely the result of the sample being contaminated with electrical wire. The levels were within specifications of 1,000 mg/kg.



Graph 17- Brandown Wood Waste Anion Content

A summary of the results from 2024 compared with prior years is provided in the Table 4 below.

Table 4 - Brandown Supplier Data - Summary

Parameter	Average over 2024 Period	Average Prior Periods	Comment
Wet Calorific Value (MJ/Kg)	14.84	14.9	Good
Ash (%)	8.06	6.16	Increase
Moisture (%)	19.72	17.36	Slight increase in moisture
Chlorine (%)	0.176	0.175	Good
Sulphur (%)	0.114	0.89	Increase largely due to one outlier
Potassium Oxide (%)	0.142	0.125	Slight increase
Sodium Oxide (%)	0.115	0.01	Slight increase
Copper (mg/kg)	42.92	34.8	Increase overall but one outlier result
Lead (mg/kg)	9.75	15.07	Good

The above results were presented to management personnel on 7th March 2025 and the reasons for each variation was discussed. A summary of the matters discussed is as follows:

- There has been no change in suppliers during the reporting period.
- A change was made in February 2024 which restricted the initial separation operations during wet weather periods to reduce contamination.
- Improvements made to the grinding and screening process should assist with separation of contaminants.
- Minor adjustments made to fan speeds and orientation to reduce blockages in the screens.

3.8.2 Bingo Industries

The Eastern Creek Recycling Centre, originally owned by Dial-a-Dump, has developed a purpose-built recycling facility designed to separate recyclable materials from commercial, industrial, construction and demolition sources. No putrescible waste is received. The plant was able to separate timber for use in manufacture of particle board and mulch however has been approved to provide non-standard fuels to the Boral Cement Works. A summary of the results from 2024 compared with prior years is provided in the Table 5 below.

Table 5 – Bingo Supplier Data - Summary

Parameter	Average over 2024 Period	Average Prior Periods	Comment
Wet Calorific Value (MJ/Kg)	15.01	15.5	Good
Ash (%)	5.01	4.65	Good
Moisture (%)	20.2	17.46	Slight increase in moisture
Chlorine (%)	0.176	0.099	Increase in chlorine
Sulphur (%)	0.124	0.088	Increase in Sulphur
Potassium Oxide (%)	0.103	0.09	Good
Sodium Oxide (%)	0.147	0.145	Good
Copper (mg/kg)	48.54	101.9	August 2023 result 870 mg/kg
Lead (mg/kg)	44.75	38.07	Step change increase from August 2023 in both Copper and Lead.

The site was inspected on 7th March 2025 and selected photos of the operation are provided in Plate 9.

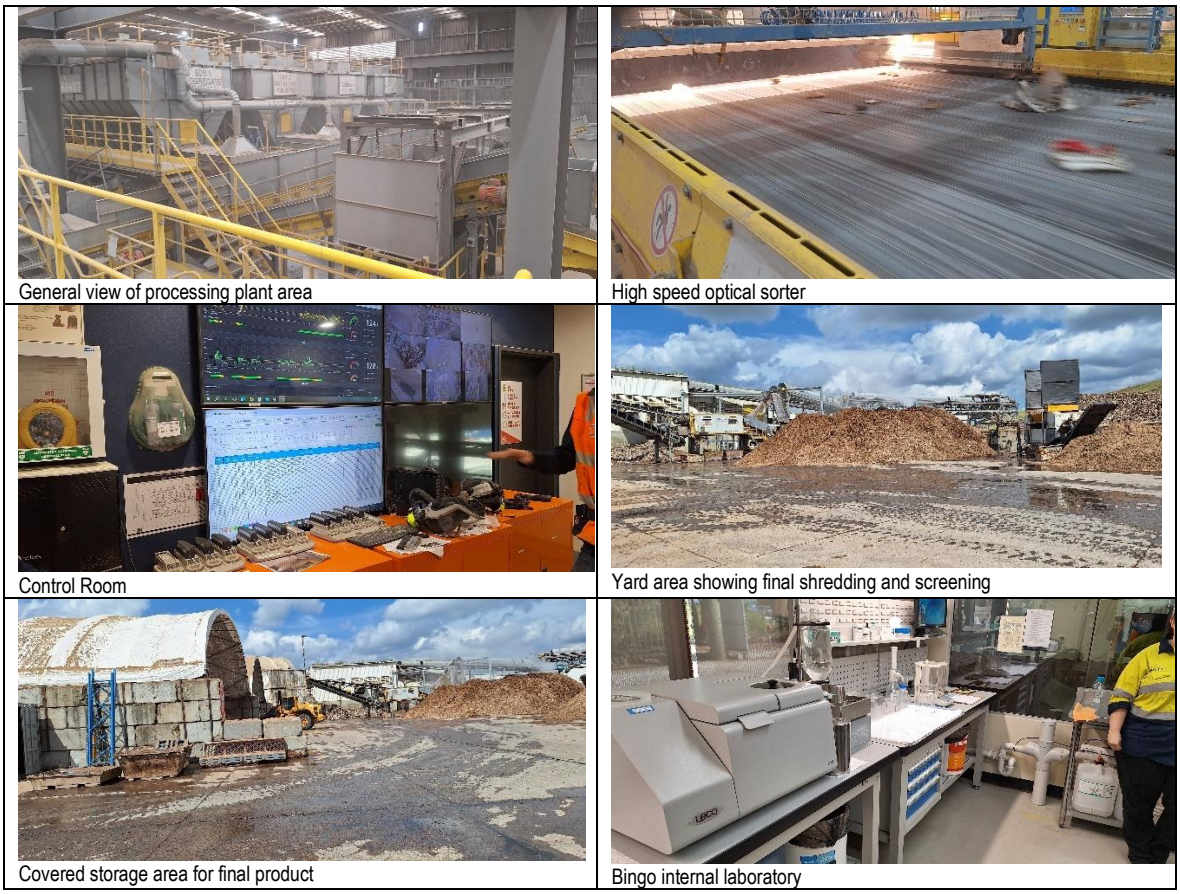
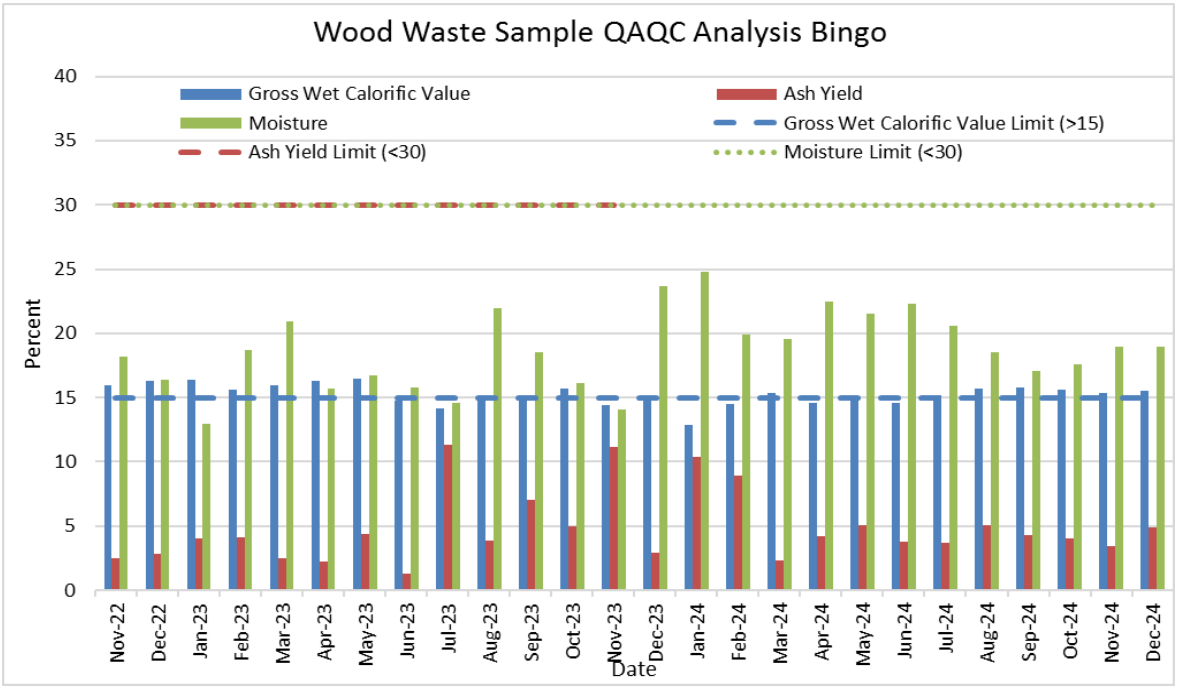
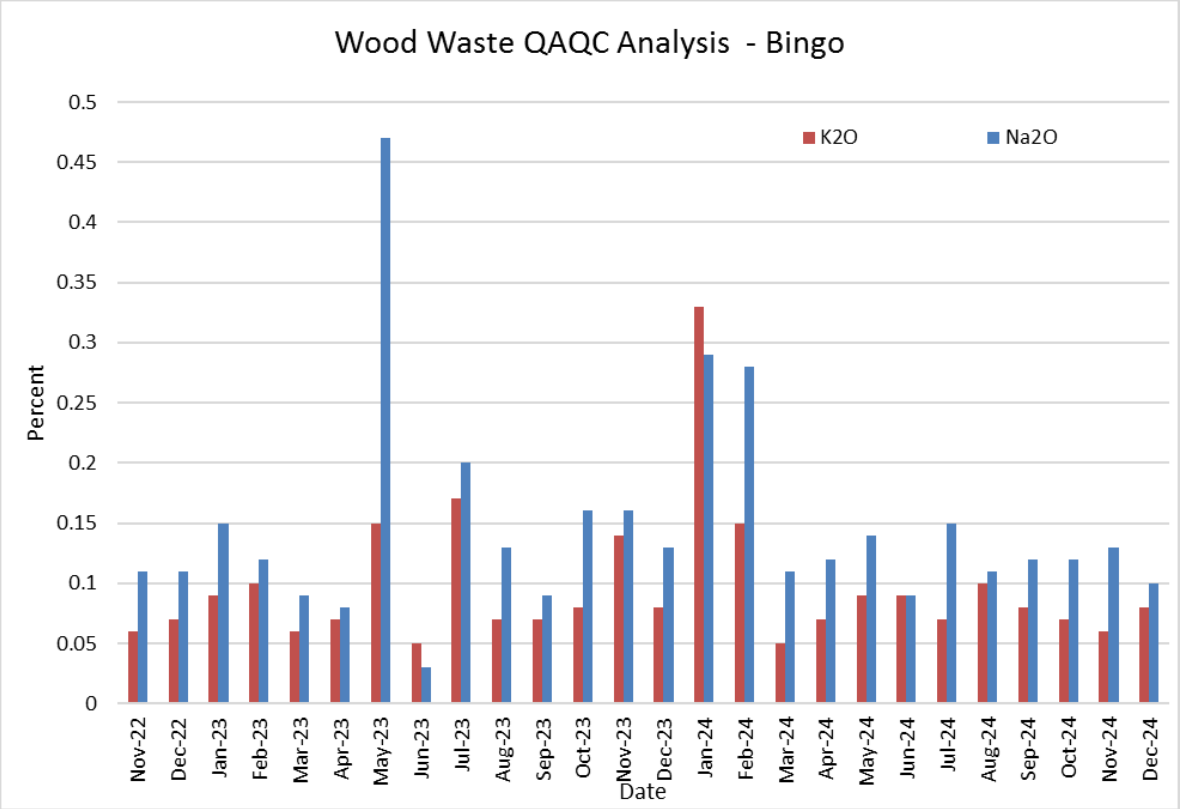


Plate 9 – Bingo operations March 2025

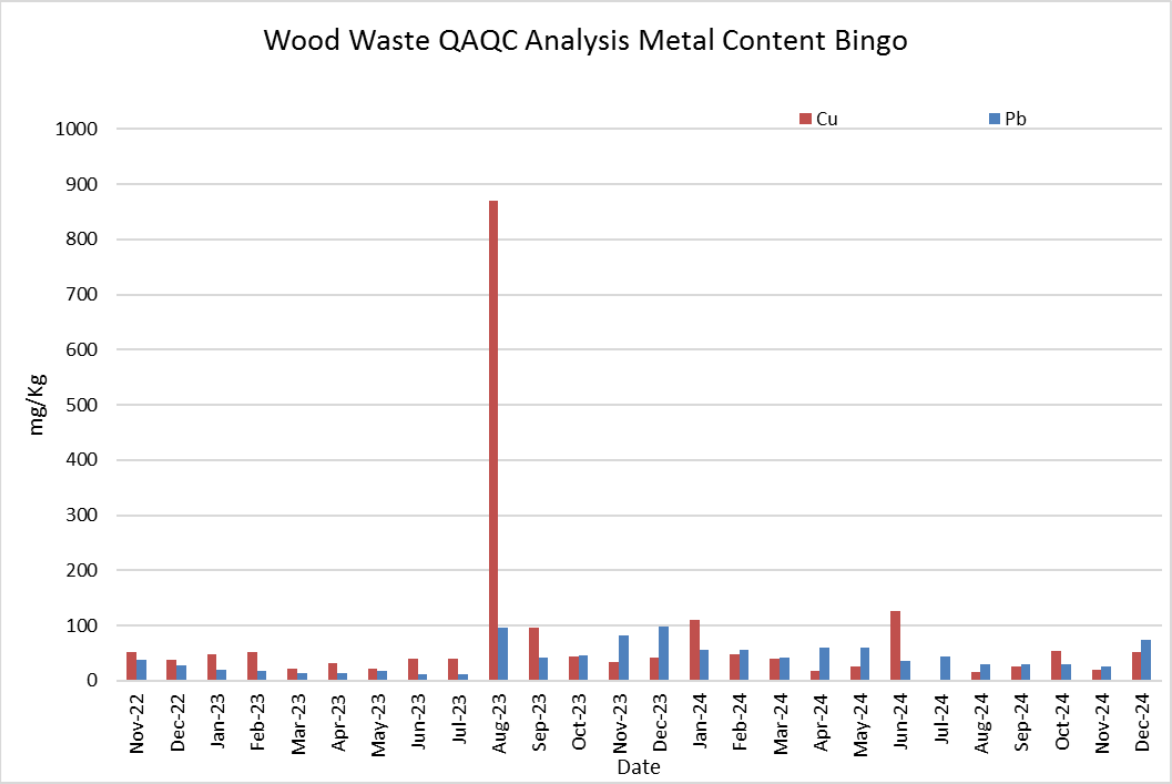
Overall results are well within specifications. Last year saw notable increase in moisture but only slight reduction in energy content. There has been material increases in Chlorine and Sulphur content as well as metals. The change in metal concentration appears to be a step change (sudden change) in August 2023. The results of the testing data is provided in Graphs 18 to 21.



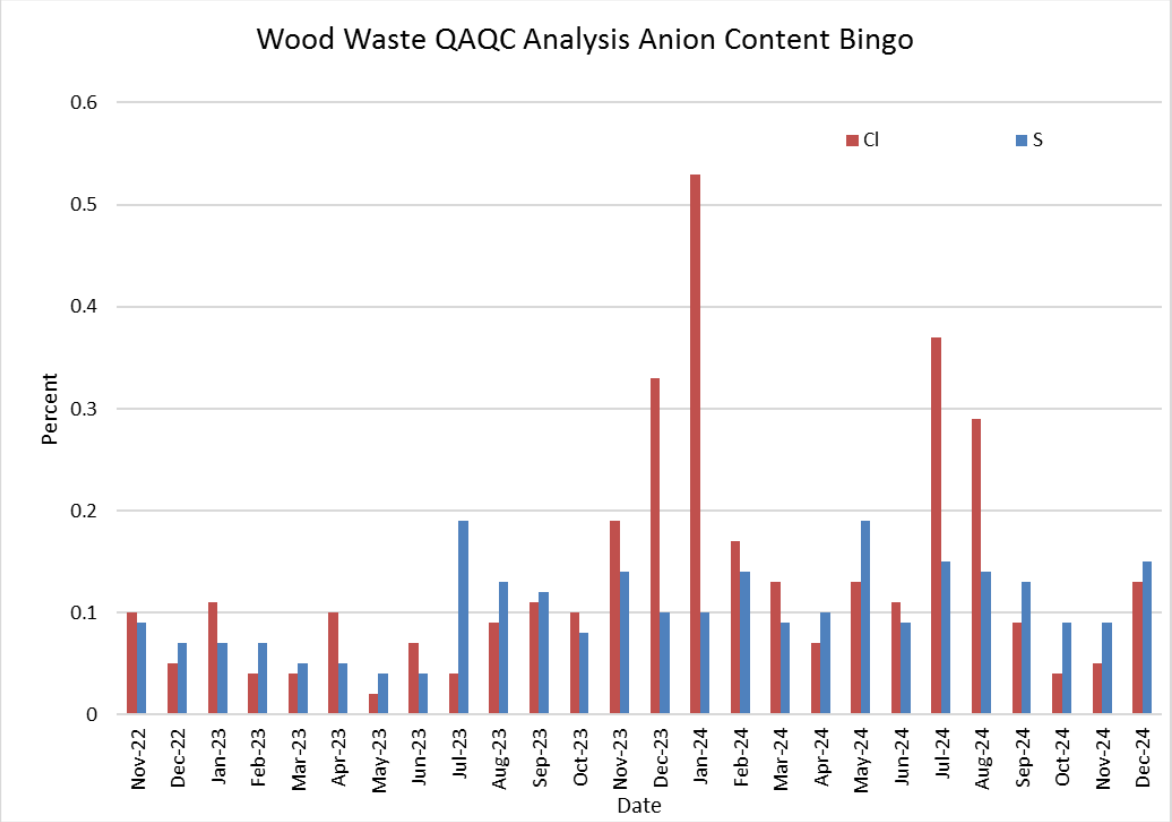
Graph 18- Bingo Industries Wood Waste Moisture, Ash Yield and Gross Wet Calorific Value



Graph 19- Bingo Industries Wood Waste Potassium Oxide and Sodium Oxide Content



Graph 20- Bingo Industries Wood Waste Metal Content



Graph 21- Bingo Industries Wood Waste Anion Content

The above results were presented to management personnel on 7th March 2025 and the reasons for each variation was discussed. Overall, all parameters met the required standards. There has been no reason found for the step change in copper and lead concentrations between 2023 and 2024 results however the overall level of metals is low. Similarly, no specific reason has been found for several anomalous results, which occurred up until August 2024. Quality variations have been much less over the past 6 months. The quality of fuel products manufactured at Eastern Creek is supported by existing QA/QC plans, created in alignment with the current legislation as well as in consultation with the products' end customer.

In addition to those QA/QC plans, Bingo has commissioned an inhouse laboratory to monitor specific chemical and physical properties of interest such as Ash content, Moisture content, Chlorine content, Calorific Value, Fixed Carbon content and Sizing distribution of the products.

The laboratory allows Bingo to conduct frequent sampling and analysis to generate a database of results for the individual alternate fuels materials on a daily basis. As a result, Bingo is maintaining its production operations in conjunction with the background monitoring assistance for product quality by the laboratory. Additionally, to facilitate the information flow and speed up the feedback, the operations team distributes the collected data through an internal group messaging application, presenting the data in numerical as well as traffic light system form, providing the opportunity for quick feedback and action when required, by all stakeholders.

An example of the daily communication flow with the described data representation is shown on Plate 10.

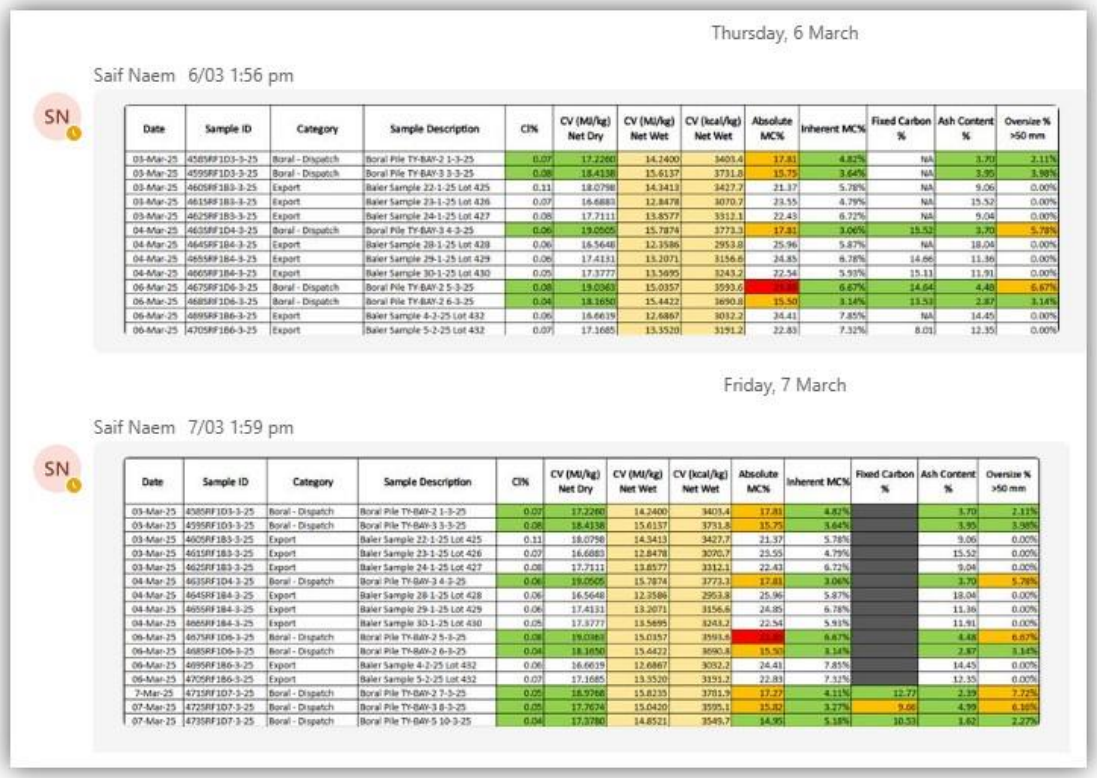


Plate 10 – Bingo operations communication systems March 2025

Improvements made to the Bingo operation during the 2024 audit period included:

- ❒ Establishment of the internal "traffic light" management and alert system discussed above.
- ❒ Erection of weather shielding over the wood product.
- ❒ Replacement of water cannons and sprinklers with water misting. These both improved dust suppression but also reduces water build-up in the product.
- ❒ Further tuning of the optical sorters to improve separation of plastics from the wood waste product.
- ❒ Improvements to processing and separation systems to increase throughput.

Bingo is investigating further improvements that will be designed to reduce product quality variation. The 2024 data review indicated that the earlier variations have reduced over the past six months.

3.8.3 Benedict Wood Waste QAQC Sample Analysis

This resource recovery and waste management facility commenced operation in March 2008. Feedstocks is primarily sourced from the construction industry, demolition, commercial and other recycling facilities. The material is tip screened and segregated on site to isolate contaminated materials that need to go to landfill. Timber material is stockpiled separately which includes waste timber delivered from other sorting facilities or waste timber picked from other waste streams on site. The operation is largely done under cover which minimises the impact of inclement weather. The site was inspected on 7th March 2025 and selected photos of the operation are provided in Plate 10.

Shredding operation

Manual picking belt

Undercover Storage Shed

Product Material

Product prior to final shredding

Post shredded product

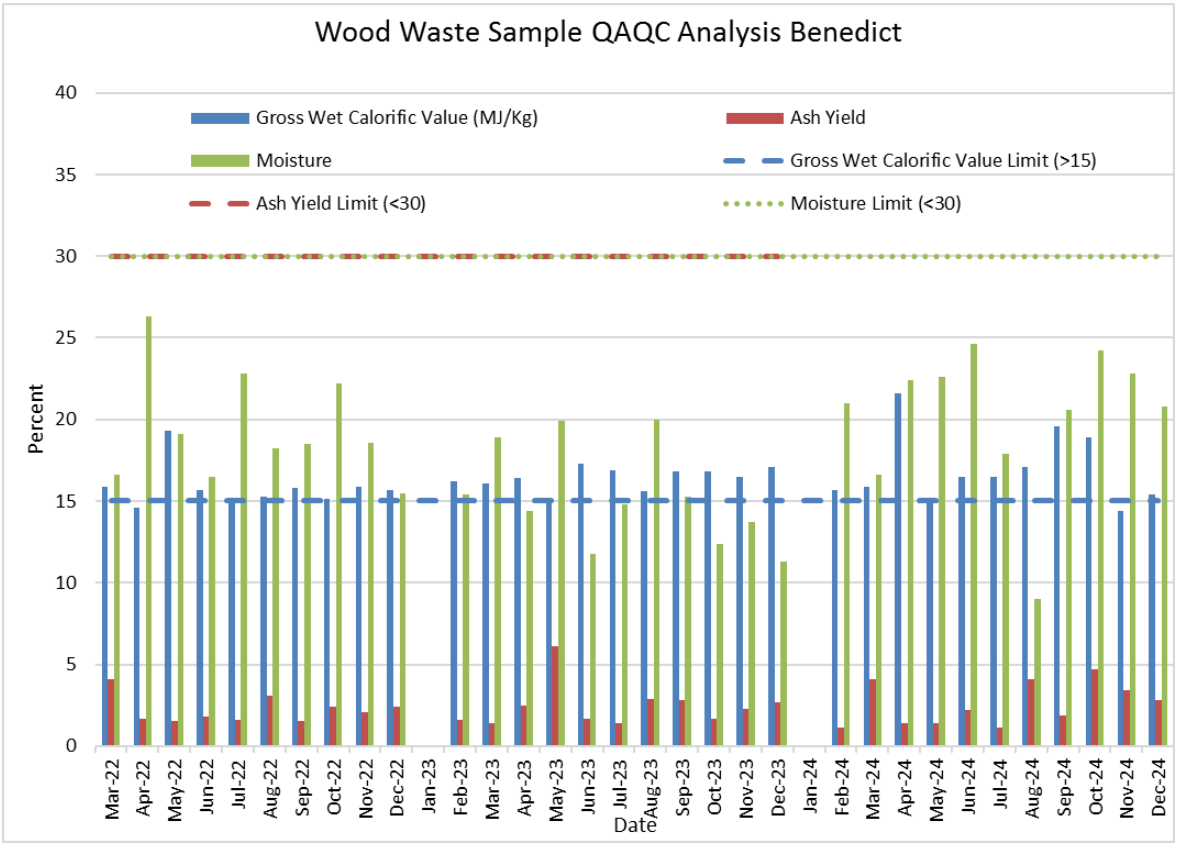
Plate 11 – Benedict Operations March 2025

There was a general increase in moisture over the past 12 months, however calorific value was good, particularly in April 2024. April was a particularly good month with low ash, metals, oxides, Chlorine and Sulphur, the reasons for which were discussed with the supplier. An important part of the supplier audits is to understand the causes for variations in quality data, this includes when quality improves as well as reduces. By understanding the reasons, each supplier can more effectively respond to the results of their internal quality monitoring results. A summary of the results from 2024 compared with prior years is provided in the Table 6 below.

Table 6 – Benedict Supplier Data - Summary

Parameter	Average over Period	Average Prior Periods	Comment
Wet Calorific Value (MJ/Kg)	16.98	16.15	Good, but one sample below spec
Ash (%)	2.56	2.34	Good
Moisture (%)	20.23	17.25	Slight increase in moisture
Chlorine (%)	0.083	0.072	Slight increase in Chlorine
Sulphur (%)	0.057	0.074	Good
Potassium Oxide (%)	0.063	0.078	Good
Sodium Oxide (%)	0.10	0.97	Good
Copper (mg/kg)	65.55	80.1	Ranged from 36 to 124, a few outliers
Lead (mg/kg)	35.45	37.6	Good

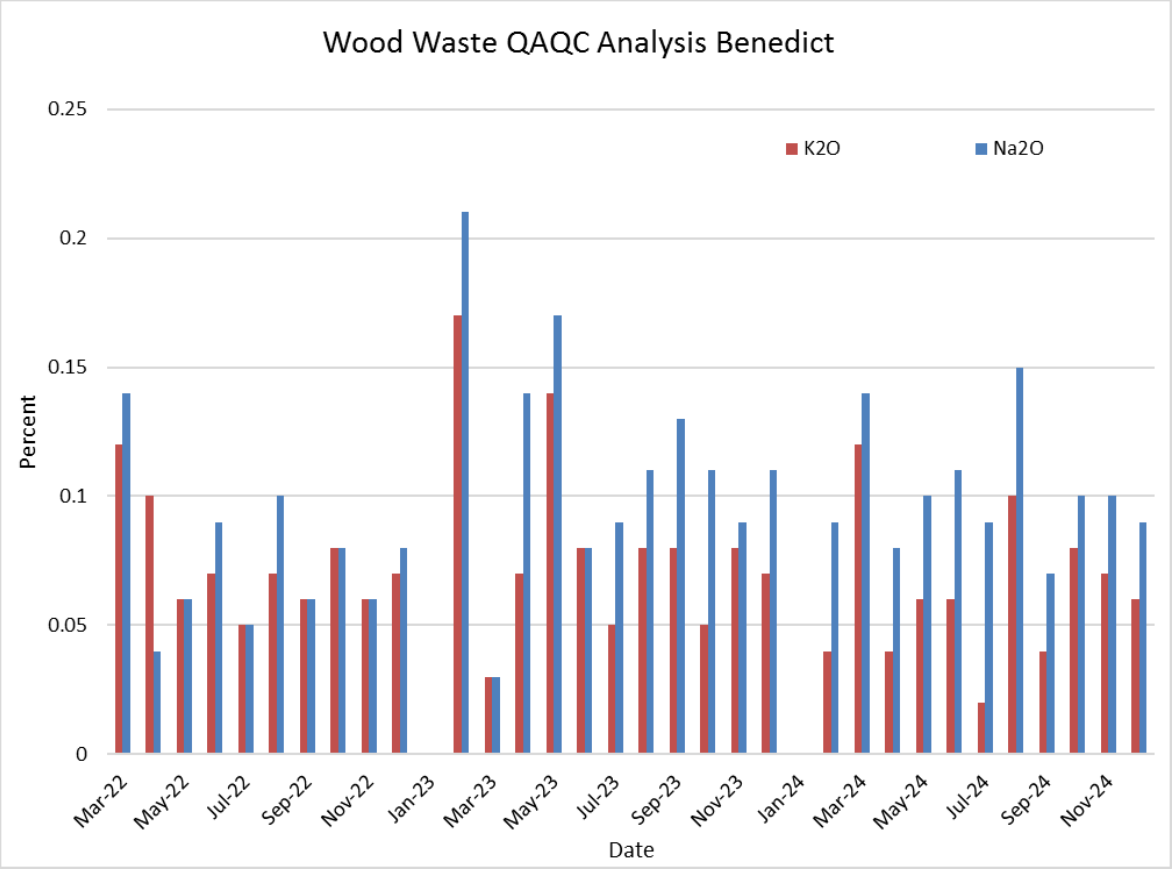
The as received analysis of the material is provided in Graphs 22 to 25 below.



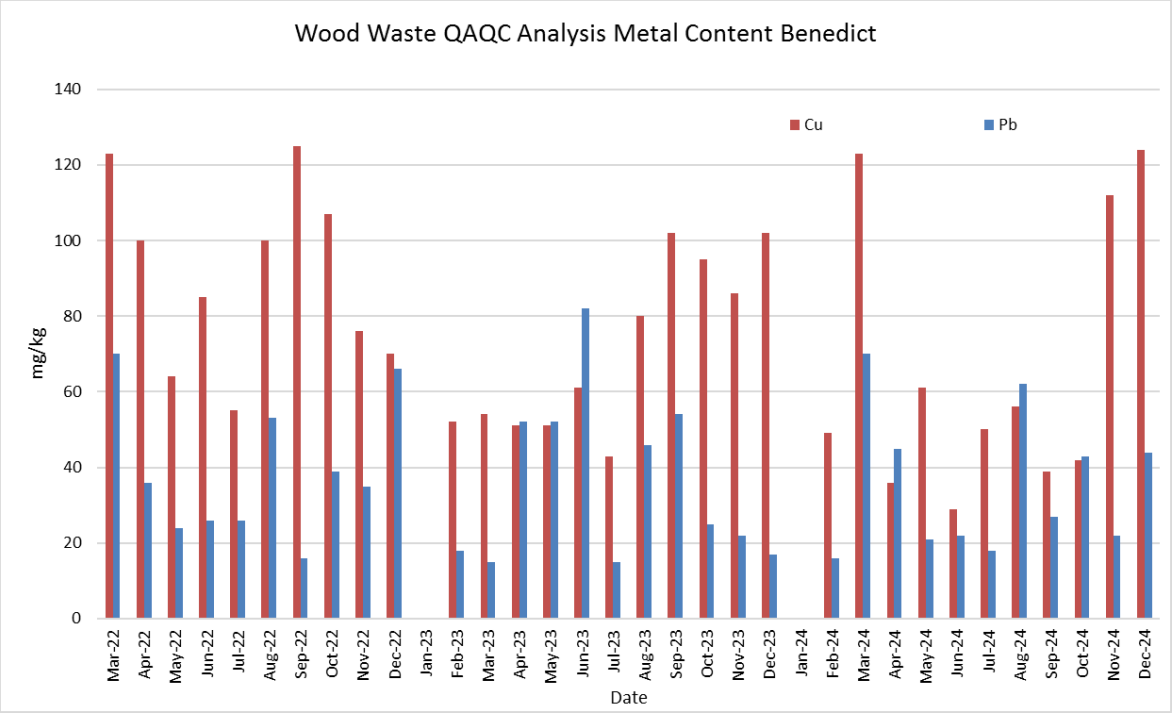
Graph 22- Benedict Wood Waste Moisture, Ash Yield and Gross Wet Calorific Value

The data shows that moisture and calorific value were more consistent during 2022 despite heavy rainfall occurring throughout Sydney during that period. Some variations did occur as the material

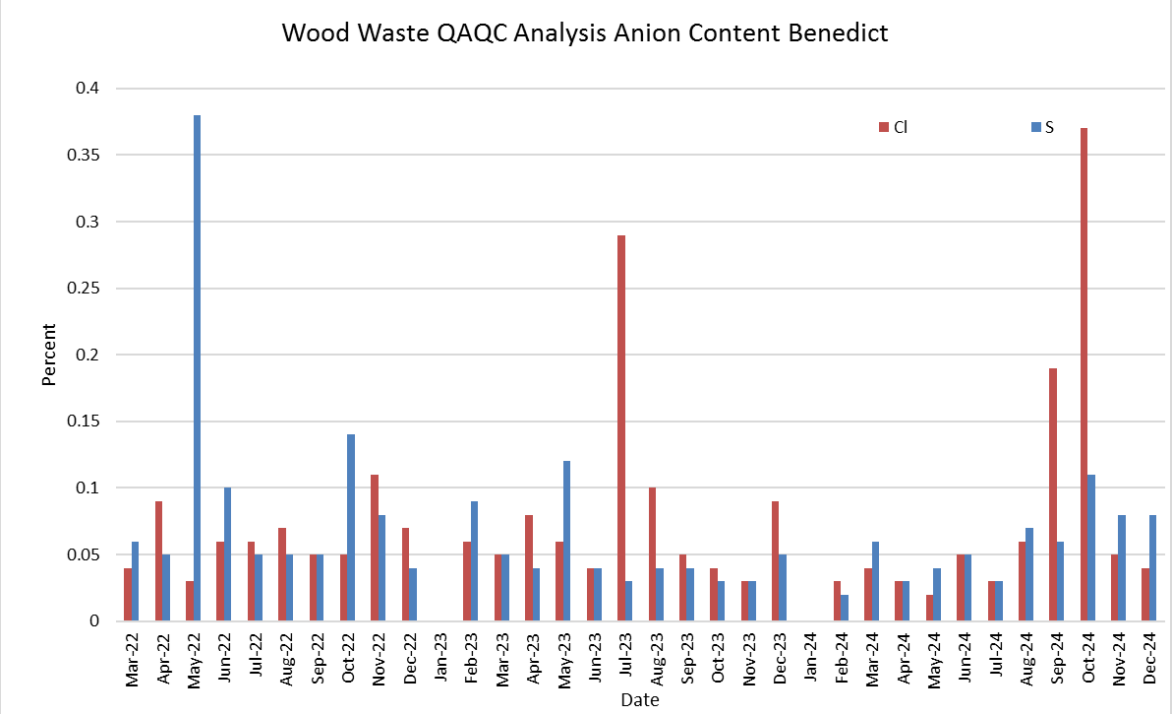
was delivered to the facility in a wet condition prior to sorting. During the interview it was noted that they have employed more dust controls within the process which has resulted in increased moisture content.



Graph 23- Benedict Wood Waste Potassium Oxide and Sodium Oxide Content



Graph 24- Benedict Wood Waste Metal Content



Graph 25- Benedict Wood Waste Anion Content

Although there were some elevated levels of Sulphur and metals, the overall concentrations were well within the required specifications. The product supplied by Benedict is generally of a higher quality than the other suppliers. This is largely attributable to the ability to separate wood based materials from their source suppliers. The other suppliers need to separate wood from general refuse.

The above results were presented to management personnel on 7th March 2025 and the reasons for each variation was discussed. A summary of the matters discussed is as follows:

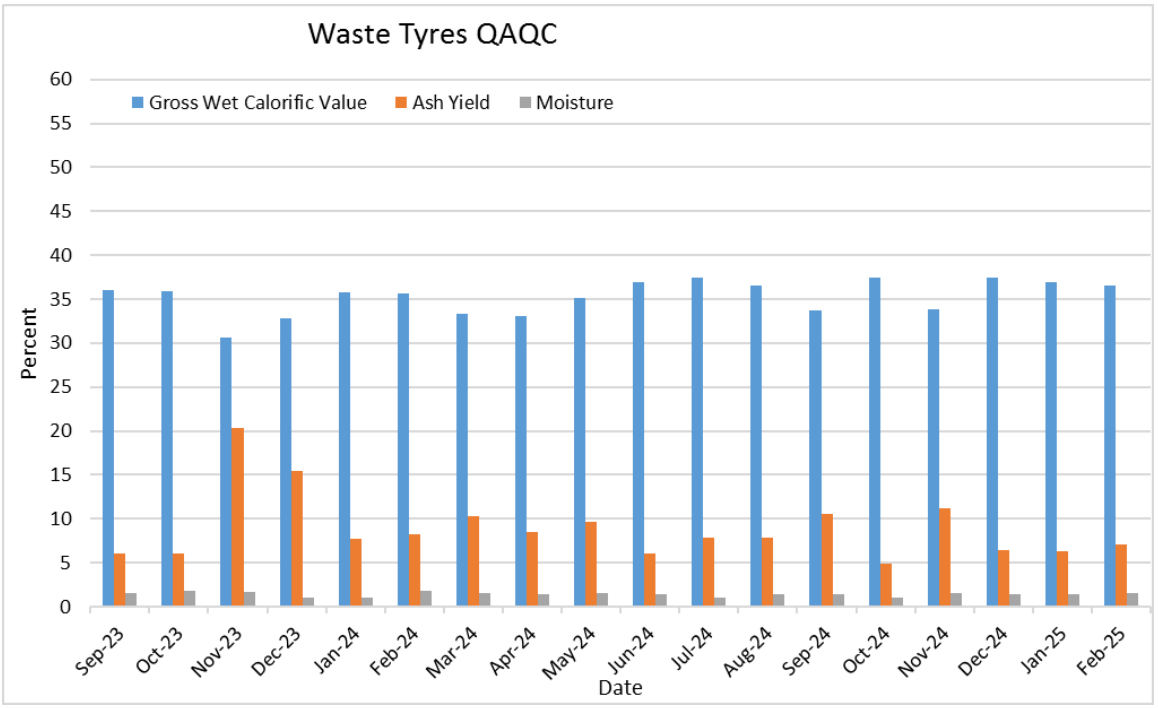
- Improvements made to the dust suppression system and the inclusion of misters to both increase dust mitigation and reduce water volumes.
- Further training initiatives to educate all employees on Boral standards and purpose of the QA/QC system.
- Improvements made to the grinding process which now produces a finer product.
- Further improvements are planned for the shredding process to assist with separation of contaminants.

3.8.4 AK5 Tyre Suppliers

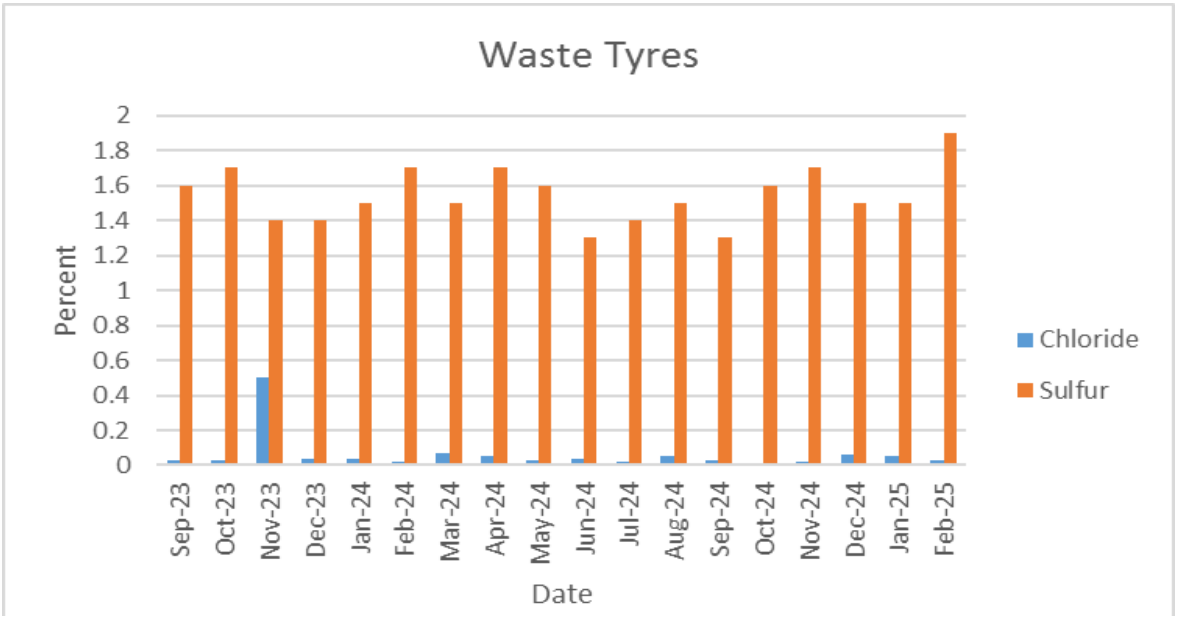
The main supplier of shredded tyres is Tyrecycle who are the main tyre recycling business in NSW. Although the supply of shredded tyres falls under the same NSF QA/QC system, the nature of recycled tyres as a non-standard fuel is vastly different that a solid waste derived fuel. There is very little processing required for tyres, essentially just shredding to reduce size, whereas SWDF requires significant processing to remove contaminants. The only contaminants contained in waste tyres is dirt and foreign materials.

The Gross Calorific Value of waste tyres is significantly higher that other alternative fuels. The average 35 MJ/kg which is generally twice the energy contained in waste wood products and similar to that of coal. Ash yield and moisture content are also very low, and generally better than standard fuels such as coal.

Sulphur is slightly higher than both standard fuels and waste derived fuels however other elements and metals are minimal. There is a separate specification set for waste tyres and the results below meet these for all months during the audit period. The product is very consistent with few variations. These variations usually appear as ash yield which is reflective of dirt content. This issue was raised in the early months of supply (November and December 2023) and the issue has now been corrected. The monitoring results are shown on Graphs 26 and 27.



Graph 26- Waste Tyres Moisture, Ash Yield and Gross Wet Calorific Value



Graph 27- Waste Tyres Chloride and Sulfur Content

3.8.5 Summary of NSF Supplier Compliance

All suppliers of NSF to the cement works have met their obligations under the Quality Assurance and Control Procedures for Solid Waste Derived Fuels (SWDF) as described in Appendix 1 of the Kiln 6 consent 401-11-2002-I. The review of monitoring data, site inspections and meetings with management for each of the suppliers of SWDF did not reveal any non-compliances nor deficiencies with their QA/QC systems.

3.9 Improvement Opportunities

Both Boral and individual suppliers of NSF have implemented a number of ongoing improvements. These improvements have largely centred on the management of waste separation and using the results of product quality data to fine tune separation systems in order to both improve overall quality as well as reduce the incidence of quality fluctuations.

Boral provides ongoing feedback to each supplier based on the monitoring results and this feedback has resulted in improvements in product supply quality. Each supplier is required to undertake some analysis in house however composite samples are sent once a month to a lab in Melbourne. The turnaround time for this laboratory is often up to 8 weeks. This time delay has been an ongoing issue that should be remedied as it does not provide sufficient time to remedy material quality or implement management initiatives to solve quality issues in future.

4. Audit Conclusions and Recommendations

4.1 Audit Conclusions

This audit specifically covers the use of Non-Standard Fuels as required by Condition 4.6 of the development consent. As indicated in the Appendix A Table attached, there are several conditions which are related to the use and management of Non-Standard Fuels and where relevant, these conditions have been included in the audit.

Boral has taken significant time and care in the preparation for the use of NSF as a long term replacement for coal. The trials have been successful and have resulted in some fine tuning of the use and management within the process over the past six years. The audit did not identify any non-compliances with the consent nor Environment Protection Licence.

The audit can also confirm that the predictions made in the air quality model contained in the environmental assessment supporting the original modification 9 have not been exceeded.

4.2 Audit Recommendations

Recommendations arising from this audit are summarised as follows:

- Boral should investigate methods to obtain composite NSF supplier sample results quicker than is currently the case.
- Any new supplier of NSF should be subject to the same QA/QC management and reporting structure.
- A further revision to the OEMP should be undertaken to incorporate the more recently approved MOD 14 as this modification includes an increase in use of NSF as well as the construction of a new road access to the site.

Appendix A – Audit Compliance Status Table

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
1.2 p)	The Applicant shall carry out the development generally in accordance with:			
	i) the Environmental Assessment entitled 'Use of Waste Derived Fuels Kiln 6, Berrima Cement Works DA 401-11-2002 – Modification 9' dated July 2015 and prepared by Boral Cement Limited; and	Documents 92, 93	Development follows the environmental assessment provided	Compliant
	ii) the Response to Submissions report entitled 'Boral Berrima Cement Works Modification 9 – Use of Solid Waste Derived Fuels Response to Submissions' dated 22 January 2016 and prepared by SLR Consulting Australia Pty Ltd.	Document 94	Development follows the Response to Submissions report provided. Key issues were human health, GHG Emissions, noise, air emissions and potential additional air quality controls. These issues were addressed and found satisfactory by DPHI resulting in MOD9 being granted	Compliant
1.2 q)	MOD 10 for the construction of extensions to the Solid Waste Derived Fuel shed in accordance with accompanying documents, namely the Statement of Environmental Effects entitled 'Solid Waste Derived Fuels Shed Extension' dated February 2019 and prepared by Boral Cement Limited.	Document 188	Extensions to the NSF storage shed completed in late 2019. Building inspected as part of this audit	Compliant
1.2 r)	MOD 11 for the use of Hi Cal 50 during start-up and shutdown in accordance with the 'State of Environmental Effects Hi Cal 50 Modification Application' dated 10 May 2019, prepared by Boral Land and Property Group.	Document 189	Approval for the use of HiCal50 materials during start up and shut down processes of the Kiln; when blended with coal.	Compliant
1.2 t)	MOD 13 for the construction and operation of a chloride bypass system and the use of woodchips as a standard fuel in Kiln 6, in accordance with the 'Statement of Environmental Effects, Chloride Bypass System Modification' dated March 2021, prepared by Boral Land and Property Group and correspondence dated 21 April 2021 and 'Response to Request for Information' dated May 2021 prepared by Boral Land and Property Group.	Document 191	This approval is not strictly relevant to the use of NSF but has been included for completeness. The chloride bypass system has now been installed and commissioned	Compliant
1.2 u)	MOD 14 (DA401-11-2002-i-Mod-14) for the increase in SWDF quantities permitted to be received at the site, 24/7 delivery of SWDF, construction and operation of additional SWDF storage sheds and a new site access road, in accordance with the 'Statement of Environmental Effects, Berrima Cement works, Solid Waste Derived Fuels & Delivery Variation Project' prepared by SLR Consulting Australia Pty Ltd, dated 9 March 2022 and 'Response to Submissions Report' prepared by SLR Consulting Australia Pty Ltd, dated 21 February 2023, Boral Limited's Responses to the Department's Request for Additional Information dated 5 May 2023, 3 July 2023, 25 August 2023 and Amendment Request, prepared by Boral Limited, dated 27 October 2023.	Not triggered	Not Triggered	Not Triggered
1.2 v)	MOD 15 (DA401-11-2002-i-Mod-15) for the construction and operation of AKF5 storage and feed infrastructure, in accordance with the 'S.4.55(1A) Modification Application to Berrima Cement Works' dated 13 October 2022, prepared by SLR Consulting Australia Pty Ltd, 'Response to Submissions Report' dated 16 December 2022 Prepared by SLR Consulting Australia Pty Ltd and correspondence dated 25 January 2023 from Boral Limited to the Department.	Site inspection	Storage shed and feed systems has been completed. AKF5 material is currently being supplied to the cement works	Compliant
1.4A	Limits on permitted fuels (Non-Standard Fuels):			
	Hi Cal 50 10,000 tpa	Document 91	Fuel usage below the limit of ≤1.0 tpa; ≤6.0% total fuel by mass – Stockpiled on site	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
	AKF1 - 20,000 tpa	Document 91	Fuel usage below the limit of ≤2.8 tpa; ≤10.0% total fuel by mass	Compliant
	AKF5 - 30,000 tpa*	Document 91	Fuel usage below the limit of ≤4.5 tpa; ≤21.0% total fuel by mass – Audited in accounting system	Compliant
	Wood Waste - 100,000tpa*	Document 91	Fuel usage below the limit of 50% total fuel by mass- Records provided by weighbridge (20k)	Compliant
	RDF - 200,000tpa* (combined <250,000 tpa)	Document 91	Fuel usage below the limit of 50% total fuel by mass- opening and closing stock (35k)	Compliant
1.4AA	Notwithstanding condition 1.4A of this consent, the Applicant must not receive any woodchips at the site for any purpose until: a) the new site access road approved under MOD 14 is constructed and operational; and b) the Applicant has notified the Planning Secretary in writing via the NSW Planning Portal that the site access road has been constructed in accordance with the consent and is operational; and c) the Planning Secretary has indicated in writing that it is satisfied the site access road has been constructed in accordance with the consent and is operational.	Not Triggered	Not Triggered, new access road not commenced at time of this audit.	Not Triggered
1.4 AB	Notwithstanding condition 1.4A of this consent, the Applicant must: a) limit the combined annual usage of SWDF to no more than 50% of total fuel mass until appropriate Proof of Performance Trials are undertaken to the satisfaction of the EPA and the Planning Secretary for each 10% incremental increase in SWDF usage above 50%; and b) not co-fire non-standard fuels permitted by condition 1.4A of this consent unless compliance with the air emission limits on the EPL has been demonstrated for that combination of fuel types through a Proof of Performance Trial to the satisfaction of the EPA and the Planning Secretary.	Document 213	Proof of Performance testing completed	Compliant
1.4B	AKF5 is approved for use at the development under this consent subject to the necessary approvals under the Act being obtained for storage facilities and kiln feeding infrastructure. No AKF5 is permitted to be received at the site until the necessary storage facilities and kiln feeding infrastructure have been constructed in accordance with any such approvals. Storage of AKF5 must be in accordance with Fire & Rescue NSW (Fire Safety Branch) Guidelines for Bulk Storage of Rubber Tyres.	Site inspection	Extension of the SWDF was completed by end 2019. Storages in place for AK1 Hi Cal50 stored in the shale quarry- approved plans in place, Storage facilities for AKF5 were completed in 2024	Compliant
	If the Applicant proposes to exceed the stockpile sizes and heights within the above Guidelines, the Applicant must obtain written approval from Fire and Rescue NSW, to the satisfaction of the Planning Secretary.	N/A		Not triggered
1.4BA	Notwithstanding condition 1.4B of this consent, the Applicant must undertake an air emissions stack test within three months of the commencement of use of AKF5 as a fuel in Kiln 6, or as otherwise agreed to by the Planning Secretary. The Applicant must: a) carry out the air emissions stack test to the satisfaction of the Planning Secretary;	Documents 184, 185, 186, 211, 212, interview	Testing undertaken by Ektimo and approved for use	Compliant
	b) undertake the air emissions stack test at a high feed rate of 4.5 tonnes per hour of AKF5, or as otherwise approved by the EPA;	Documents 184, 185, 186, 211, 212, interview	Testing undertaken by Ektimo and approved for use	Compliant
	c) engage a suitably qualified and experienced person(s) to carry out the air emissions stack test;	Documents 184, 185, 186, 211, 212, interview	Testing undertaken by Ektimo and approved for use	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
	d) notify the Planning Secretary and EPA prior to the commencement of the air emissions stack test; and	Documents 184, 185, 186, 211, 212, interview	Testing undertaken by Ektimo and approved for use	Compliant
	e) report the outcomes of the trial and stack test to the Planning Secretary and the EPA within one month of the conclusion of the test period, unless otherwise agreed by the Planning Secretary.	Documents 184, 185, 186, 211, 212, interview	Testing undertaken by Ektimo and approved for use Testing undertaken by Ektimo and approved for use	Compliant
1.4C	Hi Cal 50 and AKF1 are approved for use at the development under this consent subject to the detailed design for any necessary storage facilities and kiln feeding infrastructure being approved to the Planning Secretary. In particular, the detailed design shall:			
	a) demonstrate that the storage facilities would be appropriately bunded in accordance with the relevant Australian Standards, especially Australian Standard AS1940-2004 (for AKF1, this would include having a minimum capacity sufficient to accommodate catastrophic failure of the tank and that adequate measures are in place to ensure a catastrophic failure of a tanker during transfer was adequately contained to ensure no off-site discharge;	Site inspection	Evidence of appropriate bunding of storage facilities on designs	Compliant
	b) include appropriate measures to ensure liquids draining from the bund (and other containment areas) are kept separate and adequately treated prior to discharge to the onsite stormwater management system, and demonstrate that these measures were developed in consultation with the Sydney Catchment Authority and Wingecarribee Shire Council; and	Site inspection	Adequate treatment of liquids prior to discharge. Oil separator	Compliant
	c) include a Fire Safety Study prepared in accordance with the Department's guideline Hazardous Industry Planning Advisory Paper No. 2: Fire Safety Study and in consultation with Fire and Rescue NSW.	Document 93	Appropriate Fire Safety Study prepared and presented in OEMP. Accordance with guidelines and Fire and Rescue NSW consultation	Compliant
	A construction certificate must not be issued in relation to any necessary storage facilities and kiln feeding infrastructure until the Planning Secretary has approved the detailed design parameters. No Hi Cal 50 or AKF1 is permitted to be received at the site under this consent until any necessary storage facilities and kiln feeding infrastructure have been constructed in accordance with the detailed design parameters approved by the Planning Secretary.	Tank bunding inspected	Detailed design parameters approved by Planning Secretary and construction certificate issued Storage facilities and NFS infrastructure constructed in accordance with detailed design drawings.	Compliant
1.4CA	Notwithstanding condition 1.4B of this consent, the Applicant is permitted to undertake a single trial of chipped tyres in the development, ahead of the construction of storage facilities and kiln feeding infrastructure for AKF5, provided that the trial meets the following requirements:	Document 211	AKF5 trial complete and is currently being used as a NSF	Compliant
	a) no more than 205 tonnes of 2" chipped tyres is to be received at the site for the trial;	Inspection	AKF5 now being part of the regular NSF deliveries	Compliant
	b) the trial shall be conducted over no more than six months from the date of first receipt of the trial materials, after which any remaining trial materials shall be removed from the site to a facility lawfully permitted to accept the materials;	Document 211	AKF5 now being part of the regular NSF deliveries	Compliant
	c) the trial shall be undertaken for the purpose of investigating design and operational aspects of the full-scale use of AKF5;	Document 211	AKF5 now being part of the regular NSF deliveries	Compliant
	d) the trial shall be undertaken in full compliance with the environmental performance standards stipulated in this consent, and the requirements of the Environmental Protection Licence for the site;	Site interview, Document 211	AKF5 now being part of the regular NSF deliveries	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
	e) the Applicant shall consult with and meet the requirements of the EPA with respect to undertaking the trial, and shall not commence the trial without the prior written approval of the EPA;	Site interview, Document 211	AKF5 now being part of the regular NSF deliveries	Compliant
	f) trial materials shall be stored in an area that is sealed, or otherwise treated to the satisfaction of the Planning Secretary, and away from all potential ignition sources;	Site interview, Document 211	AKF5 now being part of the regular NSF deliveries	Compliant
	g) the Applicant shall notify Fire and Rescue NSW prior to the receipt of trial materials on the site, and address any requirements with respect to the safe storage of the trial materials;	Site interview, Document 211	AKF5 now being part of the regular NSF deliveries	Compliant
	h) the Applicant shall notify the Planning Secretary, the EPA and the Community Liaison Group prior to the commencement of the trial; and	Site interview, Document 211	AKF5 now being part of the regular NSF deliveries	Compliant
	i) the Applicant shall report the status and outcomes of the trial to the Planning Secretary and the EPA on a monthly basis from the date that trial materials are first received on the site until conclusion of the trial.	Site interview, Document 211	AKF5 trial complete and data provided to the Planning Secretary and EPA	Compliant
1.4D	During start-up and shutdown of the development, only the following fuels are permitted to be used: (a) natural gas (b) fuel oil (c) diesel (d) coal (e) coke fines (f) Hi Cal 50.	Site interview	Non-standard fuels are not used during start-up or shut down. Controls in place to ensure lockout of NSF during start-up	Compliant
1.4E	Non-Standard Fuels and woodchips are not permitted to be stored at the site for longer than 3 months, except with the written permission of the Planning Secretary	Correspondence from DPHI extending storage of HiCal for 3 years	Extension to HiCal 50 storage. Current usage of other NSF limits storage to less than 3 months	Compliant
1.4F	No Non-Standard Fuel is permitted to be received at, or used at the development, unless it complies with:			
	a) the handling, transporting, sampling, analysis and quality control requirements of this consent;	Documents 35, 53, 67 - 74, 77, 80, - 84, 179	All deliveries were complied with the requirements	Compliant
	b) any requirements of a licence issued under the Protection of the Environment Operations Act 1997 for the site; and	Site inspection, Documents 11 – 18, 179	Deliveries of non-standard fuels were in compliance of the PEOA	Compliant
	c) the fuel specification for that specific fuel.	Documents 13 and 14, 176, 177, 179	Composite samples of NSF tested by supplier and by Boral. Any out of specification material is returned. No specifications available for HiCal50 fuel but because this material has yet to be used and is subject to a current modification to allow use in start-up this is not considered a non-compliance	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
1.4G	Prior to the receipt of the first batch of a Group 1 Non-Standard Fuel from a particular supplier, the Applicant shall certify in writing to the Planning Secretary that the supplier has implemented appropriate quality control and quality assurance procedures to ensure the Applicant's responsibilities under this consent can be met. At the request of the Planning Secretary, the Applicant shall forward a copy of the supplier's quality control and quality assurance procedures to the Department demonstrating how those procedures cause the Applicant to meet the requirements of this consent.	Interview, documents 179, 180	Hi Cal 50 used during the reporting period, testing undertaken and shown to be compliant	Compliant
1.4H	Prior to the receipt of the first batch of a Group 2 Non-Standard Fuel from a particular supplier, the Applicant shall certify in writing to the Planning Secretary that the supplier has met the pre-qualification requirements set out in the approved Quality Assurance and Control Procedure for Receipt and Use of Solid Waste Derived Fuels (Appendix 1 of this consent) and that the Applicant's responsibilities under this consent can be met. At the request of the Planning Secretary, the Applicant shall forward a copy of the supplier's quality control and quality assurance procedures to the Department demonstrating how those procedures cause the Applicant to meet the requirements of this consent.	Documents 34 - 39, 44 – 52, 79	Letters of Boral audits of Resource Co and Brandown Pty Ltd confirms the pre-qualification requirements and responsibilities have been met for each supplier Capability compliance checklists presented for each supplier	Compliant
1.4I	Prior to the receipt of the first batch of SWDF the Applicant shall develop and submit operational procedures for co-firing SWDF to ensure that the temperature of gas generated in the process is raised to a minimum temperature of 850ºC for a minimum of two seconds. Operational procedures must include interlocks in the process control system.	Operational procedures sighted during interview	Operational procedures for co-firing SWDF submitted prior to receipt of first batch	Compliant
1.4J	Hi Cal 50 must only be used in Kiln 6 when blended with coal to create a homogenous blend. The concentration of Hi Cal 50 in the coal blend must not exceed 4%.	Site interview	This condition forms part of MOD11. The use of HiCal50 commenced during this audit period.	Compliant
3.17C	Except as provided by the condition of a licence under the Protection of the Environment Operations Act 1997, the Applicant must assess, classify and dispose of all wastes generated as a result of the use of Non-Standard Fuels in accordance with the NSW EPA's Waste Classification Guidelines.	Site inspection, Document 91	SWDF waste disposal complies with guidelines and covered by EPL	Compliant
3.19A	Operational stockpiling of RDF in the external bale material storage area (identified on Drawing No.GE-B-2278-01 Revision DP, dated 15 January 2015) is limited to periods of extended kiln downtime for maintenance or repair only. RDF for stockpiling must be delivered in plastic wrapped 1 cubic metre bales. Stockpiles must not exceed a maximum height of five metres.	Site inspection, interview	RDF bales not present on site, all material delivered to enclosed shed. Should RDF material not be baled in future consideration should be given to amending this condition	Compliant
3.20	For each Group 1 or Group 2 Non-Standard Fuel approved for use at the development the Applicant shall provide a fuel specification, to be approved by the Planning Secretary and the EPA prior to the use of that Non-Standard Fuel at the development under this consent. The Non-Standard Fuel specification shall include, but not be limited to, the minimum calorific value and the maximum quantity of all relevant pollutants, particularly the listed pollutants.	Documents 56, 77	Only Group 2 non-standard fuels were used during the audit period. Analysis undertaken in accordance with QA/QC specification. Specifications provided and met	Compliant
3.21	Based on the Non-Standard Fuel specification specified in condition 3.20 the following Non-Standard Fuel specification criteria are required to be met:			
	b) for Hi CAL 50 a mercury specification no greater than 1 mg/kg and a cadmium specification no greater than 10 mg/kg;	Document 187	Material below limits	Compliant
	c) for AKF1 a mercury specification no greater than 2 mg/kg and a cadmium specification no greater than 5 mg/kg;	N/A	Material was not used during this audit period	Not Triggered
	d) organohalogen compounds, expressed as chlorine, in any Non-Standard Fuel not to exceed 1% by weight; and	N/A	Material was not used during this audit period	Not Triggered

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
	e) the waste materials to be used as Non-Standard Fuels must not be diluted or blended to meet any of the fuel specification requirements.	Documents 95 and 96 Interview Site inspection	The two NSF currently used are very similar in nature and chemical composition but are technically partially blended in the shed. This condition should be amended as it should not relate to Group 2 NSF and technically refers to the 2005 amendment	Compliant
3.22	Prior to the use of any Group 1 or Group 2 Non-Standard Fuels at the development in accordance with this consent, the Applicant shall implement a Tracking Program that meets the requirements of the Planning Secretary. The Tracking Program shall include, but not be limited to, the identification and recording of the following information in accordance with the time periods specified in condition 3.23:	Documents 7-10, 20-25 and 26-30 Interview	Tracking Program completed and provided in both monthly and quarterly.	Compliant
	a) batch analyses of Non-Standard Fuels received at the development as provided by the suppliers, and the results of any check analyses carried out by the Applicant as part of the quality control management procedures required under condition 6.7 and condition 6.8 of this consent;	Documents 26, 38, 54 – 56, 75 - 78, 80, 95 and 96	Routine compliance analysis of non-standard fuels outlined in the Tracking Program. QCQA of suppliers provided. Internal analysis undertaken as well	Compliant
	b) a mass inventory of each listed pollutant entering the process in raw materials, conventional fuels and Non-Standard Fuels, with particular attention to, but not limited to chlorine, mercury, cadmium and chromium;	Sighted EPL Annual return and Documents 192 to 195	Process inputs and outputs monitored on a routine basis as outlined in the Tracking Program. Inventory viewed on site and data provided in EPL return and Annual Review	Compliant
	c) emission factors for each listed pollutant calculated from inputs, outputs, and measured air emissions, variance in the emissions factors from period to period and an assessment with regards to the reasons for any such variance; and	Documents 26, 95, 96	Calculations of emission factors and variance reported quarterly for the first year and biannually thereafter	Compliant
	d) any adjustments that may be necessary to Non-Standard Fuel specifications arising from the Tracking Program analysis.	Document 26	No adjustments made during audit period	Compliant
3.23	The Applicant shall submit a Report that details and assesses the results of the Tracking Program prescribed in condition 3.22 of this consent to the Planning Secretary. The Report shall be submitted to the Planning Secretary:			
	a) every three months in the first year of operation using Non-Standard Fuels under this consent, (to be synchronised with stack monitoring); and	Documents 7-10, 20-25 and 26-30	3 monthly Tracking Program reports supplied in PoPT reports and appendices to the monthly reports	Compliant
	b) thereafter every six months, or as otherwise agreed to by the Planning Secretary.	Document 180	Six monthly reports sighted	Compliant
3.24	The Applicant shall cease to burn Non-Standard Fuels in Kiln 6 if:			Compliant
	a) the temperature is below 850^0C in the zone where Non-Standard Fuels are fired or in the vicinity of the pre-calciner; or	Data review Interview	Kiln 6 has not dropped below required temperatures Lockout system within control room stops the use of NSF if temperatures fall to 850^0C	Compliant
	b) the temperature is below 300^0C at the outlet of the preheater strings.	Data review Interview	Kiln 6 has not dropped below required temperatures	Compliant
3.24A	The temperature requirement of Condition 3.24(b) does not apply to the Group 1 Non-Standard Fuel, Hi Cal 50, when Hi Cal 50 is blended with coal in accordance with the requirements of Condition 1.4J.	Interview, document 192	Data available on kiln temperature during us of HiCal50	Compliant
3.24B	Notwithstanding Condition 3.24A, the feed rate of the Group 1 Non-Standard Fuel, Hi Cal 50, must not exceed 400 kilograms per hour when the temperature is below 300^0C at the outlet of the preheater strings.	Interview, document 192	Data available on kiln feed rate during us of HiCal50	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
3.25	The Applicant must undertake PoP trials for the burning of SWDF. The maximum length of the trial will be eight months. At least one month prior to the PoP trials, the Applicant shall submit a detailed plan(s) for the PoP trials, to the satisfaction of the Planning Secretary. The plan(s) must be prepared for the co-incineration of each permitted SWDF and be prepared in consultation with the EPA. The plan(s) must, as a minimum:	Documents 21-25, 27-32	Plans for RDF and WW submitted and comments from EPA and DPHI noted in report revision logs	Compliant
	a) verify the residence time, the minimum temperature and the oxygen content of the exhaust gas which will be achieved during normal operation and under the most unfavourable operating condition anticipated;	Document 21-25, 27-32	Appendix 3- Results for calculation of residence time (6.61s for RDF and WW)	Compliant
	b) establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in the EPL;	Documents 19 and 20	Criteria has been established, as provided in the CEMS QA Plan	Compliant
	c) assess the performance of any monitors on the abatement system and establish a maintenance and calibration program for each monitor;	Document 19- Section 6 and 7 Doc 25- Section 3 Doc 32- Section 3	maintenance and calibration program is ongoing, as detailed in the CEMS QA Plan Calibration and Relative Accurate Test Audits (RATA) completed on all air emission monitoring equipment prior to the PoPT commencing	Compliant
	d) establish criteria for the control of all alternative fuel input including the maximum flow and maximum calorific value;	Document review	NSF specifications and QA/QC criteria have been established but do not include maximum calorific value as only minimum calorific value is relevant. This condition is no longer relevant given the approval of the PoPT	Compliant
	e) confirm that all measurement equipment of devices (including thermocouples) used for the purpose of establishing compliance with this approval have been subjected, in situ, to normal operating temperatures to prove their operation under such conditions;	Doc 25- Section 3 Doc 32- Section 3 Doc 19- Section 6	The CEMS QA Plan covers requirements for equipment checks, calibrations and preventative maintenance to ensure valid results from monitoring instruments	Compliant
	f) detail procedures for testing the performance of all major process components and emission control systems associated with the processing and burning of SWDF; and	Document 25, 32	Performance tests detailed in WW and RDF PoPT plans and in Appendices 4 and 5	Compliant
	g) address all relevant requirements of the EPL for the project.	Doc 25- Section 4 Doc 32- Section 4	EPL requirements addressed	Compliant
3.26	The PoP trials shall:			
	a) be carried out in accordance with a detailed PoP plan(s) approved by the Planning Secretary;	DA for the Upgrade of Kiln 6 (DA No. 401-11-2002- DA for modifications 1 to 9 to DA No. 401-11-2002-i (specifically the MOD 9 EPL No. 1698; and POEO Act 1997 POELA Act 2011	Trials conducted as per Planning Secretary approval Consistent with environmental and safety standards and in accordance with the regulatory requirements	Compliant
	b) be undertaken by a suitably qualified and experienced person(s);	Staff interview 19- Section 9	Trials conducted by qualified staff	Compliant
	c) test performance of all major process components including emission control systems using no SWDF, and representative fuels containing SWDF designed to cover the range of materials and compositions of SWDF;	Documents 15 and 16	All major components tested for performance during trials Stack Test for PoP with SWDF in Appendix 5 Stack tests using coal only from 2016 -2018 in Appendix 6	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
	d) identify changes to the Kiln 6 emission control system that may be necessary to achieve compliance with the consent and the EPL; and	Doc 12- Section 7.1	No significant increases to emissions required to be monitored as per EPL with results within approved limit	Compliant
	e) demonstrate compliance with the relevant requirements of the EPL, development consent and relevant environmental and safety criteria.	Doc 12- Section 9	Three elevated results above the EPL limits. Two during stack emission tests and one via CEMS monitoring, however the monitoring program itself completed with the approved PoP Trial Plan	Compliant
3.27	The Applicant is to report on each PoP trial to the Planning Secretary and EPA. The reports shall be submitted at:			
	a) monthly intervals during the PoP trial. The information to be contained in these reports is to be determined in consultation with the EPA as part of the PoP Trial Plan required under condition 3.25; and	Documents 7, 8, 9, 10, 85, 85, 86, 87, 89	Monthly PoP trials have been provided for October, November, December 2018 and January 2019. Six monthly PoP covers one of the monthly reports	Compliant
	b) six months after the commencement of the PoP trial. The six month report shall contain but not be limited to the following information:			
	i. the total quantity of SWDF used during the previous six months;	Doc 12- Section 6	Total of 5925t WW and 7991t of RDF has been consumed	Compliant
	ii. the dates and times when the trial commenced and will conclude;	Documents 11, 12	Trial ran from 24 August 2018 – 28 April 2019	Compliant
	iii. the results of stack emissions testing for the analytes and properties specified in any relevant trial plan and baseline emissions for comparison, where applicable;	Documents 12, 15, 16	Stack emissions results provided in the PoP Trial Six Month Report and in associated appendices	Compliant
	iv. all monitoring data collected for the project during the previous six months;	Documents 1-10, 13-17, 85-89	All monitoring data is provided in monthly reports as well as the 6 monthly PoP trial report	Compliant
	v. identification of any non-compliance with the conditions of this consent and the EPL;	Doc 12- Section 9	Three elevated results above the EPL limits. Two during stack emission tests and one via CEMS monitoring: Electrostatic Precipitator Trip and Elevated HCl	Compliant
	vi. details of additional measures to be implemented to address any non-compliance; and	Doc 12 -Section 10	Measures enforced to address each non-compliance were detailed in Section 10	Compliant
	vii. an assessment of the suitability of the SWDF for ongoing use.	Doc 12 -Section 11	An SWDF suitability assessment is provided in Section 11	Compliant
	Copies of the POP Trial Reports shall be made available to the public upon request.	Stack emission tests published under POELA data and reviewed	PEOLA data contained on Boral Cement's web page	Compliant
3.28	Use of SWDF is not permitted (outside of the approved PoP trials) until such time as the Planning Secretary has indicated in writing that it is satisfied with the results of the six month PoP trial report specified under condition 3.27 b) for an individual SWDF.	Noted	SWDF was used only within the allocated trial period until notice of approval for further use	Compliant
4.1A	Continuous monitoring equipment for emissions, temperature and fuel feed rate, as required to meet the conditions of this consent and as agreed to by EPA must be installed prior to receipt at the site of and use of Non-Standard Fuels in the upgraded Kiln 6.	Document 19, 93 Site interview	Continuous monitoring equipment was installed prior to receipt of first fuel load, and has been in use since	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
4.1B	Prior to the commencement of the use of Non-Standard Fuels in accordance with this consent, the Applicant shall develop and implement an Ambient Air Quality Monitoring Program in consultation with, and to meet the requirements of, the Planning Secretary and the EPA. The monitoring program shall be consistent with the EPA's Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, shall monitor fugitive emission form site works, and be designed to generate sufficient information to meet the requirements of this consent. The ambient monitoring program shall include: a) appropriately located ambient air quality monitoring station/s designed to obtain representative air quality data	Documents 93, 99 – 107, 179 and 192	All required documents have been prepared and lodged with the EPA	Compliant
	b) monitoring of TSP, PM10 and PM2.5 and other listed pollutants	Document 93, 107	Monitoring program approved by EPA	Complaint
	c) sampling at a continuous or other appropriately justified frequency (to be agreed with the EPA);	Documents 99 to 107	Monitoring program underway. Reported in PoP and six monthly reports	Complaint
	d) sampling over an appropriate period (to be agreed with the EPA); and	Documents 99 to 107, 192	Monitoring program periods as agreed with EPA	Compliant
	e) generation of suitable continuously sampled meteorological data including wind speed, wind direction, temperature, and variability of wind direction (sigma theta) in general accordance with the current Australian Standard/s.	Document 108	Weather station data available and reviewed	Compliant
	The Applicant must ensure the ambient air monitoring program is underway prior to the PoP Trials starting. The continuation of ambient monitoring may be reviewed after analysis of at least one year's ambient monitoring data	Document 93	Monitoring program was established prior to PoP trials commencing	Compliant
4.6	Within 12 months of the receipt of the first load of any Group 1 or Group 2 Non-Standard Fuels under this consent, the Applicant shall arrange for and bear the full cost of an independent and comprehensive audit of the use of Non-Standard Fuels at the development. Further Audits are to be conducted every 12 months, or as otherwise directed by the Planning Secretary. The Audits are to be carried out by a duly qualified and independent person or team to be approved by the Planning Secretary, and submitted directly to the Planning Secretary, the EPA and NSW Health unless otherwise directed by those agencies. The Audits shall be carried out in accordance with ISO 19011:2002 - Guidelines for Quality and/ or Environmental Management Systems Auditing and shall cover all aspects of the use of Non-Standard Fuels at the development, including, but not limited to:	This audit	This document represents the third annual Non-Standard Fuels audit	Compliant
	a) an assessment of compliance with the requirements of this consent, and other licences and approvals that apply to the use of Non-Standard Fuels at the development;	This audit Document 91	Refer this table	Compliant
	b) a review of management practices and operating procedures regarding the proper and efficient operation of Kiln 6 whilst using Non-Standard Fuels, especially with regards to the minimisation of dioxins emissions;	This audit	Refer to Sections 7- Audit Outcomes; Section 8- Operational Performance	Compliant
	c) assessment of quality control and quality assurance measures implemented by the Non-Standard Fuel suppliers, especially with regards to the sampling and analysis undertaken to ensure that Non-Standard Fuels comply with the relevant fuel specification;	This audit	Refer to section 8. QA/QC procedures established and include plans done by both supplier and Boral. Laboratory testing is cross-checked by independent testing done by Boral by NATA registered laboratories. Monthly meetings are held between Boral and the two NSF suppliers.	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
	d) a review of the fuel quality control management procedures implemented by the Applicant including assessment of the Applicant's handling, processing, verification and analysis of information generated by the Applicant and received from the Non-Standard Fuel suppliers;	This audit	Refer to sections 8. QA/QC procedures established and include plans done by both supplier and Boral. Laboratory testing is cross-checked by independent testing done by Boral by NATA registered laboratories. Monthly meetings are held between Boral and the two NSF suppliers.	Compliant
	e) suggestion of any recommendations with respect to any of the matters listed above; and	This audit	Refer to section 9- Audit Conclusions and Recommendations	Compliant
	f) a review of compliance with the process parameters specified in Condition 3.24 of this consent, including a report of the number of events and total number of hours required to cease the feed of any Group 2 Non-Standard Fuels.	This audit	Refer to Sections 7- Audit Outcomes; Section 8- Operational Performance. Process controls include interlocked for NOx, SOx and particulates. NSF can be stopped almost immediately if the need arises.	Compliant
	Note: There is nothing that prevents the Applicant from combining the annual auditing requirements provided in conditions 4.5 and 4.6.	Noted	Boral has determined in this instance not to combine the general compliance audit with this specific audit on Non-Standard Fuels	Compliant
4.6A	The audit reports required by Conditions 4.5 and 4.6 of this consent must be submitted within three months of commissioning the audit, or as otherwise agreed by the Planning Secretary.	This audit	Audit submitted by due date.	Compliant
5.4	Prior to the use of Non-Standard Fuels at the development the Applicant shall establish a Community Liaison Group that has access to all environmental management plans and monitoring data, environmental reporting and tracking and audit reports required by this consent.	Site interview Document 93- Appendix 3 Letter to reformed community meeting	Community Liaison Group has been established and meetings are held annually, first meeting was June 2018 Information provided in the updated CCEP and has continued throughout this audit period.	Compliant
6.3A	Prior to the receipt of any Non-Standard Fuels, the Applicant shall update the OEMP required by condition 6.3 of this consent to include the following:	Document 93	OEMP Updated May 2023 (Mod 15)	Compliant
	a) details of how the development will comply with the requirements of the EPL and development consent throughout operation;	Document 93- Appendix 4	Management practises outlined to ensure EPL compliance	Compliant
	b) an update of the Community Consultation and Engagement Plan required by Condition 6.1A that outlines how the community will be kept informed about the results of the PoP trials and the ongoing use of SWDF;	Document 93- Appendix 3	Updated Community Consultation and Engagement Plan provided	Compliant
	c) the environmental monitoring requirements outlined in the EPL and under conditions 4.1A, 4.1B and 4.1C of this consent; and	Document 93- Appendices 4 and 11	EPL monitoring requirements outlined in the updated AQMP and WMP	Compliant
	d) an updated Air Quality Management Plan, as required by condition 6.4A of this consent.	Document 93- Appendix 4	Updated Air Quality Management Plan provided	Compliant
	Following completion of the PoP trials, the Applicant shall amend the Operation Environmental Management Plan, to the satisfaction of the Planning Secretary, to describe any proposed changes to limits contained in the EPL and development consent including detailed justification for the changes and relevant results of the PoP trials.	Audit Interview	An update to the EOMP was previously recommended and was completed in April 2020, with a further update in May 2023 in response to Mod 15.	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
6.6	Prior to the use of any Group 1 or Group 2 Non-Standard Fuels under this consent, the Applicant shall update the Operation Environmental Management Plan required under conditions 6.3 and 6.4 of this consent to reflect any modifications required at the development in light of the use of Non-Standard Fuels. Where the Applicant considers that the Operation Environmental Management Plan does not require any amendment then a clear justification of this must be provided. The Applicant shall not receive or use Non-Standard Fuels at the development until the Planning Secretary has approved the amended Operation Environmental Management Plan. Updating of the Plan shall include, but not necessarily be limited to providing additional detailed measures to the Air Quality Management Plan to minimise the emissions of air pollutants (including toxic pollutants and dioxins) to ensure compliance with the EPL.	Document 93	OEMP Updated May 2023 (Mod 15)	Compliant
6.7	Prior to the receipt of any Group 1 Non-Standard Fuels at the development in accordance with this consent, the Applicant shall establish and implement quality control management procedures to ensure Group 1 Non-Standard Fuels delivered to the development comply with the fuel specifications. The procedures shall be prepared in consultation with the EPA and, be approved by the Planning Secretary and shall, at the request of the Planning Secretary, be updated to reflect the recommendations of the annual Non-Standard Fuels audit required under condition 4.6 of this consent. The procedures shall include:	Document 192	HiCal50 used during period of this audit	Compliant
	a) assessment of the sampling and laboratory processes used by the Non-Standard Fuel suppliers with a view to ensure these processes are sufficient for the Applicant to meet the requirements of this consent;	Doc 34 – Category QA/QC Doc 38- Page 9 Doc 80 - Category QA/QC	Supplier audits assessed sampling and laboratory processes with information provided in the listed documents. Boral undertake its own laboratory testing as well to verify physical and chemical properties	Compliant
	b) carrying out of periodic, random parallel sampling of Non-Standard Fuels with analysis of substances to which limits have been applied in the fuel specifications; and	Document 38, 95 and 96	Boral undertake separate monthly testing of NSF received from both suppliers	Compliant
	c) measures to ensure handling, processing and analysis of information provided by Non-Standard Fuel suppliers and that generated by the activities under b) is appropriately stored and managed.	Site interview Documents 57- 66, 40-43	Measures have been applied to ensure appropriate management and storage of records	Compliant
6.8	Prior to the receipt of any Group 2 Non-Standard Fuels at the development in accordance with this consent, the Applicant shall adopt and implement the approved Quality Assurance and Control Procedure for Receipt and Use of Solid Waste Derived Fuels, dated 11 July 2016, prepared by the Applicant (Appendix 1 of this consent), to ensure Group 2 Non-Standard Fuels delivered to the development comply with the fuel specifications. The procedures shall, at the request of the Planning Secretary, be updated to reflect the recommendations of the annual Non-Standard Fuels audit required under condition 4.6 of this consent and the First-Year Monitoring and Modelling Assessment Report required by condition 7.6 of this consent.	Documents 19, 20, 27, 28, 34 and 38	The Quality Assurance and Control Procedure for Receipt and Use of Solid Waste Derived Fuels has been implemented since the receipt of Non-Standard Fuels on site. The First-Year Monitoring and Modelling Assessment Report has been completed and sighted	Compliant
7.2A	Prior to the commencement of the use of Non-Standard Fuels under this consent, the Applicant shall establish an agreed arrangement with the Sydney South West Pubic Health Unit to ensure that NSW Health is advised in a timely manner of the details of any incident with actual or potential significant off-site impacts on human health or amenity.	Interview Pollution Incident Response Management Plan	Correspondence with Sydney South West Public Health Unit now replaced by Public Health Unit (Sydney South West) Camperdown Office	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
7.3A	In each Annual Environmental Management Report submitted after the First Year Monitoring and Modelling Assessment Report required in accordance with condition 7.6 has been submitted, the Applicant shall include the details of the use of all Non-Standard Fuels at the development, including, but not necessarily limited to:	Documents 191 to 195	The First-Year Monitoring and Modelling Assessment Report has been completed and NSF reported in each Annual Review	Compliant
	a) the nature, quantity and quality of Non-Standard Fuels used at the development;	Interview, Documents 191 to 195	The First-Year Monitoring and Modelling Assessment Report has been completed and NSF reported in each Annual Review	Compliant
	b) details of any fuels that did not meet the Fuel Specification, including the source of the fuels and how the rejected fuels were managed or disposed of;	Interview, Documents 109 to 177	QA/QC system covering suppliers maintain fuel specifications	Compliant
	c) a review of the results of the Non-Standard Fuels Tracking Program and the Non-Standard Fuels Quality Control Management procedures; and	Interview, Documents 37 to 39, 85 to 91	QA/QC system covering suppliers maintain fuel specifications	Compliant
	d) the results of all monitoring undertaken in accordance the requirements of this consent and an assessment of these monitoring results, including comparison of stack emissions against the concentration limits set in condition 3.10.	Interview	QA/QC system covering suppliers maintain fuel specifications	Compliant
7.6	One year after the commencement of the use of Non-Standard Fuels in accordance with this consent, the Applicant shall prepare a First-Year Monitoring and Modelling Assessment Report. The Report shall be submitted to the Planning Secretary, the NSW Department of Health and the EPA not more than 15 months after the commencement of the use of Non-Standard Fuels in accordance with this consent, and shall:	Document 196	The First-Year Monitoring and Modelling Assessment Report was completed and sighted	Compliant
	a) detail the nature, quantity and quality of Non-Standard Fuels used at the development;	Document 196	The First-Year Monitoring and Modelling Assessment Report was completed and sighted	Compliant
	b) assess the results of the Continuous Emissions Monitoring, the Ambient Air Quality Monitoring Program and the Process Monitoring requirements under conditions 4.1A, 4.1B and 4.1C of this consent against the relevant emission limits and process parameters prescribed by this consent and within the context of the predictions made in the documents listed under condition 1.2 i) of this consent;	Document 196	The First-Year Monitoring and Modelling Assessment Report was completed and sighted	Compliant
	c) assess the results of the Non-Standard Fuels Tracking Program including detailed description and assessment of any trends identified through the Program;	Document 196, 207	The First-Year Monitoring and Modelling Assessment Report was completed and sighted	Compliant
	d) assess the adequacy of the Non-Standard Fuels Quality Control Management Procedures required under condition 6.7; and	Document 196	The First-Year Monitoring and Modelling Assessment Report was completed and sighted	Compliant
	e) based on this assessment, review the necessity for continuing or modifying any of the emissions monitoring, reporting or pollutant tracking requirements of this consent.	Document 196	The First-Year Monitoring and Modelling Assessment Report was completed and sighted	Compliant
Environment Protection Licence 1698				
A1.1	Fee Based Activity:			Compliant
	Energy recovery from general waste – Any Capacity	EPL Annual Return	Limits not exceeded	Compliant
	Recovery of general waste; Any general waste recovered	EPL Annual Return	Limits not exceeded	Compliant
	Waste storage - other types of waste - Any other types of waste stored	EPL Annual Return	Limits not exceeded	Compliant
L3.2	Air concentration limits at Point 2	EPL Annual Return	Limits not exceeded	Compliant
	Mercury 0.05 mg/m^3 1hr 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88,	Stack tests results for WW and RDF show Mercury levels below limit	Compliant
	Type 1 & Type 2 substances in aggregate 0.5 mg/m^3 1hr 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88, 105	Stack tests results for WW and RDF show Type 1 & Type 2 substance levels below limit	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
	Solid particles 50 mg/m^3 24hr 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88, 105	Stack tests results for WW and RDF show Solid Particle levels below limit	Compliant
	NOx 1250 mg/m^3 1hr 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88, 105	Stack tests results for WW and RDF show 1hr NOx levels below limit	Compliant
	NOx 1000 mg/m^3 24hr 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88, 105	Stack tests results for WW and RDF show 24h NOx levels below limit	Compliant
	Cadmium + Thallium 0.05 mg/m^3 1hr 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88, 105	Stack tests results for WW and RDF show Cadmium + Thallium levels below limit	Compliant
	Chlorine 50 mg/m^3 1hr 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88, 105	Stack tests results for WW and RDF show Chlorine levels below limit	Compliant
	Dioxins and Furans 0.1 ng/m^3 6-8hr 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88, 105	Stack tests results for WW and RDF show Dioxins and Furans levels below limit	Compliant
	HCl 10 mg/m^3 1hr 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88, 90, 97, 105	Stack tests results showed HCL compliance during the reporting period.	Compliant
	HF 1 mg/m^3 1hr 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88, 105	Stack tests results for WW and RDF show HFlevels below limit	Compliant
	SO_2 50 mg/m^3 1hr 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88, 105	Stack tests results for WW and RDF show SO_2 levels below limit	Compliant
	Sulfuric acid mist and sulfur trioxide (as SO_3) 50 mg/m^3 1hr 100 percentile conc. limit	Documents 7-10, 12, 15, 85-88, 105	Stack tests results for WW and RDF show Sulfuric acid mist and sulfur trioxide levels below limit	Compliant
	Volatile Organic Compounds 40 mg/m^3 1hr rolling 100 percentile concentration limit	Documents 7-10, 12, 15, 85-88, 105	Stack tests results for WW and RDF show VOC levels below limit	Compliant
	Air concentration limits at Point 4			
	Solid particles 100 mg/m^3 as per test method 100 percentile concentration limit	Document 97 Section 1.2	Annual 2019-2020 average of solid particles at Point 4 reported at 3.1 mg/m^3 and 2.0 mg/m^3 at duct A and B respectively (Below limit)	Compliant
	Air concentration limits at Point 5			
	Solid particles 100 mg/m^3 as per test method 100 percentile concentration limit	Document 97 Section 1.2	Annual 2019-2020 average of solid particles at Point 5 reported at <1 mg/m^3 (Below limit)	Compliant
	Air concentration limits at Point 7			
	Solid particles 100 mg/m^3 as per test method 100 percentile concentration limit	N/A	Discontinued No.5 Cement Mill	Not Triggered
	Air concentration limits at Point 10			
	Total solid particles 20 mg/m^3 as per test method 100 percentile concentration limit	Document 97 Section 1.2	Annual 2019-2020 average of solid particles at Point 10 reported at 4.4 mg/m^3 (Below limit)	Compliant
L3.4	Calciner temperature ≥850ºC at Point 19 when burning NSF	Documents 1-6	Temperature in the combustion vessel is continuously monitored and recorded in the Control System. An interlock has been set to ensure a minimum temperature of above 850°C is maintained in the zone where SWDF are fired at or in the vicinity of the pre-calciner/de-NOx system of the kiln before using SWDF	Compliant
L3.6/3.7	Limit conditions for pollutants	Document 97		Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
L4.1	Must not cause, permit or allow waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by a condition of this licence	Site inspection QAQC procedures Receipts from supplier loads	Waste generated outside the premises is not stored or used on site outside of permits granted by the EPL	Compliant
L4.2	Except as provided by any other condition of the licence, the licensee must assess, classify and dispose of all wastes generated as result of the use of NSF in accordance with NSW EPA's Waste Classification Guidelines	Site inspection	Waste disposal conducted as per the *Waste Classification Guidelines*	Compliant
O5.2	The total quantity of AKF5 stockpiled at the premises must not exceed 1,000 t at any time	Document 211	AK5 trial in March 2022 and supply commenced in 2023	Compliant
O5.3	The licensee must store AKF5 at the premises in accordance with the Fire & Rescue NSW (Fire Safety Branch) Guidelines for Bulk Storage of Rubber Tyres	Document 211	AK5 was used during this audit period and is discussed in Section 3.7.4 of this audit	Compliant
O6.1	Reinstatement of Non-Standard Fuel Use			
	The licensee must give prior written advice to the EPA on the date of commencement of the use of Non-standard Fuels AKF1, AKF5 and Hi Cal 50 in Kiln 6	N/A	AK1 not used during the time period of the audit. AK5 and Hi Cal 50 was used and EPA advised	Compliant
O6.3	Except as permitted by any other condition of this licence, the following fuels only are permitted to be fed to Kiln 6 string at the firing rates or proportions as specified below:			
	Hi Cal 50 (NSF) 1,000tpa; ≤1.0tpa; ≤4.0% total fuel mass	Document 91	Fuel usage below the limit of ≤1.0 tpa; ≤6.0% total fuel by mass – Stockpiled on site (Not used as fuel in during the time period of the audit)	Compliant
	AKF1 (NSF) 2,000tpa; ≤2.8tpa; ≤10.0% total fuel mass	Document 91	Fuel usage below the limit of ≤2.8 tpa; ≤10.0% total fuel by mass (Not used as fuel in during the time period of the audit)	Compliant
	AKF5 (NSF) 30,000tpa; ≤4.5tpa; ≤21.0% total fuel mass	Document 91	Fuel usage below the limit of ≤4.5 tpa; ≤21.0% total fuel by mass – Audited in accounting system (Not used as fuel in during the time period of the audit)	Compliant
	WW (NSF) 100,000tpa; ≤50% total fuel mass	Document 91, 85-88	Fuel usage below the limit of 50% total fuel by mass-Records provided by weighbridge (20k)	Compliant
	RDF (NSF) 200,000tpa; ≤50% total fuel mass	Document 91, 7-10	Fuel usage below the limit of 50% total fuel by mass-opening and closing stock (35k)	Compliant
O6.4	The combined annual usage of AKF5, Wood Waste and RDF must not exceed 250,000 Tonnes for the Reporting Period and must not be greater than 50% of total fuel mass.	Documents 7-10, 85-88, 12	Volumes used have been recorded below the 100,000t limit for the period.	Compliant
O6.5	The receipt and use of WW and RDF must be in compliance with the Quality Assurance and Control Procedure for Receipt and Use of Solid Waste Derived Fuels prepared and updated by the licensee from time to time, as approved by the EPA.	Documents 12,14, 77, 80, 89 Interview	QAQC procedures followed, monthly WW and RDF quality tests conducted and reported in compliance	Compliant
O6.6	Only standard fuels are permitted to be used in kiln 6 during start-up and shut-down.	Site interview	Non-standard fuels are not used during start-up or shut down. Controls in place to ensure lockout of NSF during start-up	Compliant
O6.7	Process Parameters; The licensee shall not burn NSF in kiln 6 unless:			
	a) the feed rates for Non-Standard Fuels are maintained at a steady controlled rate to provide combustion in a proper and efficient manner; and	Documents 1-6	Fuel feed and kiln feed are continuously monitored so that a steady rate is maintained	Compliant
	b) a temperature of above 850°C is maintained in the zone where Non-Standard Fuels are fired at the main-firing end of the kiln; and	Documents 1-6	The combustion temperature remains above the limit of 850°C	Compliant
	c) a temperature of above 800°C is maintained in the zone where Non-Standard Fuels are fired at or in the vicinity of the pre-calciner/de-NOx system of the kiln; and	Documents 1-6	The pre-calciner/de-NOx system temperature remains above the limit of 800°C	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
	d) a temp above 300°C is maintained at the outlet of the pre-heater strings of the kiln; and	Documents 1-6	Preheater exit temperatures remain above the limit of 300°C	Compliant
	e) a temperature of below 200°C is maintained at the inlet to the electrostatic precipitator and fabric filter of the kiln	Documents 1-6	Abatement inlet temperatures remain below the limit of 200°C	Compliant
O6.10	Reporting of Air Emissions Limits Exceedances			
	The licensee must report all air emissions limit exceedances for Monitoring/Discharge Point 2 (Kiln 6 Stack) within 7 days, reporting the nature, duration and cause of the exceedance	Document 90	Notification of HCl exceedance reported before the due date entailing the required information of the event	Compliant
M2.2	Air Monitoring Requirements for Point 2: Cadmium, CO2, CO, Cl, Chromium hexavalent, dioxins& furans, dry gas density, HCl, HF, Mercury, Moisture Content, stack gas weight, NOx, O2, solid particles, SO3, SO2, Temperature, Thallium, Type 1&2 aggregate substances, Velocity. VOC and volumetric flowrate	Documents 1-10, 12, 15, 85-88	Monitoring requirements from Point 2 Kiln Stack 6 are satisfied and reported monthly	Compliant
	Air Monitoring Requirements for Points 4, 5, 7, 10: Solid particles	Document 97	Annual results of solid particles are presented in the POELA Act web report which is published online	Compliant
	Air Monitoring Requirements for Points 11-17: Insoluble solids	Document 97, 98	Requirements satisfied in raw data records and POELA Act web report published online	Compliant
	Air Monitoring Requirements for Point 10: PM_{10}	Document 97, 99, Document 203	Requirements satisfied in raw data records and POELA Act web report published online however data missing 2022.	Non-Compliant
	Air Monitoring Requirements for Point 19- Temperature	Documents 1-6	Temperature monitored continuously as per monthly CEMS data records	Compliant
M2.5	Continuous monitoring equipment for emissions, temperature and fuel feed rate, as required to meet the conditions of this licence and as agreed to by EPA must be installed prior to receipt of and use of Non-Standard Fuels in kiln 6	Document 19 Interview	Continuous monitoring equipment was installed prior to receipt of first fuel load, and has been in use since	Compliant
M2.6	For the purposes of the above tables, a data verification audit for all CEMS shall be conducted at the time of installation in accordance with the requirements of the applicable CEMS Performance Specification and Procedure. The frequency of ongoing data verification audits must be agreed to by the EPA in writing. The results of all data verification audits must be submitted to the EPA within one month after completion of the tests	Documents 7-10, 85-88	Reports of WW and RDF were presented on a monthly basis as required	Compliant
M3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:			
	a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or	Interview Document 19	All monitoring conducted as per CEMS QA Plan developed in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW	Compliant
	b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or	Interview Document 19	All monitoring conducted as per CEMS QA Plan developed in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW	Compliant
	c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place	Interview Document 19	All monitoring conducted as per CEMS QA Plan developed in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW	Compliant
M8.1	Monitoring of Process Parameters: The licensee must continuously monitor gas temperatures at the following process locations:			
	a) in the zone where Non-Standard Fuels are fired at the main-firing end of Kiln 6;	Documents 1-6	The combustion temperature is continuously monitored and remains above the limit of 850°C	Compliant

Condition/ Requirement	Requirement	Evidence Collected (ID Number)	Audit Findings and Recommendations	Compliance Status
	b) in the zone where Non-Standard Fuels are fired at or in the vicinity of the pre-calciner/de-Nox system of Kiln 6;	Documents 1-6	The pre-calciner/de-NOx system temperature is continuously monitored and remains above the limit of 800°C	Compliant
	c) at the outlet of the pre-heater strings of Kiln 6; and,	Documents 1-6	Preheater exit temperature is continuously monitored and remains above the limit of 300°C	Compliant
	d) at the inlet to the electrostatic precipitator and fabric filter	Documents 1-6	Abatement inlet temperature is continuously monitored and remains below the limit of 200°C	Compliant

Appendix B – Documents Sighted and Reviewed

ID No.	Title	Date	Summary
1	DataCems template file Aug18	20/08/2018-31/08/2018	Monitoring Data: Fuel feed; Kiln feed, Temp combustion, Preheater exit temp, Abatement system max temp, Dust 24hr ave, NOx 24 hrs ave, NOx 1 h, SO2 1 h, VOC 1 h, Flow, Stack temp, CO ppm, CO2, O2, AF Ratio, CO %, Velocity, % AF and Filter Date
2	DataCems template file Sep18	1/09/2018-29/09/2018	Monitoring Data: Fuel feed; Kiln feed, Temp combustion, Preheater exit temp, Abatement system max temp, Dust 24hr ave, NOx 24 hrs ave, NOx 1 h, HCl 1h, SO2 1 h, VOC 1 h, Kiln Coal, Flow, Stack temp, CO ppm, CO2, O2, AF Ratio, Calc 1, CO %, Velocity, % AF and Filter Date
3	DataCems template file Oct18	2/10/2018-31/10/2018	Monitoring Data: Fuel feed; Kiln feed, Temp combustion, Preheater exit temp, Abatement system max temp, Dust 24hr ave, NOx 24 hrs ave, Nox 1 h, HCl 1h, SO2 1 h, VOC 1 h, Flow, Stack temp, CO ppm, CO2, O2, AF Ratio, CO %, Velocity, % AF and Filter Date
4	DataCems template file Nov18	1/11/2018-30/11/2019	Monitoring Data: Fuel feed; Kiln feed, Temp combustion, Preheater exit temp, Abatement system max temp, Dust 24hr ave, NOx 24 hrs ave, Nox 1 h, HCl 1h, SO2 1 h, VOC 1 h, Flow, Stack temp, CO ppm, CO2, O2, CO %, Velocity, % AF and Filter Date
5	DataCems template file Dec18	03/12/2018-30/12/2018	Monitoring Data: Fuel feed; Kiln feed, Temp combustion, Preheater exit temp, Abatement system max temp, Dust 24hr ave, NOx 24 hrs ave, Nox 1 h, SO2 1 h, VOC 1 h, Flow, Stack temp, CO ppm, CO2, O2, CO %, Velocity, % AF and Filter Date
6	DataCems template file Jan 19	1/01/2019-11/01/2019	Monitoring Data: Fuel feed; Kiln feed, Temp combustion, Preheater exit temp, Abatement system max temp, Dust 24hr ave, NOx 24 hrs ave, NOx 1 h, HCl 1 h, SO2 1 h, VOC 1 h, Flow, Stack temp, CO ppm, CO2, O2, AF Ratio, CO %, Velocity, % AF and Filter Date
7	PoPT RDF Monthly Report Oct 18	15/10/2018	RDF Proof of Performance Trial Monthly Report
8	PoPT RDF Monthly Report Nov 18	30/11/2018	RDF Proof of Performance Trial Monthly Report
9	PoPT RDF Monthly Report Dec 18	10/12/2018	RDF Proof of Performance Trial Monthly Report
10	20190208 PoPT RDF Monthly Report Jan 19	7/01/2019	RDF Proof of Performance Trial Monthly Report
11	20190228 Boral Berrima Cement SWDF PoPT 6 Month Report Cover Letter	28/02/2019	Consolidated Solid Waste Derived Fuels 6 Month PoP Report to Sally Munk and William Dove
12	20190228 Boral Cement Consolidated PoP Trial Six Month Report - Final V1	28/02/2019	Proof of Performance Trial Consolidated Six Month Report for Solid Waste Derived Fuels
13	Appendix 3 – WW quality results including Dec' 18	28/02/2019	*HRL Technology Group* Analysis of Fuels: Result Sheet – 27/09/2018, 25/10/2018, 22/11/2018, 7/01/2019, 25/01/2019 *ALS* Certificate of Analysis- 27/09/2018, 1/11/2018, 22/11/2018, 31/12/2018, 23/01/2019
14	Appendix 4 – RDF quality results including Dec' 18	28/02/2019	*HRL Technology Group* Analysis of Fuel Sample: Result Sheet- 12/10/2018, 15/10/2018, 22/11/2018, 7/01/2019, 25/01/2019 *ALS* Certificate of Analysis- 27/09/2018, 22/10/2018, 22/11/2018, 31/12/2018, 23/01/2019
15	Appendix 5 Stack Test for PoP with SWDF	28/02/2019	*Ektimo* Kiln Emission Testing Report – Trials 1-9 and Preliminary Report
16	Appendix 6 Stack Test 2016-2018 using only coal	28/02/2019	*Ektimo* Annual Emission Testing NPI Reports: 4/10/16, 8/9/17, 19/2/19

			Ektimo Annual Emission Testing Compliance Report 4/10/16, 8/9/17, 19/2/19
17	Appendix7 CGA for CEMs System	28/02/2019	*Ecotech ACOEM Group* Cylinder Gas Audit (CGA) 30/1/19, 31/1/19, 1/2/19, 13/2/19
18	Appendix 8– Response check and Absolute Correlation Audit for PCME	28/02/2019	*Phoenix Instrumentation* Absolute Correlation Audit 11/12/18
19	Appendix 4 – CEMS QA Plan	6/04/2018	Continuous Emissions Monitoring System Quality Assurance Plan No.6 Kiln Stack Final Rev 2.
20	Appendix 5 – PCME QA Plan	18/10/2017	*Ektimo* CEMS Quality Assurance Plan for PCME
21	PoP Trial plan Refuse Derived Waste_R5	5/08/2019	Proof of Performance Trial Plan for Refuse Derived Waste
22	Berrima Cement Works - PoPT Plan Refuse Derived Waste_R5	5/08/2019	Proof of Performance Trial Plan for Refuse Derived Waste
23	PoP Trial plan Refuse Derived Waste_R6	5/08/2019	Proof of Performance Trial Plan for Refuse Derived Waste
24	Boral Berrima Cement Works – PoPT Plan – RDF_R3	10/07/2018	Proof of Performance Trial Plan for Refuse Derived Fuel
25	Berrima Cement Works - PoPT Plan Refuse Derived Fuel_R7	13/04/2018	Proof of Performance Trial Plan for refuse Derived Fuel
26	SP10.01.01_NSF Pollutant Tracking	6/07/2018	Pollutant Tracking Program
27	PoP Trial plan Wood Waste	13/04/2018	Proof of Performance Trial Plan for Wood Waste
28	PoPT Plan - Wood Waste	17/05/2018	Proof of Performance Trial Plan for Wood Waste
29	PoP Trial plan Wood Waste_R3	10/07/2018	Proof of Performance Trial Plan for Wood Waste
30	Berrima Cement Works - PoPT Plan Wood Waste_R4	30/07/2018	Proof of Performance Trial Plan for Wood Waste
31	Berrima Cement Works - PoPT Plan Wood Waste_R5	8/08/2018	Proof of Performance Trial Plan for Wood Waste
32	Berrima Cement Works - PoPT Plan Wood Waste_R6	17/08/2018	Proof of Performance Trial Plan for Wood Waste
33	RRA for Particulates	7/08/2018	*Ektimo* Relative Response Audit (RRA) Testing 2018
34	Appendix 2 QAQC Procedure	16/08/2018	Appendix2–Supplier Capability Assessment
35	Characterisation Sample Analysis as RecourceCo	16/06/2018	RDF Waste Characterisation Results- Table
36	DPE Letter – Re Refuse Derived Fuel Supplier Audit – ResourceCo_170818	17/08/2018	Refuse Derived Waste Supplier Audit of ResourceCo Resource Recovery Facility- Letter
37	ResourceCo RDF Audit	28/06/2018	ResourceCo Refuse Derived Waste Audit/Inspection Documentation
38	ResourceCo RRF Quality Control and Assurance		Quality Control and Assurance: ResourceCo Resource Recovery Facility, Wetherill Park
39	DPE Letter Re Wood Waste Supplier Audit- Brandown Pty Ltd_060718	06/07/2018	Letter- Wood Waste Supplier Audit of Brandown Pty Ltd Including–Completed checklist of the Supplier Capability Assessment; Photographs from Audit; Wood Waste Derived Fuel Flowchart; reject load Register; Material Audit Form; Tip Area Inspection Form; Characterisation of Wood Waste sample analysis as per QA/QC specification
40	Moisture Content Results Sheet		Data recording templates from Veolia Waste Management Plan: Quality Assurance Control Plan
41	Particle Size Distribution Results Sheet		Data recording templates from Veolia Waste Management Plan: Quality Assurance Control Plan

42	Operation of Grinding Mill WIS	1/04/2019	Veolia Waste Management Plan: Work Instructions and Procedures: Operation of Grinding Mill Work Instruction
43	Operation of Sieve Shaker WIS	10/05/2019	Veolia Waste Management Plan: Work Instructions and Procedures: Operation of Sieve Shaker Work Instruction
44	PRO - Management of Wood Waste Materials	13/05/2019	Veolia Quality Assurance and Control Plan: Work Instructions and Procedures: Waste Wood Derived Fuel Material Quality Assurance Procedure
45	Waste Screening Procedure pro-nsw 000-325-2	4/05/2016	Veolia Quality Assurance and Control Plan: Work Instructions and Procedures: NSW Resource Recovery Screening & Recording of Waste
46	WIS - 693+ Supertrak Screen Operations		Veolia Quality Assurance and Control Plan: Work Instructions and Procedures: Work Instruction 693+ Supertrak Screen Operations
47	WIS - Hooklift Truck Operations		Veolia Waste Management Plan: Work Instructions and Procedures: Work Instruction Hooklift Truck Operations
48	WIS - TDS820 Slow Speed Shredder Operations		Veolia Quality Assurance and Control Plan: Work Instructions and Procedures: Work Instruction TDS820 Slow Speed Shredder Operations
49	WIS-5494 Transfer Trailer Loading - GTS - 2	17/02/2018	Veolia Quality Assurance and Control Plan: Work Instructions and Procedures: Transfer Trailer Loading-GTS
50	WIS-5495 Waste Shed Operations - GTS - 2	17/02/2018	Veolia Quality Assurance and Control Plan: Work Instructions and Procedures: Waste Shed Operations-GTS
51	WIS-5577 Transfer Trailer Loading - PBTS - 2	17/02/2018	Veolia Quality Assurance and Control Plan: Work Instructions and Procedures: Transfer Trailer Loading-PBTS
52	WIS-5578 Waste Shed Operations - PBTS - 2	17/02/2018	Veolia Quality Assurance and Control Plan: QACP Waste Shed Operations - PBTS
53	Quality Assurance _ Control Plan	15/05/2019	Veolia: Quality Assurance and Control Plan For the Horsley Park Waste Wood Derived Fuel Facility
54	Appendix A - EPL20339	3/09/2015	QACP Appendix Items- Environment Protection Licence: Veolia Environmental Services; Horsley Park Resource Recovery Facility
55	Appendix B - NSW EPA Energy from Waste Policy Statement	Jan-2015	Veolia QACP Appendix Items- NSW EPA Energy from Waste Policy Statement
56	Appendix C - Supply Agreement – Part C and F		Veolia QACP Appendix Items- Part C: Specification of Waste Wood Derived Fuel; Part F: Quality Assurance Activities
57	HPRRF-energy from waste management plan EfWMP)	15/05/2019	Veolia: Energy from Waste Management Plan
58	Appendix 1 - Inspection of Wood Waste Materials Work Instruction	13/05/2019	Veolia Waste Management Plan: Work Instruction Inspection of Wood Waste Materials
59	Appendix 2 - Wood Contaminant Identification Guide- DRAFT		Veolia Waste Management Plan: Wood Identification Guide
60	OEMP-HPRRF	10/12/2018	Veolia: Operational Environmental Management Plan For Horsley Park Resource Recovery Facility
61	OEMP- Appendix A	29/11/2018	Veolia Operational Environmental Management Plan: Boundary Plan
62	OEMP- Appendix B	29/11/2018	Veolia Operational Environmental Management Plan: Traffic Flow Plan
63	OEMP- Appendix C1	24/04/2013	Veolia Operational Environmental Management Plan: NSW Resource Recovery Screening & Recording of Waste Procedure
64	OEMP- Appendix C2	29/08/2013	Veolia Operational Environmental Management Plan: VES Control of Non-Conforming Waste Procedure

65	OEMP- Appendix D		Veolia Operational Environmental Management Plan: Complaints Flow Chart
66	OEMP- Appendix E	14/12/2017	Veolia Operational Environmental Management Plan: Emergency Response Plan, Incorporating Pollution Incident Response Management Plan
67	Boral - Capability Compliance Checklist		Capability Compliance Checklist FOR Safety, Manufacture and Storage Facilities, Personnel, Transport, QA/QC, Product, Reporting/Commercial and Continuous Improvement
68	EPL 20339	3/09/2015	Environment Protection Licence: Veolia Environmental Services; Horsley Park Resource Recovery Facility
69	Example - Boral Testing Weighbridge Docket	3/05/2019	Horsley Park Waste Management Boral Testing Docket
70	Horsley Park SAP Waste Report 01.07.2017 – 31.03.2018	1/07/2017-31/03/3018	Horsley Park SAP Waste Report: Date, Gross Weight, Tare Weight, Plate No., PWS Docket, Cust. Material, Customer, Customer Name, Waste, Waste Description, Net Wt,
71	HPk Traffic Management Plan Mar 19	Mar-2019	Horsley Park Timber Shredding Traffic Management Plan
72	Inspection of Wood Waste Materials Work Instruction	13/05/2019	Veolia Work Instruction Inspection of Wood Waste Materials
73	JSEA - Timber Shredding Business Site JSEA	12/03/2019	Veolia: Safety and Environmental Assessment (JSEA) Form
74	MAN-9078 Site Management Plan	15/04/2019	Veolia: Site Management Plan Horsley Park Waste Management Facility & Resource Recovery Facility
75	Brandown Inspection Photographs		Brandown Pty Ltd Inspection Photographs
76	Brandown Inspection Report	5/08/2019	Boral Letter to EPA: Proposal for Supplementary Light And Heavy Fuel Use At Berrima Cement Works EPL 1698
77	Characterisation sample analysis as per QAQC specification	1/06/2018	Table: Wood Waste Characterisation Result
78	DPE Letter - Brandown Pty Ltd Audit	5/08/2019	Boral Berrima Cement Works-Wood Waste Supplier Audit of Brandown Pty Ltd
79	DPE Letter Re Wood Waste Supplier Audit – Brandown Pty Ltd_060718	6/07/2018	Boral Berrima Cement Works-Wood Waste Supplier Audit of Brandown Pty Ltd
80	Appendix 2 QAQC Procedure	6/07/2018	Appendix 2 Supplier Capability Assessment
81	Material Audit Form		Brandown Pty Ltd Material Audit Form
82	Rejected load Register		Brandown Pty Ltd Rejected load Register
83	Tip Area Inspection Form		Brandown Pty Ltd Tip Area Inspection Form
84	WWDF flowchart		WWDF flowchart
85	PoPT Wood Monthly Report Oct18	Oct-2019	Wood Waste Proof of Performance Trial Monthly Report
86	PoPT Wood Monthly Report Nov18	Nov-2018	Wood Waste Proof of Performance Trial Monthly Report
87	PoPT Wood Monthly Report Dec18	Dec-18	Wood Waste Proof of Performance Trial Monthly Report
88	PoPT Wood Monthly Report Jan19	Jan-19	Wood Waste Proof of Performance Trial Monthly Report
89	Attachment 2 - WW monthly quality results	Jul-Dec 2018	Wood Waste Monthly Results
90	20181213 Boral Berrima Cement HCl exceedance letter to DPE_EPA v1	13/12/2018	Boral Berrima Cement–Elevated HCl Incident Report
91	Berrima Cement Plant EPL 1698	23/12/2016	Environment Protection Licence
92	Statement of Environmental Effects HiCal50 Modification Application	May 2019	Modification to permit of Hi-Cal 50 during start-up and shut down of the kiln and technical adjustments to the limitations on use of HiCal50.

93	Operation Environmental Management Plan	April 2020	Updated Operation Environmental Management Plan as required under conditions 6.3 and 6.4 of this consent to reflect any modifications required at the development in light of the use of Non-Standard Fuels
94	MOD9 Response to Submissions report	January 2016	Response to submissions made to the Environmental Assessment supporting Modification 9
95	Monthly NSF test sheet Brandown	October 2019	Monthly Analysis of NSF delivered from Brandown. Analysis in accordance with QA/QC specification
96	Monthly NSF test sheet ResourceCo	October 2019	Monthly Analysis of NSF delivered from ResourceCo. Analysis in accordance with QA/QC specification
97	POELA Act Monitoring Tables - Berrima 191008	October 2021	Results presented for standard fuels solid particles stack emissions at points 2, 4, 5, 10; Emission sources point 2, DDG 1-9; HVAS TSP and PM10; Water monitoring; noise monitoring
98	Dust Deposition data - Raw Data	September 2021	Routine Monthly Dust Samples
99	HVAS Ambient Air Quality Monitoring Data - Berrima 2012_2021	September 2021	Ambient Air Quality Monitoring Data
	Stack Tests		
100.	Kiln Emission Testing Report	20/4/20	EPA 2 No. 6 Kiln stack results, test methods, QAQC information
101.	Kiln Emission Testing Report	11/5/21	EPA 2 No. 6 Kiln stack results, test methods, QAQC information
102.	Kiln Emission Testing Report	02/7/21	EPA 2 No. 6 Kiln stack results, test methods, QAQC information
103.	Kiln Emission Testing Report	12/8/21	EPA 2 No. 6 Kiln stack results, test methods, QAQC information
104.	Kiln Emission Testing Report	24/11/21	EPA 2 No. 6 Kiln stack results, test methods, QAQC information
105.	Ektimo Stack emission lab reports	17/9/19, 20/4/20, 15/6/20	Annual Emission Testing Compliance Report Numbers: R007956-1 R008764 R008994
106.	Thallium Stack Test Exceedance Notification	19/8/21	Letter to EPA, investigation, cause of non-compliance and mitigation actions
107.	Relative Response Audit (RRA) Testing	27/9/21	Test results x3, Regression analysis, test analysis, QAQC information
	Weather data		
108.	Weather Station Data	1/8/20-21/9/21	Weather station data- temperature, humidity, wind speed, wind direction- 15 min
	Suppliers Results: ResourceCo		
109.	PCB-PCP analysis- sample ID 201051-1	15/9/20	ALS COA form
110.	PCB-PCP analysis- sample ID 201244-1	5/11/20	ALS COA form
111.	PCB-PCP analysis- sample ID 201337-1	24/11/20	ALS COA form
112.	PCB-PCP analysis- sample ID 201480-1	9/12/20	ALS COA form
113.	PCB-PCP analysis- sample ID 210075-1	2/2/21	ALS COA form
114.	PCB-PCP analysis- sample ID 210167-1	22/2/21	ALS COA form
115.	PCB-PCP analysis- sample ID 210307-1	29/3/21	ALS COA form
116.	PCB-PCP analysis- sample ID 210593-1	26/5/21	ALS COA form
117.	PCB-PCP analysis- sample ID 210708-1	28/6/21	ALS COA form
118.	PCB-PCP analysis- sample ID 210913-1	3/8/21	ALS COA form
119.	PCB-PCP analysis- sample ID 210988-1	27/8/21	ALS COA form
120.	HRL Fuel Sample Results Report 201051	25/9/20	Analytical Methods and Results
121.	HRL Fuel Sample Results Report 201337	18/11/20	Analytical Methods and Results
122.	HRL Fuel Sample Results Report 201044A	20/11/20	Analytical Methods and Results

123.	HRL Fuel Sample Results Report 201480	16/12/20	Analytical Methods and Results
124.	HRL Fuel Sample Results Report 210075	2/2/21	Analytical Methods and Results
125.	HRL Fuel Sample Results Report 210167	22/2/21	Analytical Methods and Results
126.	HRL Fuel Sample Results Report 210307	25/3/21	Analytical Methods and Results
127.	HRL Fuel Sample Results Report 210667	22/6/21	Analytical Methods and Results
128.	HRL Fuel Sample Results Report 210708A	7/7/21	Analytical Methods and Results
129.	HRL Fuel Sample Results Report 210913	2/8/21	Analytical Methods and Results
130.	HRL Fuel Sample Results Report 210988	25/8/21	Analytical Methods and Results
131.	RDF waste monthly results	Aug 20 - Jun 21	Monthly sample analysis as per QAQC specification - RDF
	Suppliers Results: Wood- Brandown		
132.	PCB-PCP analysis- sample ID 201035-1	15/9/20	ALS COA form
133.	PCB-PCP analysis- sample ID 201199-1 and 201215-1	22/10/20	ALS COA form
134.	PCB-PCP analysis- sample ID 201338-1	23/11/20	ALS COA form
135.	PCB-PCP analysis- sample ID 201479-1	9/12/20	ALS COA form
136.	PCB-PCP analysis- sample ID 210057-1	27/1/21	ALS COA form
137.	PCB-PCP analysis- sample ID 210170-1	22/2/21	ALS COA form
138.	PCB-PCP analysis- sample ID 210473-1	5/5/21	ALS COA form
139.	PCB-PCP analysis- sample ID 200529-1	20/5/21	ALS COA form
140.	PCB-PCP analysis- sample ID 210701-1	28/6/21	ALS COA form
141.	PCB-PCP analysis- sample ID 210912-1	3/8/21	ALS COA form
142.	PCB-PCP analysis- sample ID 211004-1	27/8/21	ALS COA form
143.	HRL Fuel Sample Results Report 201035-1	15/9/20	Analytical Methods and Results
144.	HRL Fuel Sample Results Report 201215-1	21/10/20	Analytical Methods and Results
145.	HRL Fuel Sample Results Report 201338	18/11/20	Analytical Methods and Results
146.	HRL Fuel Sample Results Report 210057-1	27/1/21	Analytical Methods and Results
147.	HRL Fuel Sample Results Report 210170	18/2/21	Analytical Methods and Results
148.	HRL Fuel Sample Results Report 210290A	26/3/21	Analytical Methods and Results
149.	HRL Fuel Sample Results Report 210473	5/5/21	Analytical Methods and Results
150.	HRL Fuel Sample Results Report 210592	21/5/21	Analytical Methods and Results
151.	HRL Fuel Sample Results Report 210701	23/6/21	Analytical Methods and Results
152.	HRL Fuel Sample Results Report 210912-1	25/8/21	Analytical Methods and Results
153.	HRL Fuel Sample Results Report 211004-1	25/8/21	Analytical Methods and Results
154.	Wood Waste monthly results -Brandown	Aug 20 - Jun 21	Monthly sample analysis as per QAQC specification- WW
	Suppliers Results: Wood- Veolia		
155.	PCB-PCP analysis- sample ID 201058-1	15/9/21	ALS COA form

156.	PCB-PCP analysis- sample ID 201199-1 and 201215-1	22/10/20	ALS COA form
157.	PCB-PCP analysis- sample ID 201348-1	23/11/20	ALS COA form
158.	PCB-PCP analysis- sample ID 201489-1	9/12/20	ALS COA form
159.	PCB-PCP analysis- sample ID 210090-1	2/2/21	ALS COA form
160.	PCB-PCP analysis- sample ID 210168-1	22/2/21	ALS COA form
161.	PCB-PCP analysis- sample ID 210290-1	29/3/21	ALS COA form
162.	PCB-PCP analysis- sample ID 210448-1	5/5/21	ALS COA form
163.	PCB-PCP analysis- sample ID 210591-1	26/5/21	ALS COA form
164.	PCB-PCP analysis- sample ID 210719-1	28/6/21	ALS COA form
165.	HRL Fuel Sample Results Report 201058	25/9/20	Analytical Methods and Results
166.	HRL Fuel Sample Results Report 201199-1	21/10/20	Analytical Methods and Results
167.	HRL Fuel Sample Results Report 201348-1	18/11/20	Analytical Methods and Results
168.	HRL Fuel Sample Results Report 201489	16/12/20	Analytical Methods and Results
169.	HRL Fuel Sample Results Report 210090	2/2/21	Analytical Methods and Results
170.	HRL Fuel Sample Results Report 210168	18/2/21	Analytical Methods and Results
171.	HRL Fuel Sample Results Report 210312	25/3/21	Analytical Methods and Results
172.	HRL Fuel Sample Results Report 210448	29/4/21	Analytical Methods and Results
173.	HRL Fuel Sample Results Report 210591	21/5/21	Analytical Methods and Results
174.	HRL Fuel Sample Results Report 210719	23/6/21	Analytical Methods and Results
175.	Wood Waste monthly results -Veolia	Aug 20 - Jun 21	Monthly sample analysis as per QAQC specification- WW
	Suppliers Results: Cleanaway		
176.	Cleanaway testing summary	19/6/20 - 2/8/21	Cleanaway Wetherill Park AKF1 Testing summary results, Cleanaway Narangba Summary Results & Sample of SWDF Lab Reports
177.	Appendix 4 test results	Sept 2021 Feb 2021 Feb 2021	Cleanaway Work Instruction – Process Oil R (AKF1) – QA Requirements for Boral Berrima, Boral Cement Work Instruction Liquid Fuel Receipt Procedure CMT-MAN-BERRIMA-0102, Boral Cement Site Procedure – Procedure For Use Liquid Fuel CMT-MAN-BERRIMA-0101
	Other		
178.	Potential for the formation of dioxins and furans during co-firing of HiCal and AKF1	3/6/04	Pages 10 and 11 of document “Blue Circle Southern Cement Berrima Plant, Proposed NSF Modification”
179.	RFI Six Monthly Pollutant Tracking Report	10/2/21	Letter to EPA and DPHI including quantities of NSF used and stack test results
180.	NSF Pollutant Tracking Half year report	April 2021	Stack testing result, raw material inputs, kiln fuel inputs, total fuel input and associated emission factors.
181.	SWDF Request to increase feed rate to 50% RFI	3/8/21	Correspondence to DPHI including percentage feed rate stack testing results
182.	Non-Standard Fuels Independent Environment Audit 2021	13/8/21	Letter from Planning Secretary confirming auditor of NSF Independent Audit
183.	EPA Post Approval – Request to increase SWDF feed rate from 40% to 50%	18/8/21	Letter from EPA to DPHI including comments on additional information provided by Boral.

184.	Request to increase feed rate- Additional Information	25/8/21	Monitoring data for Cadmium and Thallium, Type I and II metals, Dioxins, Stack reports and SWDF Use
185.	EPA Post Approval – Request to increase SWDF feed rate from 40% to 50%	17/9/21	Letter from EPA to DPHI stating approval of SWDF feed rate increase.
186.	Request to increase feed rate response letter- DPHI	22/9/21	DPHI unable to recommend approval, Attachment A-POP trial for SWDF feed rate
187.	AKF1 Specification amendment request	30/9/21	Letter to EPA including process description, operating scenarios for emissions, assessment of potential increase in other air pollutants, QA processes for AKF1 sourced from Cleanaway and supplied to Boral.
188.	Statement of Environmental Effects MOD 10	February 2019	Environmental assessment to support and extension to the NSF storage shed
189.	Statement of Environmental Effects MOD 11	April 2019	Environmental assessment to support MOD 11 HiCal50
190.	Statement of Environmental Effects MOD 12	August 2019	Environmental assessment to support Isotainer Loading
191.	Statement of Environmental Effects MOD 13	March 2021	Environmental assessment to support the construction and operation of a chloride bypass system at Kiln 6 and to introduce woodchips sourced from plantation timber to offset other standard fuels.
192.	NSF Tracking Report six monthly	April 2021	Non Standard Fuels Pollutant tracking half yearly report
193.	Berrima Cement Works Annual Review	April 2019	Annual Review covering cement plant operations for the period ending April 2019
194.	Berrima Cement Works Annual Review	April 2020	Annual Review covering cement plant operations for the period ending April 2020
195.	Berrima Cement Works Annual Review	April 2021	Annual Review covering cement plant operations for the period ending April 2021
196.	First Year NSF Monitoring and Modelling Report	November 2019	Assessment of NSF emissions and assessment against predictions
	Additional Documents 2022 Audit		
197.	HVAS Data	November 2022	Raw data from the High Volume Air Sampler
198.	HCL Stack Data 24 hr	November 2022	Raw 24 hour HCL Stack Data
199.	HCL Stack Data 1 hr	November 2022	Raw 1 hour HCL Stack Data
200.	NOX Stack Data 24 hr	November 2022	Raw Nitrogen Oxide Stack Data 24 hr
201.	NOX Stack Data 1 hr	November 2022	Raw Nitrogen Oxide Stack Data 1 hr
202.	Solid Particles	November 2022	Raw Stack Emission data for solid particules
203.	Berrima EPL Compliance Statement	April 2022	EPL 1698 Return completed by Boral
204.	Brandown QA/QC Data	October 2022	Brandown Monthly sample analysis for the period ending September 2022
205.	Benedict QA/QC Data	October 2022	Benedict Monthly sample analysis for the period ending September 2022
206.	Berrima Cement Works AEMR	April 2022	Annual Environmental Management Review for the Berrima Cement Works
207.	Six Monthly Pollutant Tracking Report FY23	September 2022	Non Standard Fuels Pollutant tracking half yearly report
208.	Relative Response Audit Testing 2021	September 2021	Independent Audit of installed PCME meters prepared by Ektimo
209.	Annual Emission Testing NPI Report	December 2021	Ektimo Annual Emission Testing
210.	Annual Emission Testing Compliance Testing	December 2021	Independent audit testing conducted by Ektimo
211.	Kiln Emission Testing Report – Tyre Fuel Trial	March 2022	Monitoring results prepared by Ektimo to quantify emissions from the use of tyre chips
212.	Boral letters to DPE Tyre Chip trial	January to July 22	Monthly status reports on the tyre chip trial
213.	Proof of Performance Test at 50% SWDF	Oct 21 to July 22	Five separate reports providing updates to the RDF high rate (50%) feed trial
214.	Correspondence from DPE re Pollutant Tracking	February 2023	Acknowledgement from DPE of receipt of the NSF Pollutant Tracking Report

	Additional Documents 2024		
215.	Stack emission data in excel format	December 2024	All raw emission data
216.	Ground concentration PM10 and TSP	December 2024	All raw deposition and ambient data
217.	Brandown QA/QC Data	December 2024	All raw data in excel
218.	Bingo QA/QC data	December 2024	All raw data in excel
219.	Benedict QA/QC Data	December 2024	All raw data in excel
220.	Ektimo Half Yearly Emission Testing and Compliance	June 2024	Independent audit testing conducted by Ektimo
221.	Ektimo Kiln Combustion Trial Report	January 2024	Independent audit testing conducted by Ektimo
222.	Berrima Cement Plant EPL	December 2024	Download from EPA
223.	Berrima Cement Works Annual Review	January 2024	Covers all operations and monitoring data
224.	Berrima Cement Works POELA	January 2025	Reports all monitoring data required under the EPL
225.	Berrima Cement Plant Alternative Fuels Audit	January 2024	Independent Audit of non-standard fuels

Appendix C – Audit Certification

Development Name:Berrima Cement Works Kiln 6 Upgrade
Development Consent:DA 401-11-2002-i
Development Description:Use of Non Standard Fuels, Condition 4.6 only
Development Address: Berrima Cement Plant, Taylor Ave, New Berrima NSW 2577
Operator:Boral Limited
Operator Address:39 Delhi Road, North Ryde NSW 2113
Title of Audit:Independent Audit Non-Standard Fuels

I certify that I have undertaken the independent audit and prepared the contents of the attached independent audit report and to the best of my knowledge:

- ❒ The audit has been undertaken in accordance with relevant approval condition(s) and in accordance with the auditing standard AS/NZS ISO 19011:2014 and Post Approval Guidelines – Independent Audits
- ❒ The findings of the audit are reported truthfully, accurately and completely;
- ❒ I have exercised due diligence and professional judgement in conducting the audit;
- ❒ I have acted professionally, in an unbiased manner and did not allow undue influence to limit or over-ride objectivity in conducting the audit;
- ❒ I am not related to any owner or operator of the development as an employer, business partner, employee, sharing a common employer, having a contractual arrangement outside the audit, spouse, partner, sibling, parent, or child;
- ❒ I do not have any pecuniary interest in the audited development, including where there is a reasonable likelihood or expectation of financial gain or loss to me or to a person to whom I am closely related (i.e. immediate family);
- ❒ Neither I nor my employer have provided consultancy services for the audited development that were subject to this audit except as otherwise declared prior to the audit; and
- ❒ I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from fair payment) from any owner or operator of the development, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.

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

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

Robert Byrnes
Director

International Environmental Consultants Pty Limited
“Longmead”
700 Wombeyan Caves Road
High Range NSW 2575

robert.byrnes@iec.com.au
30 May 2025

Appendix D – Audit Endorsement

Department of Planning, Housing and Infrastructure

NSW Planning ref: DA401-11-2002-i-PA-70

Mr Greg Johnson
Senior Environmental Business Partner
BORAL CEMENT LIMITED
Trinti Campus, T2, Level 5 39 Delhi Road
North Ryde New South Wales 2113
20/11/2024

Sent via the Major Projects Portal only

Subject: Berrima Cement Works - Non-Standard Fuels Independent Environment Audit 2024

Dear Mr Johnson

I refer to your letter of 4 November 2024 seeking approval of Mr Robert Byrnes of International Environmental Consultants as the auditor for the upcoming Non-Standard Fuels Independent Environment Audit (the audit) of Boral Cement Berrima Kiln 6 (the development), in accordance with Schedule 2, Condition 4.6 of development consent DA 401-11-2002-i, as modified (the consent).

Having considered the qualifications and experience of Mr Byrnes, the Planning Secretary endorses the appointment of Mr Byrnes to undertake the audit in accordance with Schedule 2, Condition 4.6 of the consent. This approval is conditional on Mr Byrnes being independent of the development.

The audit is to be conducted in accordance with AS/NZS ISO 19011 Australian/New Zealand Standard: Guidelines for quality and/or environmental management systems auditing and you may wish to consider the Independent Audit Guideline dated October 2015. A copy of this guideline can be located at http://planning.nsw.gov.au/Policy-and-Legislation/Mining-and-Resources/Integrated-Mining-Policy.

The audit report is to include the following:

- consultation with any relevant agencies;
- a compliance table indicating the compliance status of each condition of approval and any relevant EPL;
- not use the term “partial compliance”;
- recommend actions in response to non-compliances;
- review the adequacy of plans and programs required under this consent; and
- identify opportunities for improved environmental management and performance.

Within three months of commissioning the audit, Boral is to submit a copy of the audit report to the Planning Secretary, together with its response to any recommendations contained in the audit report and a timetable to implement the recommendations. Prior to submitting the audit report to the

Planning Secretary, it is recommended that Boral review the report to ensure it complies with the relevant consent condition.

Lastly, I advise that the date of commissioning the audit is the date of the site inspection by the auditor(s).

Should you have any enquiries in relation to this matter, please contact Georgia Dragicevic, Senior Compliance Officer, on (02) 4247 1852 or by email to Georgia.Dragicevic@planning.nsw.gov.au.

Yours sincerely

Katrina O'Reilly
Team Leader - Compliance
Compliance

As nominee of the Planning Secretary