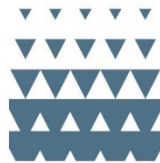




2023 Annual Environmental Management Plan Review

GRAYMONT (TASMANIA) PTY LTD



GRAYMONT

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Australia

FOREWORD

This Annual EMP Review has been prepared by Graymont (Tasmania) Pty Ltd. This document supports and describes the mining and processing operations at the Mole Creek Limestone Mine. To the extent possible, Graymont requests that commercially sensitive information, including production rates and volumes, is kept confidential to EPA and other Government agencies.

This Annual EMP Review provides information regarding operational compliance with conditions of EPN 290/1 as well as annual reporting requirements from EPN 9516/1.

Responsibility for the procedures, commitments, and directions listed in this document is the responsibility of the Mole Creek Plant Manager.

The Plant Manager acknowledges the contents of this Annual EMP Review.

Plant Manager's Signature:

EXECUTIVE SUMMARY

This Annual Environmental Management Plan (EMP) Review has been undertaken to comply with Condition G5 of EPN 290/1 for the site Condition OP1(2) of EPN 9516/1 for the progress of the North Wall Mining Plan.

A review of monitoring data from 1 January to 31 December 2023 has been undertaken. This report provides:

- Reviews of the environmental performance for each environmental issue in terms of monitoring results, complaints received, and the effectiveness of the measures implemented to minimise the potential impact on the environment
- A description of changes made on the site during the year
- Additions to the environmental management of the site

The environmental issues covered by the Annual EMP Review are briefly summarised below and reflect Graymont's commitment to practice good environmental management as per the company's Health, Safety and Environment Policy (HSE Policy) provided in Appendix A

AIR QUALITY MANAGEMENT

Continuous monitoring and annual stack testing performed during the reporting period was conducted in line with compliance with limits set in schedule 5 of EPN 290/1.

Current dust control measures for kiln stack emissions remain effective in preventing off site environmental impacts. During the review period there have been zero complaints received regarding onsite dust emissions.

WASTEWATER MANAGEMENT

Three discharge events were recorded in the 12-month period for surface water monitoring. All reports were within the limits set.

NOISE MANAGEMENT

There were no public complaints received regarding noise emissions during the review period. A noise survey was completed in 2022, with all results within the limits as set in EPN 290/1. The next noise survey is due for completion in 2025.

SOLID WASTE MANAGEMENT

During the review period disposal of solid level 2 hazardous waste produced from filtering Kiln stack emissions increased from 132.6 tonnes in 2022 to 208.5 tonnes in 2023.

HAZARDOUS MATERIALS MANAGEMENT

During the report period there were no incidents involving hazardous materials.

EXTRACTIVE ACTIVITIES

171,410 tonnes of stone were extracted, 139,109 tonnes of stone were crushed, and 55,989 tonnes of limestone was fed to the lime kiln for the reporting period.

EPN 9516/1 was approved on the 6 January 2017 and annual reporting requirements detailing progress of Mining the North Wall are included in this EMPR.

REHABILITATION

Graymont continues to monitor the rehabilitation areas at the quarry site.

Weeds on site were sprayed in February and November, primarily to eradicate pampas grass that has spread. Weed Spraying in 2023 was successful and site maintains good control over all declared and undeclared weeds.

MINING THE NORTH WALL

We continue to follow the requirements of EPN 9516/1 with regards to mining the north wall along the Mersey River. There was one anonymous complaint communicated via the EPA regarding historical rockfalls along the river's edge.

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INTRODUCTION

PURPOSE OF THE ANNUAL EMP REVIEW

This Annual EMP Review has been prepared for submission to the Environment Protection Authority (EPA) and provides, but is not limited to, a review of the environmental effects of the Graymont operations in Mole Creek during the review period between 1st January 2023 and 31st December 2023. In addition, the report includes:

Information required under Schedule 4 of the Environmental Protection Notice 290/1 (EPN 290/1);

- A review of the Environmental Performance and Environmental Management Plan for the activities during the review period, being 1 January 2023 to 31 December 2023;
- Details of environmental improvements undertaken during the review period and any recommended amendments to the EPN; and
- Details of planned future developments in terms of operations and procedures.

Information required under Condition OP1(2) of Environmental Protection Notice 9516/1 (EPN 9516/1)

- Annual report on the progress of mining the North Wall from 244.25m AHD to a final level of 204.25m AHD.

ROLE IN REGULATION PROCESS

This report fulfils requirements of condition G5 of EPN 290/1, which outlines requirements under the *Environmental Management and Pollution Control Act 1994* that apply to the operations of Graymont at Mole Creek.

OPERATIONS OVERVIEW

Graymont operates the Mole Creek Limestone Mine under Mining Leases 96M/1971, 1885P/M, EPN 290/1, EPN 9516/1 and Permit 9864.

The Mole Creek site is permitted to produce a range of crushed and ground limestone products as well as burnt limestone products of quicklime and hydrated lime (180,000 tonnes per annum of limestone from the quarry and 160,000 tonnes per annum of limestone to the calcination plant). In 2023, Graymont extracted 171,410 tonnes of limestone, produced 139,109 tonnes of crushed limestone and fed 55,989 tonnes of limestone to the calcination plant (lime kiln).

SITE AND OPERATIONAL HISTORY

The Mole Creek Limestone Mine is located at 380 Den Road, Mole Creek, Tasmania 7304 (Map coordinates - Latitude 41.525512° South, Longitude 146.359134° East, Elevation: 240 m).

The mine and processing facility operate on Mining Lease 96M/1971, 1885P/M, EPN 290/1 (2004) and EPN 9516/1 (2017). Permit 9864 regulates the operation of the Waste Rock Depot.

In 2004 an Environmental Management Plan Review and a Rehabilitation and Decommissioning Plan (EMP & DRP) were approved by EPA for the site. The Decommissioning and Rehabilitation Plan was required to be reviewed every three years. The last edition of the DRP was submitted and approved in January 2020. A letter from EPA dated 14 July 2020 amended the condition to review the DRP every 3 years. The DRP required under EPN 290/1 now aligns with the DRP clause EPN 9516/1, which is every 5 years. The next version of the site DRP is due in January 2025.



RELEVANT LEGISLATION, REGULATIONS, CODES AND POLICIES

Legislation, regulations, policies and guidelines that are relevant to the review include the following:

- *Environmental Management and Pollution Control Act 1994* (and associated policies and regulations regarding water pollution, noise, etc);
 - *Land Use Planning and Approvals Act 1993*
 - *Dangerous Substances (Safe Handling) Act 2005*
 - *Dangerous Substances (Safe Handling) Regulations 2009*
 - *Environment Protection (Air Pollution) Regulations 1974*
 - *Environmental Protection Policy (Air Quality) 2004*
 - *National Environment Protection Measure for Ambient Air Quality 2003*
 - *State Policy on Water Quality Management 1997*
 - *Water Management Act 1999*
 - *Workplace Health and Safety Act 2012*
- Annual Environmental Management Plan Review 2023*

- Environmental Protection Policy (Noise) 2009
- National Pollution Inventory (NPI)
- Tasmanian Solid Waste Management Policy 1994
- Graymont HSE Policy

ON-SITE PROCEDURES

Graymont will continue activities into the next review period under the Environmental Management and Operational guidelines set forth in the following documents/reports:

- Environmental Protection Notice 290/1
- Environmental Protection Notice 9516/1
- Environmental Permit Condition 9864/1
- 2020 Five Year Mine Plan
- This Annual EMP Review
- 2020 Decommissioning Rehabilitation Plan
- Quarry Code of Practice 1999
- Site Standard Operating Procedures
- Graymont HSE Policy

REPORT STRUCTURE

This report is presented in five parts, which are described in Table 1.

TABLE 1: REPORT STRUCTURE

Section Heading	Brief Description of the Information Provided
Executive Summary	A summary of the findings of the review, the commitments and the environmental protection notice requirements and proposed amendments.
Introduction	Operational overview, brief site history, and a list of relevant legislation and policies that have been considered when preparing the Annual EMP Review.
Environmental Effects Review	Describes the environmental effects of the activity during the review period. In addition, summaries of all monitoring program results are provided with interpretation.
Environmental Improvements Permit Review &	Summarises additional environmental mitigation measures. Where the current permit and environmental protection notice requirements are not applicable, proposed amendments are recommended.
Conclusion & Commitments	Summing up of the report findings for the prevention of pollution and protection of the environment, and a summary of the proposed environmental improvements.

ENVIRONMENTAL EFFECTS REVIEW

This section summarises the results of environmental monitoring during the past year. Where available, a comparison to preceding monitoring results is provided to demonstrate changes and trends. Reference is made to permit conditions specified in EPN 290/1 and issues of non-compliance are identified.

ATMOSPHERIC EMISSIONS

Atmospheric emissions are generated from two sources from Graymont's activities: stack emissions and fugitive dust emissions. Stack emissions complied with schedule 5 of EPN 290/1 during the review period and is summarised in Tables 2 and 3 below.

Monitoring Results & Compliance Summary

EPN 290/1 requires various combustion parameters are monitored; and specifies limits for some. In some instances, various parameters have been amended by letters issued by regulators. These are summarised below in Table 2.

Kiln Operating Temperature

Infra-red sensors are installed on all burner ports and measure stone temperature at the ports between the temperatures of 800 to 1,300 °C. Operating temperatures are between 800 and 1,200°C¹. The infra-red sensors do not measure lower temperatures and start-ups are monitored visually to ensure adequate temperature for ignition.

Higher temperatures are considered undesirable since limestone calcines at 950°C; at higher temperatures 'clinkering' results and un-reactive quicklime is produced which does not meet normal quality specifications.

Annual Stack Emissions Monitoring

There were no public complaints against Graymont regarding stack emissions from the site within the review period.

Stack testing in-line with the requirements of EPN 290/1 was performed on 10 August 2023. Sampling occurred during normal operating conditions with a production rate of 111 tonnes/day.

The annual Atmospheric Contaminant Emissions Monitoring results (including historic) are presented in Table 2 below. All results were within permitted limits for the reporting period. A full report of the Atmospheric Contaminant Emissions is supplied in Appendix B.

¹ DPIWE letter 9 December 2005 permits the use of oil in the kiln at a lower temperature than what was originally specified in EPN 290/1. There is no lower temperature limit.

TABLE 2: ANNUAL STACK TESTING RESULTS 2018-2022

Parameter	Jun-2019	Dec-2020	Dec-2021	Sep-2022	Aug-2023	EPN 290/1 Schedule 5 Limits
Particulates (mg/Nm ³)	19	<2	100	58	<2	100mg/Nm ³ max
Sulfur dioxide SO ₂ (g/Nm ³)	<0.005	0.21	<0.006	0.17	<0.006	7.2g/Nm ³ max
Nitrogen oxides NO _x (g/Nm ³)	0.073	0.036	0.06	0.047	0.092	2 g/Nm ³ as NO ₂ max
Lead Pb (mg/Nm ³)	<0.001	0.018	0.11	0.14	0.0055	
Cadmium Cd (mg/Nm ³)	0.025	0.0012	0.0028	0.0230	0.0071	
Oxygen O ₂ (% v/v)	10.7	10.1	9	9.9	9.2	Nil ²
Carbon Monoxide *CO (g/Nm ³)	0.3	3.2	1.6	1.5	1.1	
Particulate Matter PM ₁₀ (mg/Nm ³)	13	<0.9	97	50	N/A	
Chlorine Cl (mg/Nm ³)	N/A	N/A	<0.02	0.61	<0.04	

ND=NOT DETECTABLE

*Not required as part of the site's EPN monitoring conditions for the annual stack test.

² The requirement to maintain oxygen levels above 3% was removed. This was outlined in a letter from the EPA dated September 2021, from Joseph Tranter (Acting Manager).

Continuous Emissions Monitoring

Graymont also conducts daily monitoring of the kiln stack emissions to ensure daily limits are maintained within the annual limits set in the EPN.

Total Particulates

All internal results for total particulates for the kiln stack monitoring were all within permitted limits of 100mg/Nm³, as specified in EPN 290/1.

Carbon Monoxide

The average for Carbon Monoxide (CO) was 1039ppm (see Table 3), which is an increase on the 2022 average of 539ppm. Elevated CO is an indication of inefficient combustion however the results of 2023 are in line with historical averages.

TABLE 3: SUMMARY OF CONTINUOUS KILN EMISSION MONITORING RESULTS DURING THE REVIEW PERIOD

Month	Total Particulates (mg/m ³)	CO (ppm)
January	11.07	776
February	14.06	1105
March	11.28	398
April	35.08	1473
May	21.4	1190
June	1.67	994
July	1.65	1362
August	1.75	717
September	2.24	482
October	1.67	1765
November	1.49	1532
December	1.50	650
12 Monthly Average	8.74	1037

Dust Monitoring and Control

Schedule 5 of the EPN290/1 A6: Dust produced by operating plants must be effectively controlled with accepted methods. The site continues to monitor and control dust emissions from unsealed roads by deploying the on-site water cart in dry conditions, to reduce dust from unsealed roadways. Water sprays are deployed on fixed and mobile crushing plant. Polo Citrus is also used at the Primary Jaw Crusher to reduce dust emissions. Dust collectors are installed on all silos, which controls dust emissions when filling and discharging from the Silo.

Graymont completed the change out of the final 50% of the 432 filter bags located in the kiln exhaust baghouse during March and April 2023 after the first 50% were replaced in the previous year.

We have also continued to make improvements to our dust collection pipework on the GLS Plant to reduce emissions. Installed spraybars and multiple sprinkler systems that are moved periodically according to the wind direction.



Environmental Effects

Graymont controls the kiln's operations via a Programmable Logic Controller (PLC), which records and stores the data for monitoring. This in turn provides an overview of the entire kiln process, allowing operators to continuously monitor and control fuel consumption and balance air flow distribution to assist in combustion efficiency.

Environmental Requirements

The requirements of EPN 290/1 and the actions to date taken by the site with regard to atmospheric emissions are summarised in Table 4 on the following page.

TABLE 4: EPN 290/1 CONDITIONS AND GRAYMONT RELATED ACTIONS FOR AIR EMISSIONS

EPN Conditions	Action
A1: Stack testing facilities must comply with Australian Standards AS4323.1 (location) and AS1657 (safety) and maintained.	Safe access is available for conducting kiln stack emission testing
A2: Air quality modelling using the AUSPLUME Gaussian plume dispersion model or similar must be undertaken and reported by 30 th June 2006.	Air quality modelling was undertaken in 2005 and results reported to DTAE by 30 th June 2006.
A3: Air quality monitoring of ambient and ground level concentrations must be monitored and reported by 30 th June 2004.	Ambient and ground level air quality sampling was undertaken and the results reported to DPIWE by 30 th June 2005.
A4: Results from A2 and A3 will assist to review and plan management prescriptions to reduce particulate emissions from the kiln stack to a maximum target level of 450mg/m ³ by 2006.	A new baghouse that was installed in Nov 2006 has resulted in average emissions below 100mg/m ³ .
A5: A materials spill and fugitive dust source management plan must be submitted for approval by 30 th June 2004. Dust must be minimised and managed according to the plan and not cross the boundary of all activity areas.	Dust minimisation measures including the watering of roads and stockpiles and the deployment of Polo Citrus in the primary crushing plant are continuing on an ongoing basis, as per the 2004 Mole Creek Dust Management Plan
A6: Dust produced by operating plants must be effectively controlled with accepted methods.	Point source stack emissions from the kiln are controlled by a bag house. Water sprays (and polo citrus additive) employed to control fugitive dust emissions where required at the Crusher. Use of a dust collector and water sprays to reduce dust emissions from GLS plant and water cart deployed to in dry conditions to reduce dust from unsealed roadways
G11: (a) A Kiln combustion performance report including determination, carbon monoxide and oxygen measurements must be submitted by 31 st December 2004; (b) [amended] ^{1,2} (c) Parameters in (b) to be monitored and recorded continually with reference to Kiln start up and shut down, kept for 12 months.	Action required for a) complete. Kiln operating temperatures and CO and are monitored and recorded continuously. Graymont is no longer required to main oxygen levels in the kiln exhaust gas >3%. The kiln generally operates between 960°C and 1,200°C. To reduce the temperature, fuel is reduced or air is increased.
M2: Person responsible for the activities must carry out monitoring and reporting of all emission point sources in accordance with Schedule 5 of this Notice.	Air emission monitoring carried out in accordance with Schedule 5, and the results reported as required.

WASTEWATER EMISSIONS

Monitoring Results & Compliance Summary

Schedule 5 of EPN 290/1 requires the discharge from settling ponds to be sampled monthly for pH, Conductivity, Oil & Grease, Chloride, Sulphate, Total Suspended Solids (TSS), combined total filterable Iron (Fe) and Manganese (Mn).

Graymont monitors two separate sampling locations for discharge which involves monthly inspections of the discharge points and a sample is taken if discharge occurs. The site also collects additional samples of the Mersey River (upstream and downstream of the site) whilst sampling the two discharge points.

The results presented in Table 5 are for those months in which there was a discharge from the ponds during the reporting period. During discharge events Graymont undertakes sampling of the Mersey River upstream and downstream of the settling ponds described hereto.

Results of the Mersey River samples are also reported in Table 5 below:

TABLE 5: WATER EMISSION MONITORING RESULTS

Discharge Event	Year	Sample Date	Report Date	Area	pH	Conductivity uS/cm	NFR mg/L	Chloride mg/L	Sulphate mg/L	Filtered Fe µg/L	Total Fe µg/L	Filtered Mn µg/L	Total Mn µg/L	Oil & Grease mg/L	Report No.
							EPN Limits								
							60	250	250	1000	1000	1000	1000	10	
1	2023	19/04/2023	11/05/2023	West Discharge	12.4	5140	5	5.4	177	<20	54	<1	<1	<2	112095
	2023	19/04/2023	11/05/2023	Mersey River Up Stream	7.7	117	<2	3.58	1.3	112	187	1	6	<2	112095
	2023	19/04/2023	11/05/2023	East Discharge	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	112095
	2023	19/04/2023	11/05/2023	Mersey River Down Stream	7.7	120	<2	3.58	1.3	112	187	1	6	<2	112095
2	2023	16/06/2023	28/06/2023	West Discharge	12.5	5810	28	6.15	78.5	<20	97	5	2	<2	112876
	2023	16/06/2023	28/06/2023	Mersey River Up Stream	7.2	62	23	3.49	1.2	142	874	<1	40	<2	112876
	2023	16/06/2023	28/06/2023	East Discharge	8.6	79	19	3.5	1.6	137	746	5	29	<2	112876
	2023	16/06/2023	28/06/2023	Mersey River Down Stream	7.9	531	6	3.44	0.7	<20	141	<1	4	<2	112876
3	2023	11/07/2023	28/07/2023	West Discharge	11.6	713	24	5.47	93.1	<20	<20	<1	18	<2	113228
	2023	11/07/2023	28/07/2023	Mersey River Up Stream	11.6	706	12	3.4	10.9	29	289	2	<1	<2	113228
	2023	11/07/2023	28/07/2023	East Discharge	12.5	5820	14	6.3	117	<20	245	<1	3	<2	113228
	2023	11/07/2023	28/07/2023	Mersey River Down Stream	7.6	59	8	3.13	1.2	48	270	3	18	<2	113228

Environmental Effects

The monitoring results in Table 5 show all outcomes were within compliance limits of the EPN 290/1.

Photo 1: Western Settling Pond



Photo 2: Eastern Settling Pond



During the reporting period, approximately 1,900 tonnes of sediment was removed from the Western Sediment Ponds. The waste material that was removed was deposited in an onsite holding area where it is dried and then used as additional fill material for site’s waste rock depot.

Environmental Requirements

The requirements of EPN 290/1 with regard to wastewater emissions and the actions to date taken by Graymont are summarised in the following table:

TABLE 7: EPN 290/1 CONDITIONS AND GRAYMONT RELATED ACTIONS FOR WASTEWATER.

EPN Conditions	Action by Graymont
E1: All potentially contaminated water must be collected and treated to the limits specified in Schedule 5 of EPN 290/1 before discharging from the site.	Graymont’s current water monitoring program consists of sampling of surface water flowing from discharge points at least once per month during discharge events, for the parameters in Schedule 5 of EPN 290/1.
E2: All water settling dams and spillways must be designed and installed to withstand a 1 in 10 year, 24 hour storm event and must be capable of mitigating sediment loss.	Current settling ponds comply with this design standard.

NOISE EMISSIONS

Monitoring Results & Compliance Summary

Graymont is required to undertake a boundary noise survey every three years to comply with the requirements of section N1 and N2 of the EPN 290/1. - Limit of 50 dB(A)

A noise survey was carried out to fulfil the requirements of the EPN on the 1 July 2022. The next Noise Survey is due in 2025.

Environmental Effects

Ongoing maintenance of site plant and the plant's strategic location has proven effective in controlling noise emissions and impacts offsite.

All measurements carried out at nearby residents were all within the permitted limits and it is noted that the variations are largely due to variations in ambient noise (wind and river flow) rather than any operational changes.

Environmental Requirements

The requirements of EPN 290/1 with regard to noise emissions and the actions to-date taken by Graymont, are summarised in the following table - Table 8.

TABLE 8: EPN 290/1 CONDITIONS AND GRAYMONT RELATED ACTIONS FOR NOISE EMISSIONS.

EPN Conditions	Action by Graymont
N1: Noise emissions, with the exception of blast related noises, may not exceed 50dB(A). Noise emissions will be measured and analysed under Australian Standard AS1055, averaged between 10 to 20 minute intervals.	The 2022 boundary noise survey concluded that plant activities complied with the environmental permit at the nearest residential site.
N2: A boundary noise survey must be carried out by 30 th June 2004, and after plant changes likely to change noise characteristics or at a frequency of not less than every three years.	No plant changes have occurred to alter noise characteristics and the next scheduled noise survey will be conducted in 2025.

SOLID WASTE EMISSIONS

Monitoring Results & Compliance Summary

During the reporting period the site disposed of 208 tonnes of Level 2 Hazardous Waste (which was disposed of at a licenced and approved disposal facility), and is an increase to the 135 tonnes recorded in 2022 due to additional baghouse cleaning activities.

YEAR	LOADS TAKEN	Tonnes
2020	6	124
2021	9	135
2022	8	132
2023	12	208

The additional tonnes removed in 2023 is due to improved filtration from new filter bags and two dedicated occasions where the baghouse chambers were cleaned out via vacuum tanker, once during the annual kiln maintenance shut in March and again during a short 3 day shut for other kiln repair works in October.

Environmental Effects

No 'general' or 'controlled' wastes are disposed of on-site.

Environmental Requirements

The requirements of EPN 290/1 with regard to solid waste and the actions to date taken by Graymont are summarised in Table 9.

TABLE 9: EPN 290/1 CONDITIONS AND GRAYMONT RELATED ACTIONS FOR SOLID WASTE

EPN Conditions	Action by Graymont
W1: 'General' waste, as defined by the <i>Environmental Management and Pollution Control (Waste Management) Regulations 2000</i> , must not be disposed of on the land.	No general waste is disposed of on the land.
W2: All sludge, oily solid wastes and liquid wastes resulting from oil processing activities are to be regarded as 'controlled' (hazardous) waste and must be managed as prescribed under <i>Environmental Management and Pollution Control (Waste Management) Regulations 2000</i> .	All 'Controlled' waste is stored, removed and disposed of in compliance with <i>Environmental Management and Pollution Control (Waste Management) Regulations 2000</i> through the services of a controlled waste service provider.

HAZARDOUS MATERIALS

Monitoring Results & Compliance Summary

There were no incidents involving the release of hazardous materials during the reporting period.

Environmental Effects

Graymont meets the general compliance with Australian Standards AS 1940 Dangerous Good Storage and Handling and AS 3780 Storage and Handling of Corrosive Substances as contained in EPN 290/1.

Environmental Requirements

The requirements of EPN 290/1 with regard to hazardous materials and the actions to date taken by Graymont are summarised in Table 11.

TABLE 11: EPN 290/1 CONDITIONS AND GRAYMONT RELATED ACTIONS FOR HAZARDOUS MATERIALS.

EPN Conditions	Action by Graymont
<p>H1: Unless otherwise specified by the Director in writing, spilt or leaked environmentally hazardous material including fuels, oils or other hydrocarbons, whether fully contained or not, must promptly be recovered, and unless reusable or refinable, are to be regarded as 'controlled' (hazardous) waste and managed as prescribed under the Environmental Management and Pollution Control (Waste Management) Regulations, 2000</p>	<p>Complies: spillages are managed in accordance with: 635-P10.201.01 Emergency Management Plan</p>
<p>H2: Standard operating procedures for the recovery and disposal of hazardous material be developed and employed by 31 December 2004.</p>	<p>Complies : 635-P10.201.01 Emergency Management Plan</p>
<p>H3: All hazardous material must be stored:</p> <ul style="list-style-type: none"> a) and contained in accordance with Australian Standards AS1940 and AS3780; b) in a containment area capable of collecting 110% of the largest container or at least 25% of the total volume, whichever is greater or where not applicable c) in double skinned tanks that comply with relevant Australian Standards, where portable tanks are used then their locations to be approved, d) processed, loaded and unloaded in contained areas; and e) in bunded areas appropriately graded, chemically resistant, equipped with protected transfer gear (wherever practical), separated by chemical and managed to maintain capacity. 	<p>Complies</p>
<p>H4: All hazardous wastes must be transported by holders of a Waste Transport Business Environment Protection Notice.</p>	<p>Complies.</p>

WASTE OIL

Monitoring Results & Compliance Summary

EPN 290/1 requires Graymont to record and retain details of all deliveries of waste oil for two years (condition O2). Graymont continues to maintain records of all deliveries as required by this clause.

Environmental Effects

Effects are minimized by managing hazardous wastes to align with requirements to ensure they are compliant with quality requirements G10 and O1. Quality testing on each load of oil delivered to site is completed using a bomb calorimeter to assist operations by indicating the waste oil's calorific value. Records for oil usage are maintained in accordance with the requirements of the EPN.

Environmental Requirements

The requirements of EPN 290/1 with regard to waste oil and the actions to date taken by Graymont are summarised in Table 12.

TABLE 12: EPN 290/1 CONDITIONS AND GRAYMONT RELATED ACTIONS FOR HAZARDOUS MATERIALS.

EPN Conditions	Action by Graymont
G10: Kiln fuel is restricted to waste oil that complies with O1 of this EPN, virgin furnace fuel oils, diesel, natural gas and/or vegetable oils.	Complies.
O1: Waste oil must: a) not contain PCB's (unless it is transformer oil containing not more than 2 milligrams); b) not contain any material(s) that would exceed emission limits from the lime calcination plant or cause environmental nuisance or harm on combustion; and c) be filtered prior to use.	Complies. All oil is filtered to <400µm.
O2: Deliveries of waste oil must be recorded and held for 2 years, including delivery company/individual details, date and time, bulk quantity delivered, specific nature of oil(s), identification number/code and the receiving person's name.	Complies. All deliveries of waste oil are recorded. The site received 3,440,657 litres of waste oil in 2023
O3: a) Unless accompanied by a certificate of analysis, every load of oil suspected of or containing waste transformer oil must be sampled in duplicate for PCB content and not used or mixed with any other oil until it is determined suitable; b) samples from O3(a) must have an identifying number/code; c) where PCB's are detected, the Director may require testing of the second sample; d) information required by O3(a) and (b) must be provided to the Director within 14 days; and e) all unused duplicate samples from O3(a) must be held on site for 12 months.	Complies. Certificate of analysis provided by waste oil supplier for all loads of waste oil containing transformer oils.

EXTRACTIVE ACTIVITIES

Monitoring Results & Compliance Summary

EPN 290/1 does not require any monitoring or recording for this activity.

Environmental Effects

During the review period, 171,410 tonnes of stone was extracted from the quarry and 139,109 tonnes of stone was crushed in the primary crusher. From the tonnes crushed, 55989 tonnes of limestone was fed to the lime kiln.

There have been no public complaints regarding extractive activities within the review period.


MINING THE NORTH WALL

The application to mine the pit North Wall down from 244.25m AHD to a final level of 204.25m AHD which is estimated to increase the mining life of the mine by 10 years (at that point in time) was approved by the EPA in January 2017 under the issuing of EPN 9516/1.

Condition OP1(2) of EPN 9516/1 requires an annual report on the progress of the North Wall Mining Plan

- All shots along the North Wall complied with Graymont's approved mining method of creating 3m benches to limit the potential for rocks and other debris to fall to the river's edge.
- Graymont confirms all activities complied with the requirements of the EPN 9516/1 and the North Wall Mining Plan.
- There was one anonymous complaint communicated via EPA during Q1 of the reporting period concerning rockfall along the river's edge beneath the North Wall. No further details were supplied. Graymont provided advice to EPA that the rocks in question are historical in nature and not from recent mining activities.

NORTHERN WALL COMPLIANCE PHOTOS

7 Jul 2020	9 Jul 2021	7 Jul 2022	19 Jul 2023
			
8 Dec 2020	10 Dec 2021	16 Dec 2022	21 Dec 2023
			

Environmental Requirements

The requirements of EPN 290/1 with regard to quarry operations and the actions to date taken by Graymont are summarised in Table 13.

TABLE 14: EPN 290/1 CONDITIONS AND GRAYMONT RELATED ACTIONS FOR QUARRY OPERATIONS.

EPN Conditions	Action by Graymont
X1: Quarry must operate under present EMP or Rehabilitation Plan and Acceptable Standards of the <i>Quarry Code of Practice</i> .	Graymont's quarry is operating in accordance with the 2020 edition of the Decommissioning and Rehabilitation Plan (DRP) and the <i>Quarry Code of Practice</i> .
X2: Quarry Rehabilitation Plan must be submitted by 31 st December 2004 and reviewed and resubmitted every 3 years thereafter.	This requirement was amended in a letter issued by EPA on 14 July 2021 and realigned the timing of the DRP to coincide the requirements of EPN 9516/1 and Permit 9864. The DRP is now required to be reviewed every 5 years. The next edition of the DRP is due in 2025.
X3: Blasting may only occur using Best Practice Environmental Management principles, measured and recorded when required and take place between 0800 and 1700 Monday to Friday.	Blasting only occurred between the specified hours and records of blasts are kept on site, with the Quarry Supervisor.

REHABILITATION

Monitoring Results & Compliance Summary

Schedule 3 of EPN 290/1 requires a decommissioning and rehabilitation plan.

The latest edition of the DRP under this EPN was submitted in April 2020 and was subsequently approved by the director. The next edition of the DRP is due Jan 2025 and brings into alignment the DRP's that were previously required under EPN 290/1, EPN 9516, and PCE No. 9864. These were all amalgamated as per the letter received from the director on the 14/07/2020.

The approved DRP covers the aims, requirements and targets specified in the EPN. Additionally, the content of the 2020 DRP remains applicable and relevant.

Environmental Effects

Graymont continues to monitor the following tree rehab areas on site:

- Southern benches
- The Eastern bench
- The Old Quarry Road
- Dump Extension tree screen

Native trees planted in these area are as follows:

- *Acacia dealbata* - Silver Wattle
- *Acacia melanoxylon* - Blackwood
- *Allocasuarina littoralis* - Bull Oak
- *Banksia marginata* - Silver Banksia
- *Cassinia aculeata* - Dollybush
- *Eucalyptus amygdalina* - Black Peppermint
- *Eucalyptus ovata* - Swamp Gum
- *Eucalyptus rodwayi* - Black Swamp Gum
- *Eucalyptus viminalis* -White Gum
- *Leptospermum lanigerum* -Woolly Tea tree
- *Pittosporum bicolor* -Cheesewood

Environmental Requirements

The requirements of EPN 290/1 regarding rehabilitation and the actions to date taken by Graymont are summarised in Table 14.

A conceptual Decommissioning and Rehabilitation Plan (DRP) for the site was prepared in 2004. The requirement under EPN 290/1 Condition R2 (c) to formally review the DRP every three years was amended in a letter received from EPA on 14 July 2021. The timing of a site-wide DRP now aligns with condition DC1 of EPN 9516/1 with the next edition of the DRP now due in 2025.

TABLE 14: EPN 290/1 CONDITIONS AND GRAYMONT RELATED ACTIONS FOR REHABILITATION

EPN Conditions	Action by Graymont
R1: If permanent cessation of operations on land is planned, then the Director must be notified of the planned cessation of operations, including a final date of production if one is known.	Not applicable at this stage.
R2: A DRP for the activity and associated land must be submitted for approval by 2004 and be revised every three years and within 30 days of a notification for the planned cessation of operations.	DRP (originally approved in 2004) was revised and submitted in 2019.
R3: Decommissioning and rehabilitation of the activity and land must be undertaken in accordance with the DRP.	Rehabilitation activities are in accordance with the approved DRP.

A review of the achievement of set targets as measured against KPI's for the DRP

We are currently tracking behind schedule on the rehabilitation targets outlined in the latest version of the DRP (April 2020) due to bench construction on Waste Rock Depot. These particular benches are scheduled for final phase of development for 2024. However, we are tracking on target with the objectives listed in the latest version of the DRP as seen here:

- full compliance with all applicable environmental standards, legislation, and conditions of licence, approval or permit;
- the site's final land use for the rehabilitated land;
- specific rehabilitation management and mitigation procedures;
- specific mine closure management and mitigation procedures;
- establishment of a clear set of indicators and rehabilitation completion criteria;
- rehabilitation of the site to a safe and stable condition;
- environmental risks;
- revegetation of the post mine landscape.

Status of external certification/accreditation of the activities' Environmental Management System.

Graymont does not currently have external certification for its environmental management system. Graymont is certified to ISO 9001 Quality Management Systems.

Weed Spraying

In line with best practise weed and hygiene measures Graymont developed a Weed and Disease Management Plan in October 2019 that outlines measures to:

- Control all declared weeds on site.
- Minimise contamination of product leaving the quarry area.
- Minimise contamination crossing to neighbouring properties 5

Implementing these measures involves managing weeds within the site as well as managing the spread of weeds to/from the site.

To control declared weeds on the quarry site, the following weed control measures have been carried out by a weed contractor:

- February 2023 – pampas grass, thistles, blackberry
- November 2023 – pampas grass, thistles

Sustained efforts in this regard have helped control weeds on the site and the spread of weeds from the site.

To further reduce the spread of weeds at the site Graymont will ensure treatment of weeds across the site is consistently carried out twice per year in line with the approved Weed Management Plan.

Greenhouse Challenge

As previously indicated in the 2022 EMPR, Graymont is no longer a participant of the Greenhouse Challenge as this has become a redundant scheme. The Greenhouse Challenge programme ceased on 30 June 2009 in accordance with the Wilkins Review recommendations. (2008 Strategic Review of Australian Government Climate Change Programs - Wilkins Review)

Graymont actively monitors GHG emissions and electricity usage locally, as well as around the globe. Mole Creek does not generate its own electricity. Therefore, only gross values are recorded. Mole Creek data is displayed below:

Facility	2023		
	Consumption Intensity Factor (kg CO ₂ e/kWh)	Annual Electricity Usage (kWh)	CO ₂ e (Scope 2) Emissions (T/yr)
Mole Creek Plant	0.12	3,082,850	370

SUMMARY OF ENVIRONMENTAL EFFECTS

- The kiln stack emissions remain steady and well below permitted limits.
- One anonymous complaint was received during the reporting period via the EPA for rock build up along the banks of the Mersey River below the North Wall of the quarry. Subsequent investigation into the complaint found the rocks in question were deposited from historical mining activities and have known to Graymont and EPA.
- No environmental incidents occurred during the reporting period.
- Graymont continues to monitor rehabilitated benches as per DRP 2020.

MAJOR EVENTS AND FUTURE DEVELOPMENTS

Summary of Major Events

- The replacement of the remaining 50% of the kiln exhaust baghouse filter bags was completed.
- Planning Application and Environmental Impact Statement (EIS) for the proposal to increase the permitted extraction and crushed tonne limit from 180,000t annually to 350,000t annually is expected to be lodged with Meander Valley Council in March 2024.
- GLS/Aglime Plant Dust Emission Improvements through modifications to the dust collection and water spray systems.

APPENDIX A

ATMOSPHERIC CONTAMINANT EMISSIONS MONITORING PROGRAM REPORT (2023)

Ektimo

Graymont (Australia) Pty Ltd

Mole Creek 2023 Annual Licence Emission Testing

Report R013941

ektimo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing.
NATA is a signatory to the ILAC Mutual Recognition
Arrangement for the mutual recognition of the
equivalence of testing, calibration, and inspection reports.

Document Information

Client Name: Graymont (Australia) Pty Ltd (Mole Creek, TAS)
Report Number: R013941
Date of Issue: 6 September 2023
Attention: Leon Porter
Address: 380 Den Road
Mole Creek TAS 7304
Testing Laboratory: Ektimo Pty Ltd, ABN 86 600 381 413

Report Authorisation

Glenn Trenear
Senior Air Monitoring Consultant



NATA Accredited Laboratory
No. 14601

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Please note that only numerical results pertaining to measurements conducted directly by Ektimo are covered by Ektimo terms of NATA accreditation as described in the Test Methods table. This does not include calculations that use data supplied by third-parties, comments, conclusions, or recommendations based upon the results. Refer to Test Methods section for full details of testing covered by NATA accreditation.

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1 Executive Summary

1.1 Background

Ektimo was engaged by Graymont (Australia) Pty Ltd to perform emission testing at their Mole Creek plant. Testing was carried out in accordance with Tasmanian Environmental Protection Notice (EPN) 290/1.

1.2 Project Objective & Overview

The objective of the project was to quantify emissions from one (1) discharge point to determine compliance with Graymont's Tasmanian Environmental Protection Notice.

Monitoring was performed as follows:

Location	Test Date	Test Parameters*
Kiln Stack	10 August 2023	Total particulate matter Chlorine Metals (lead and cadmium) Nitrogen oxides (as NO ₂) Sulfur dioxide Carbon monoxide Carbon dioxide Oxygen

* Flow rate, velocity, temperature, and moisture were also determined.

All results are reported on a dry basis at STP.

Plant operating conditions have been noted in this report.

1.3 Licence Comparison

The following licence comparison table shows that all analytes are within the licence limit set by the Tasmanian Environmental Protection Notice (EPN) 290/1.

Location Description	Indicator Description	Units	Licence Limit	Detected Values
Kiln Exhaust	Oxides of nitrogen (as NO ₂)	g/m ³ at STP Dry	2	0.092
	Sulfur dioxide	g/m ³ at STP Dry	7.2	<0.006
	Particles	mg/m ³ at STP Dry	100	<2
	Carbon monoxide	g/m ³ at STP Dry	NA	1.1

Please note that the measurement uncertainty associated with the test results was not considered when determining whether the results were compliant or non-compliant.

2 Results

2.1 Kiln Exhaust

Date	10/08/2023	Client	Graymont Australia Pty Ltd
Report	R013941	Stack ID	Kiln Exhaust
Licence No.	290/1	Location	Mole Creek
Ektimo Staff	G Trenear & V Liu	State	TAS
Process Conditions	Please refer to client records.		230802

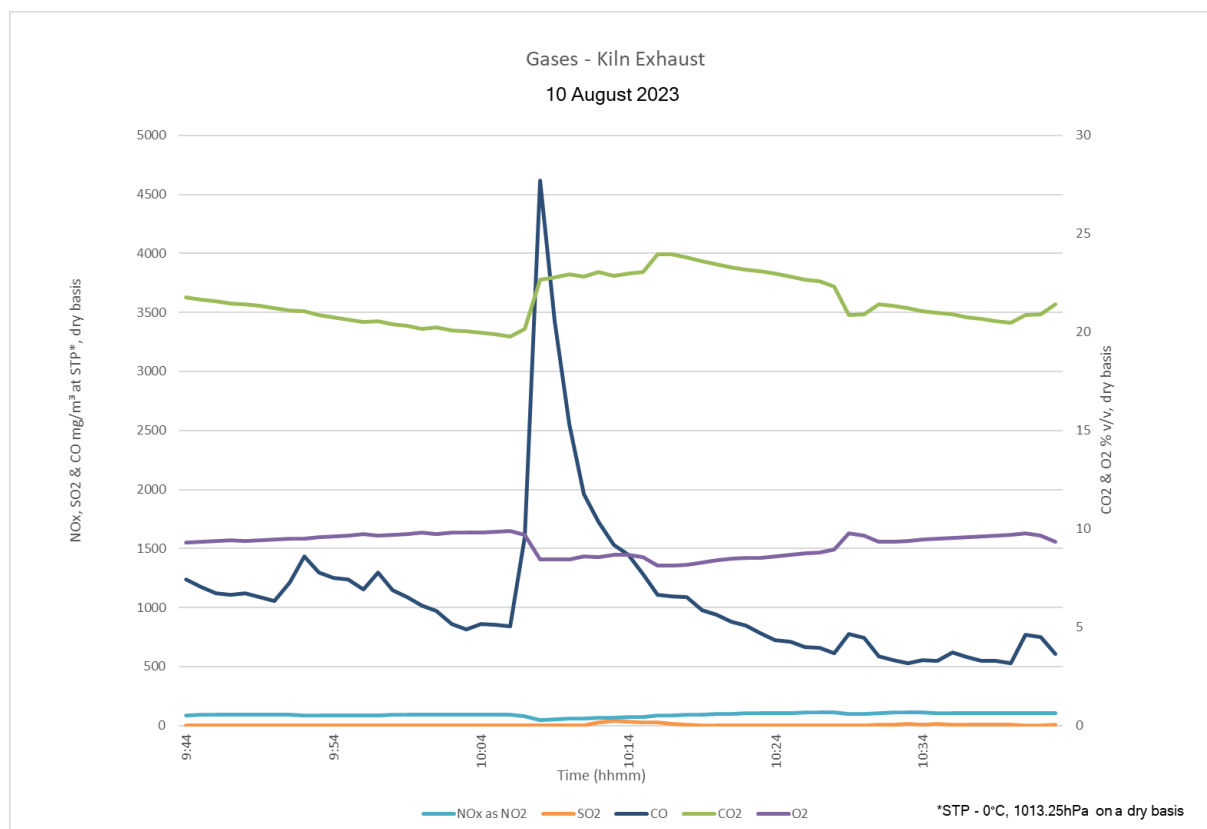
Stack Parameters			
Moisture content, %v/v	5.5		
Gas molecular weight, g/g mole	31.2 (wet)	31.9 (dry)	
Gas density at STP, kg/m ³	1.39 (wet)	1.43 (dry)	
Gas density at discharge conditions, kg/m ³	0.89		
Gas Flow Parameters			
Flow measurement time(s) (hhmm)	0922 & 1047		
Temperature, °C	148		
Velocity at sampling plane, m/s	11		
Volumetric flow rate, actual, m ³ /min	310		
Volumetric flow rate (wet STP), m ³ /min	200		
Volumetric flow rate (dry STP), m ³ /min	190		
Mass flow rate (wet basis), kg/h	17000		

Isokinetic Results	Sampling time	Results	
		Concentration mg/m ³	Mass Rate g/min
		0940-1040	
Total particulate matter		<2	<0.4
Chlorine		<0.04	<0.007
Isokinetic Sampling Parameters			
Sampling time, min		60	
Isokinetic rate, %		99	
Gravimetric analysis date (total particulate)		23-08-2023	

Please note, insufficient particulate matter was collected on the filter, therefore particle size analysis could not be undertaken for determination of PM₁₀ and PM_{2.5} sized fractions. Fine particulate matter results of both PM₁₀ and PM_{2.5} have been not reported but can be assumed to be less than the reported detection limit result of the total particulate matter test.

Date	10/08/2023	Client	Graymont Australia Pty Ltd
Report	R013941	Stack ID	Kiln Exhaust
Licence No.	290/1	Location	Mole Creek
Ektimo Staff	G Trenear & V Liu	State	TAS
Process Conditions	Please refer to client records.		230802

Gas Analyser Results	Sampling time	Average	
		0944 - 1043	
		Concentration mg/m ³	Mass Rate g/min
Combustion Gases			
Nitrogen oxides (as NO ₂)		92	18
Sulfur dioxide		<6	<1
Carbon monoxide		1100	210
		Concentration % v/v	
Carbon dioxide		21.6	
Oxygen		9.2	



Date	10/08/2023	Client	Graymont Australia Pty Ltd
Report	R013941	Stack ID	Kiln Exhaust
Licence No.	290/1	Location	Mole Creek
Ektimo Staff	G Trenear & V Liu	State	TAS
Process Conditions	Please refer to client records.		230802

Stack Parameters		
Moisture content, %v/v	5.3	
Gas molecular weight, g/g mole	28.4 (wet)	29.0 (dry)
Gas density at STP, kg/m ³	1.27 (wet)	1.29 (dry)
Gas density at discharge conditions, kg/m ³	0.81	
Gas Flow Parameters		
Flow measurement time(s) (hhmm)	1047 & 1200	
Temperature, °C	146	
Velocity at sampling plane, m/s	11	
Volumetric flow rate, actual, m ³ /min	330	
Volumetric flow rate (wet STP), m ³ /min	210	
Volumetric flow rate (dry STP), m ³ /min	200	
Mass flow rate (wet basis), kg/h	16000	

Isokinetic Results	Sampling time	Results	
		Concentration mg/m ³	Mass Rate g/min
		1052-1152	
Cadmium		0.00071	0.00014
Lead		0.0055	0.0011
Isokinetic Sampling Parameters			
Sampling time, min		60	
Isokinetic rate, %		103	

3 Sample Plane Compliance

3.1 Kiln Exhaust

Sampling Plane Details	
Source tested	Kiln
Pollution control equipment	Filter baghouse
Sampling plane dimensions	790 mm
Sampling plane area	0.49 m ²
Sampling port size, number & depth	4" Flange (x1), 55 mm
Duct orientation & shape	Vertical Circular
Downstream disturbance	Exit 2 D
Upstream disturbance	Junction 6 D
No. traverses & points sampled	1 6
Sample plane conformance to AS 4323.1	Non-conforming
Comments	
The number of traverses sampled is less than the requirement	
The number of points sampled is less than the requirement	
The sampling plane is deemed to be non-conforming due to the following reasons:	
The stack or duct does not have the required number of access holes (ports)	
The sampling plane is too near to the downstream disturbance but is greater than or equal to 1D	

4 Test Methods

All sampling and analysis was performed by Ektimo unless otherwise specified. Specific details of the methods are available upon request.

Parameter	Sampling method	Analysis method	Uncertainty*	NATA accredited	
				Sampling	Analysis
Sampling points - Selection	AS 4323.1	NA	NA	✓	NA
Flow rate & velocity	AS 4323.1	AS 4323.1	8%, 7%	✓	✓
Moisture	USEPA Method 4	USEPA Method 4	8%	✓	✓
Molecular weight	NA	USEPA Method 3	not specified	NA	✓
Carbon dioxide & oxygen	USEPA Method 3A	USEPA Method 3A	13%	✓	✓
Carbon monoxide	USEPA Method 10	USEPA Method 10	12%	✓	✓
Nitrogen oxides	USEPA Method 7E	USEPA Method 7E	12%	✓	✓
Sulfur dioxide	USEPA Method 6C	USEPA Method 6C	12%	✓	✓
Hydrogen halides & halogens	USEPA Method 26A	Ektimo 235	14%	✓	✓ [†]
Total particulate matter	AS 4323.2	AS 4323.2	7%	✓	✓ ^{††}
Total (gaseous & particulate) metals (Cd, Pb)	USEPA Method 29	Envirolab in-house methods Metals-	15%	✓	✓ [‡]

220823

* Uncertainties cited in this table are estimated using typical values and are calculated at the 95% confidence level (coverage factor = 2).

[†] Analysis performed by Ektimo. Results were reported to Ektimo on 16 August 2023 in report LV-004752.

^{††} Gravimetric analysis conducted at the Ektimo VIC laboratory.

[‡] Analysis performed by Envirolab, NATA accreditation number 2901. Results were reported to Ektimo on 31 August 2023 in report 331413.

5 Quality Assurance/Quality Control Information

Ektimo is accredited by the National Association of Testing Authorities (NATA) for the sampling and analysis of air pollutants from industrial sources. Unless otherwise stated test methods used are accredited with the National Association of Testing Authorities. For full details, search for Ektimo at NATA's website www.nata.com.au.

Ektimo is accredited by NATA to ISO/IEC 17025 - Testing. ISO/IEC 17025 - Testing requires that a laboratory have adequate equipment to perform the testing, as well as laboratory personnel with the competence to perform the testing. This quality assurance system is administered and maintained by the Quality Director.

NATA is a member of APAC (Asia Pacific Accreditation Co-operation) and of ILAC (International Laboratory Accreditation Co-operation). Through mutual recognition arrangements with these organisations, NATA accreditation is recognised worldwide.

6 Definitions

The following symbols and abbreviations may be used in this test report:

% v/v	Volume to volume ratio, dry basis
~	Approximately
<	Less than
>	Greater than
≥	Greater than or equal to
APHA	American Public Health Association, Standard Methods for the Examination of Water and Waste Water
AS	Australian Standard
BaP-TEQ	Benzo(a)pyrene toxic equivalents
BSP	British standard pipe
CEM/CEMS	Continuous emission monitoring/Continuous emission monitoring system
CTM	Conditional test method
D	Duct diameter or equivalent duct diameter for rectangular ducts
D ₅₀	'Cut size' of a cyclone is defined as the particle diameter at which the cyclone achieves a 50% collection efficiency i.e. half of the particles are retained by the cyclone and half pass through it. The D ₅₀ method simplifies the capture efficiency distribution by assuming that a given cyclone stage captures all of the particles with a diameter equal to or greater than the D ₅₀ of that cyclone and less than the D ₅₀ of the preceding cyclone.
DECC	Department of Environment & Climate Change (NSW)
Disturbance	A flow obstruction or instability in the direction of the flow which may impede accurate flow determination. This includes centrifugal fans, axial fans, partially closed or closed dampers, louvres, bends, connections, junctions, direction changes or changes in pipe diameter.
DWER	Department of Water and Environmental Regulation (WA)
DEHP	Department of Environment and Heritage Protection (QLD)
EPA	Environment Protection Authority
FTIR	Fourier transform infra-red
ISC	Intersociety Committee, Methods of Air Sampling and Analysis
ISO	International Organisation for Standardisation
ITE	Individual threshold estimate
I-TEQ	International toxic equivalents
Lower bound	When an analyte is not present above the detection limit, the result is assumed to be equal to zero.
Medium bound	When an analyte is not present above the detection limit, the result is assumed to be equal to half of the detection limit.
NA	Not applicable
NATA	National Association of Testing Authorities
NIOSH	National Institute of Occupational Safety and Health
NT	Not tested or results not required
OM	Other approved method
OU	Odour unit. One OU is that concentration of odourant(s) at standard conditions that elicits a physiological response from a panel equivalent to that elicited by one Reference Odour Mass (ROM), evaporated in one cubic metre of neutral gas at standard conditions.
PM ₁₀	Particulate matter having an equivalent aerodynamic diameter less than or equal to 10 microns (µm).
PM _{2.5}	Particulate matter having an equivalent aerodynamic diameter less than or equal to 2.5 microns (µm).
PSA	Particle size analysis. PSA provides a distribution of geometric diameters, for a given sample, determined using laser diffraction.
RATA	Relative accuracy test audit
Semi-quantified VOCs	Unknown VOCs (those for which an analytical standard is not available), are identified by matching the mass spectrum of the chromatographic peak to the NIST Standard Reference Database (version 14.0), with a match quality exceeding 70%. An estimated concentration is determined by matching the area of the peak with the nearest suitable compound in the analytical calibration standard mixture.
STP	Standard temperature and pressure. Gas volumes and concentrations are expressed on a dry basis at 0 °C, at discharge oxygen concentration and an absolute pressure of 101.325 kPa.
TM	Test method
TOC	Total organic carbon. This is the sum of all compounds of carbon which contain at least one carbon-to-carbon bond, plus methane and its derivatives.
USEPA	United States Environmental Protection Agency
VDI	Verein Deutscher Ingenieure (Association of German Engineers)
Velocity difference	The percentage difference between the average of initial flows and after flows.
Vic EPA	Victorian Environment Protection Authority
VOC	Volatile organic compound. A carbon-based chemical compound with a vapour pressure of at least 0.010 kPa at 25°C or having a corresponding volatility under the given conditions of use. VOCs may contain oxygen, nitrogen and other elements. VOCs do not include carbon monoxide, carbon dioxide, carbonic acid, metallic carbides and carbonate salts.
WHO05-TEQ	World Health Organisation toxic equivalents
XRD	X-ray diffractometry
Upper bound	When an analyte is not present above the detection limit, the result is assumed to be equal to the detection limit.
95% confidence interval	Range of values that contains the true result with 95% certainty. This means there is a 5% risk that the true result is outside this range.

7 Appendices

Appendix A: Site Image



Image 1 – Kiln Stack

Appendix B: Tasmania Weather Observations

Sheffield, Tasmania

September 2022 Daily Weather Observations:

Date	Day	Temps		Rain	Max wind gust			9:00 AM					3:00 PM						
		Min °C	Max °C		Dir	Spd km/h	Time local	Temp °C	RH %	Cld g ^h	Dir	Spd km/h	MSLP hPa	Temp °C	RH %	Cld g ^h	Dir	Spd km/h	MSLP hPa
10	Th	5.9	13.5	3	WSW	43	15:44	9.7	77		W	9	1011.5	12.2	58		WSW	15	1013.8
Statistics for August 2023																			
	Mean	4.3	12.5					8	85			6	1020	11.4	68			13	1018.5
	Lowest	-1	10.3	0				3.6	59		Calm		998.1	8.9	51		#	2	1000.6
	Highest	9.9	15.4	32.8	WSW	69		11.5	100		#	22	1033.1	14.3	97		WSW	31	1030.7
	Total			96.6															

Station Details:

ID: 091291 Name: SHEFFIELD SCHOOL FARM Lat: -41.39 Lon:146.32 Height: 294.2 m

Appendix C: Plant Operating Conditions

																	DATE		Thursday, 10 August 2023												
Time	Discharge Temps Deg					Avg Discharge Temp Deg	Witches Hat Temp Deg	Off Take Temp Deg	Kiln Top Pressure kPa	Recirc Gas Flow m3\Hr	Ring Main Pressure kPa	Ring Main Oil Temp Deg	Ring Main Oil Press kPa	Jet Size					Oil Tanks in use oil mixture	Oil Pumps in use	M/D Plus Minus	Total oil meter reading	Oil Set Point Per Draw Ltrs	Total Oil Usage per draw ltrs	Draw Time	M.P.D	Kiln Discharge Tonnes	Draw Disch Weight (tonnes)	Q/Lime to 250T Bin	Qlime to 700T 1 Silo	Q/line to 700T 2 Silo
	Port Number													5	5	5	4	5													
	1	2	3	4	5									1	2	3	4	5													
1:35	215	245	94	264	197	210	86	325	-9.33	-485	-0.26	40	405	1	0	1	-3	1	46807737	326.1	327	0:18	.0:39	513501.2	3				3		
																			46808063	326.1	326	0:58	0:40	513504.2	3				6		
																			46808390	326.1	327	1:37	0:39	513507.2	3				9		
3:37	227	251	95	263	244	219	99	316	-9.2	-434	-0.27	40	388	1	0	1	-3	1	95TPD	46808716	326.1	326	2:16	0:39	513510.2	3		***	***		
																			46809042	326.1	326	2:56	0:40	513513.2	3	3	***				
																			46809368	326.1	326	3:40	0:44	513516.2	3	***	***		12		
5:35	231	270	98	278	224	217	88	332	-8.38	-460	-0.3	40	401	1	0	1	-3	1	111TPD	46809694	326.1	326	4:23	0:43	513519.2	3				15	
																			46810020	326.1	326	5:02	0:39	513522.2	3				18		
																			46810347	326.1	327	5:42	0:40	513525.2	3				21		
7:34	227	249	97	277	195	217	84	330	-8.48	-430	-27	40	397	1	0	1	-3	1	114TPD	46810673	326.1	326	6:21	0:39	513528.2	3				24	
																			46810999	326.1	326	6:59	0:38	513531.2	3				27		
																			46811325	326.1	326	7:38	0:39	513534.2	3				30		
9:29	238	255	101	269	202	220	93	339	-8.72	-464	-31	40	407	1	0	1	-3	1	46811651	326.2	326	8:16	0:38	513537.2	3				33		
																			46811978	326.2	327	8:54	0:38	513540.2	3				36		
																			46812304	326.2	326	9:33	0:39	513543.2	3				39		
11:24	228	260	99	265	204	215	87	357	-8.69	-487	-31	40	396	1	0	1	-3	1	46812630	326.2	326	10:11	0:38	513546.2	3				42		
																			46812956	326.2	326	10:50	0:39	513549.2	3				45		
																			46813282	326.2	326	11:28	0:38	513552.2	3				48		
13:20	211	268	96	258	209	211	85	365	-9.01	-499	-30	40	399	1	0	1	-3	1	117TPD	46813609	326.2	327	12:07	0:39	513555.2	3				51	
																			46813925	326.2	316	12:45	0:38	513558.2	3				54		
																			46814251	326.2	326	13:24	0:39	513561.2	3				57		
																			46814587	326.2	336	14:02	0:38	513564.2	3				60		
																					-46814587										
																					0		0:00			0					

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NSW 2064

AUSTRALIA

WOLLONGONG

1/251 Princes Highway

Unanderra

NSW 2526

AUSTRALIA

PERTH

52 Cooper Road

Cockburn Central

WA 6164

AUSTRALIA

BRISBANE

3/109 Riverside Place

Morningside

QLD 4170

AUSTRALIA