



Annual Air Emission Monitoring Report

Mt Piper Power Station

PREPARED FOR



DATE

29 September 2026

REFERENCE

0745212



DOCUMENT DETAILS

DOCUMENT TITLE	Annual Air Emission Monitoring Report
DOCUMENT SUBTITLE	Mt Piper Power Station
PROJECT NUMBER	0745212
Date	29 September 2026
Version	Final
Author	James Grieve
Client name	EnergyAustralia

DOCUMENT HISTORY

				ERM APPROVAL TO ISSUE		COMMENTS
VERSION	REVISION	AUTHORS	REVIEWED BY	NAME	DATE	
Draft	D1	J. Grieve	T. Haigh	M. Lawson	21.09.2026	Draft for client review
Final	R1	J. Grieve	T. Haigh	M. Lawson	29.09.2026	Final

This report was prepared in accordance with the scope of services set out in the contract between Environmental Resources Management Australia Pty Ltd ABN 12 002 773 248 (ERM) and the Client.

To the best of our knowledge, the proposal presented herein accurately reflects the Client's intentions when the report was printed. However, the application of conditions of approval or impacts of unanticipated future events could modify the outcomes described in this document.

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SIGNATURE PAGE

Annual Air Emission Monitoring Report

Mt Piper Power Station

0745212



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ACRONYMS AND ABBREVIATIONS

Acronyms	Description
AAEMR	Annual Air Emission Monitoring Report
AEMO	Australian Energy Market Operator
APC	Air Pollution Control
AQIA	Air quality impact assessment
AQMS	Air quality monitoring station
AWS	Automatic weather station
BCA	Brine Conditioned Ash
CEMS	Continuous emissions monitoring system
DPHI	Department of Planning, Housing and Infrastructure
DAF	Dry, ash free
EPA	Environment Protection Authority
EPL	Environment protection licence
ERM	Environmental Resources Management Australia Pty Ltd
FY26	Financial Year 2026 (July 2025 – June 2026 inclusive)
FY26H2	Financial Year 2026 – Second Half (January 2026 – June 2026 inclusive)

Acronyms	Description
GWh	Gigawatt hour
HDPE	High Density Polyethylene
K	Degrees Kelvin
kPa	Kilopascals
LBL	(NSW) Load-based Licencing Scheme
LNAR	Lamberts North Ash Repository
mg/Nm ³	Milligrams per normal cubic metre (i.e. at conditions of 273K and 101.3 kPa)
MPAR	Mt Piper Ash Repository
MPPS	Mount Piper Power Station
MW	Megawatt
MWh	Megawatt hour
NEPC	National Environment Protection Council
Nm ³	Normal cubic metre (i.e. 1 cubic metre at conditions of 273 K and 101.3 kPa)
NO	Nitric oxide
NO ₂	Nitrogen dioxide
NO _x	Oxides of nitrogen
NPI	National Pollutant Inventory
NSW	New South Wales
LOR	Limit of reporting
O ₂	Oxygen (molecular)
OEMP	Operational Environment Management Plan
PM ₁₀	Particulate matter less than 10 microns in aerodynamic diameter
PM _{2.5}	Particulate matter less than 2.5 microns in aerodynamic diameter
ppb	Parts per billion (by volume)
pphm	Parts per hundred million (by volume)
QA/QC	Quality Assurance / Quality Control
RAA	Relative Accuracy Audit
RATA	Relative Accuracy Test Audit
RL	Reduced Level
SO ₂	Sulfur dioxide
SO ₃	Sulfur trioxide
SWTP	Springvale Water Treatment Plant
t	Tonne
µg/m ³	Micrograms per cubic metre
WCA	Water Conditioned Ash

1. INTRODUCTION

EnergyAustralia operates the Mount Piper Power Station (MPPS), located at 350 Boulder Road, Portland, New South Wales. The MPPS is approved to operate 700 MW and 730 MW coal-fired steam turbine generators that have the capacity (> 4000 GWh) to meet the energy needs of approximately 1.18 million homes in New South Wales every year. MPPS is fuelled using black coal primarily sourced from coal mines in the local area.

The MPPS operates under various licences and approvals including Environmental Protection Licence (EPL) 13007 issued by the NSW Environmental Protection Authority (EPA). This Annual Air Emissions Monitoring Report (AAEMR) has been prepared to satisfy Condition R2.1 of the EPL. The AAEMR is required to summarise and analyse air emission and ambient air quality monitoring data collected within each calendar year.

ERM has been engaged by EnergyAustralia to prepare the AAEMR for the second half of the 25/26 Financial Year (FY26H2), ('the reporting period').

The reporting period represents a one-off 6-month bridging period that has resulted from the transition of the MPPS Environmental Protection Licence (EPL) from a calendar year to financial year basis, noting that:

- Data collected prior to the reporting period has been documented in the 2025 (calendar year) AAEMR (ERM, 2026); and
- EnergyAustralia intend that the next AAEMR will be prepared for the 2027 Financial Year.

This report summarises the methodology and findings of this data review for the reporting period.

1.1 EPL UPDATES

The EPL was not revised during the reporting period. Accordingly, monitoring requirements are consistent with the prior AAEMR. Noting this, the EPL was revised on 6 July 2026 and has been referenced in this report with regard to relevant reporting requirements. The EPL update did not include changes relevant to this AAEMR, other than changes to the numbering of reporting conditions.

With implementation of a financial year-based reporting period, EnergyAustralia have coordinated with EPA for submission of the AAEMR to occur on or prior to 30 September each year.

1.2 EPL REQUIREMENTS

Condition R2 – Annual Air Emission Monitoring Report outlines a number of requirements that are to be addressed in preparation of the AAEMR.

Table 1-1 lists these requirements with corresponding report sections that address each condition.

The monitoring requirements of *Condition M2.2 – Air Monitoring Requirements*, (as referenced in Condition R2) are shown in **Table 1-2**.

Condition – M9.1 Other Monitoring and Recording Conditions Coal Ash Monitoring outlines a number of monitoring requirements relating to the production and storage of ash. These requirements are listed in **Table 1-3**.

In addition to the requirements of Condition R2.1, this AAEMR also incorporates the reporting required under *Condition R5.2 Annual Coal Ash Monitoring Reporting*. **Table 1-4** shows this requirement which comprises reporting of monitoring data collected under condition M9.1.

TABLE 1-1 NSW EPA EPL13007 CONDITION – R2.1 ANNUAL AIR EMISSION MONITORING REPORT

R2.1	Annual Air Emission Monitoring Report	Refer to
	<i>The licensee must submit with the Annual Return an Annual Air Emission Monitoring Report. The Annual Emission Monitoring Report must analyse and summarise emission monitoring data from the reporting period including, but not limited to:</i>	This report.
a)	<i>a comprehensive summary (tabulated and graphical) of all periodic and continuous monitoring data as required by condition M2.2 of this licence, including a comparison with the concentration limits specified in condition L3.2 and L3.4;</i>	Section 2 Table 2-1, Table 2-3, Table 2-5 Figure 2-1 to Figure 2-11
b)	<i>analysis of trends in emission performance for all pollutants monitored as required under condition M2.2. Trend analysis must include comparison of emission performance during the reporting period with emission performance from the previous 4 years;</i>	Section 3
c)	<i>details of any exceedances of air emission licence limits and details of plant operating conditions at the times the exceedances occurred;</i>	Section 2.4.1
d)	<i>an overview of any measures implemented during the reporting period to further reduce air emissions from the units, including / but not limited to:</i> i) <i>the date any such measures were implemented;</i> ii) <i>an overview of the actual and / or expected impact on air emissions arising from the measures.</i>	Section 2.4.2
e)	<i>an overview of any additional measures proposed to further reduce air emissions from the units.</i>	
f)	<i>details of plant operating conditions, including Boiler load (MW), during sampling for each Boiler;</i>	Table 2-1
g)	<i>demonstrated compliance with the CEMS Quality Assurance and Control Procedures prepared for the premises;</i>	Section 2.2.2 Table 2-5
h)	<i>summary of fuel usage, including:</i> i. <i>total coal and other permitted fuels consumed in each Boiler (including start-up);</i> ii. <i>a statement about the representativeness of fuel quality during periodic air emission sampling compared to non-sampling periods;</i> iii. <i>total fuel consumed by each Boiler during times when periodic air emission sampling was undertaken.</i>	Section 3.1 Table 3-1 Table 2-1
i)	<i>detailed calculations used to determine the aggregated pollutant emission rates for each boiler.</i>	Section 4

TABLE 1-2 NSW EPA EPL13007 CONDITION – M2.2 AIR MONITORING REQUIREMENTS

Pollutant	Units of Measure	Frequency	Sampling Method
Point 2,3			
Cadmium	milligrams per cubic metre	Every 6 months	TM-38
Chlorine	milligrams per cubic metre	Every 6 months	TM-38
Fluorine	milligrams per cubic metre	Every 6 months	TM-38
Hydrogen chloride	milligrams per cubic metre	Every 6 months	TM-38
Mercury	milligrams per cubic metre	Every 6 months	TM-38
Nitrogen oxides	milligrams per cubic metre	Continuous	TM-38
Solid particles	milligrams per cubic metre	Quarterly	TM-38
Sulfur dioxide	milligrams per cubic metre	Continuous	TM-38
Sulfuric acid mist and sulfur trioxide (as SO ₃)	milligrams per cubic metre	Every 6 months	TM-38
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Every 6 months	TM-38
Volatile organic compounds as n-propane equivalent	milligrams per cubic metre	Every 6 months	TM-38
Point 4,5,6,7			
Cadmium	milligrams per cubic metre	Every 6 months	TM-12
Flow rate	cubic metres per second	Continuous	CEM-6 and US EPA Procedure 1
Mercury	milligrams per cubic metre	Every 6 months	TM-14
Moisture	percent	Continuous	Special Method 1
Nitrogen oxides	milligrams per cubic metre	Continuous	CEM-2 and US EPA Procedure 1
Oxygen (O ₂)	percent	Continuous	CEM-3 and US EPA Procedure 1
Solid particles	milligrams per cubic metre	Quarterly	TM-15
Sulfur dioxide	milligrams per cubic metre	Continuous	CEM-2 and US EPA Procedure 1
Temperature	degrees Celsius	Continuous	TM-2 and US EPA Procedure 1
Type 1 and Type 2 substance in aggregate	milligrams per cubic metre	Every 6 months	TM-12, TM-13 & TM-14
Point 4,6			
Carbon dioxide	percent	Every 6 months	TM-24
Chlorine	milligrams per cubic metre	Every 6 months	TM-7
Fluorine	milligrams per cubic metre	Every 6 months	TM-9
Hydrogen chloride	milligrams per cubic metre	Every 6 months	TM-8
Sulfuric acid mist and sulfur trioxide (as SO ₃)	milligrams per cubic metre	Every 6 months	TM-3
Volatile organic compounds as n-propane equivalent	milligrams per cubic metre	Every 6 months	TM-34

Pollutant	Units of Measure	Frequency	Sampling Method
Point 8			
Fluoride	micrograms per cubic metre	Continuous	AM-8
Point 8,9			
Nitrogen dioxide	parts per hundred million	Continuous	AM-12
PM _{2.5}	micrograms per cubic metre	Continuous	Special Method 2
Sulfur dioxide	parts per hundred million	Continuous	AM-20
Point 10			
Nitrogen dioxide	parts per hundred million	Monthly	Special Method 3
Sulfur dioxide	parts per hundred million	Monthly	Special Method 3

TABLE 1-3 NSW EPA EPL13007 CONDITION – M9.1 OTHER MONITORING AND RECORDING CONDITIONS - COAL ASH MONITORING

M9.1	Other monitoring and recording conditions Coal Ash Monitoring (quantities to be reported in tonnes)	Refer to
	<i>For each licence reporting period, the licensee must monitor and record the following details regarding generation, deposition, storage, transport and reuse of coal ash generated at the premises:</i>	Section 5
a)	<i>Quantity of coal used for electricity generation at the premises;</i>	Table 5-1
b)	<i>Quantity of bottom ash; and quantity of fly ash, generated at the premises and the grade of fly ash produced (if the grade is known);</i>	Table 5-1
c)	<i>Quantity of bottom ash; and quantity of fly ash, deposited, and/or stored at the premises with a description of how it is stored and the processes for managing the storage;</i>	Section 5 Table 5-1
d)	<i>Quantity of bottom ash; and quantity of fly ash, transported from the premises together with identification of the destination; and</i>	Table 5-2
e)	<i>Management measures used for coal ash repositories on the premises to maintain the viability of ash reuse, including identification of any other materials being stored concurrently with newly deposited coal ash.</i>	Section 5

Note: The collection and reporting of information required by the above condition does not come into effect until three months after the issued date of this licence version to allow the licensee to put in place the relevant systems required to meet the condition.

TABLE 1-4 NSW EPA EPL13007 CONDITION – R5.2 COAL ASH MONITORING REPORTING

R5.2	Coal Ash Monitoring Reporting	Refer to
	<i>The licensee must prepare an Annual Coal Ash Monitoring Report that details information required under condition M9.1 in respect of generation, deposition, storage, transport and reuse of coal ash generated at the premises for each Annual Return reporting period.</i>	Section 5

The stack concentration limits as referenced in Condition R2, *Condition L3.2 – Air Concentration Limits*, are shown in **Table 1-5**.

Condition L3.4 states that in addition to the concentration limits specified in condition L3.2, the following 99th percentile concentration limits apply for points 2 and 3 utilising the same units of measure, reference conditions, oxygen correction and averaging period as above for each pollutant listed below:

- a) nitrogen oxides: 1,100 mg/Nm³; and
- b) sulfur dioxide: 1,400 mg/Nm³.

Condition L3.6 states that exceedances due to compliance with an Australian Energy Market Operator (AEMO) direction in accordance with Section 74 of the Protection of the Environment Operations (Clean Air) Regulation 2022 do not count towards the accumulated hours for the purpose of calculating compliance with condition L3.4.

It should be noted that the reference conditions (Dry, 273K, 101.3kPa), oxygen correction (7% O₂) and averaging period (1-hour) apply for each pollutant listed in **Table 1-5**.

TABLE 1-5 NSW EPA EPL13007 CONDITION – L3.2 AIR CONCENTRATION LIMITS

Pollutant	100 th percentile concentration limit
Mercury	0.03 mg/m ³
Chlorine	4 mg/m ³
Type 1 and Type 2 substance in aggregate	0.60 mg/m ³
Volatile organic compounds as n-propane equivalent	8 mg/m ³
Hydrogen chloride	50 mg/m ³
Solid Particles	50 mg/m ³
Sulfuric acid mist and sulfur trioxide (as SO ₃)	100 mg/m ³
Nitrogen oxides	1,500 mg/m ³
Fluorine (total fluoride as HF equivalent)	30 mg/m ³
Cadmium	0.03 mg/m ³
Sulfur dioxide	1,700 mg/m ³

Note: During calibration and commissioning testing of the Particulate Continuous Emission Monitors (Particulate CEMS) undertaken in accordance with condition E5.2, the limit for solid particles does not apply, however the concentration must not exceed the limits listed in the *Protection of the Environment Operations (Clean Air) Regulation 2022*.

1.3 STUDY METHODOLOGY

The following steps were undertaken to complete this air emission monitoring report:

- Summarise data collected during FY26H2 for the monitoring required under EPL13007;
- Review historical monitoring data to analyse the trends in emission performance for all pollutants monitored under EPL13007;
- Consolidate and analyse monitoring data to understand if the data available is representative of normal operating conditions at MPPS; and
- Summarise compliance with Condition R2.1 under EPL13007.

2. AIR EMISSION MONITORING SUMMARY

The following sections summarise the air monitoring as relevant to the requirements of the *Condition R2.1 – Annual Air Emissions Monitoring Report*.

2.1 STACK TESTING

The stack test documents reviewed for FY26H2 monitoring include:

- Ektimo 2026b, *Emission Testing Report*, Report: R019893, EnergyAustralia NSW Pty Ltd, Mt Piper Power Station, Ektimo Pty Ltd, 23 March 2026; and
- Ektimo 2026c, *Emission Testing Report*, Report: R020240, EnergyAustralia NSW Pty Ltd, Mt Piper Power Station, Ektimo Pty Ltd, 20 May 2026.

The individual 2026 stack testing results are summarised in **Table 2-1**. All the concentrations provided are at 'normal' reference conditions (0 °C, 101.325 kPa), dry basis, and at a reference oxygen content of 7% O₂ (dry basis). These are standardised reporting conditions required by the EPL.

The stack test frequencies met the stack, non-continuous sampling requirements as described in *Condition M2.2 – Air Monitoring Requirements* as outlined in **Table 1-2**. The results of the stack test indicate that there were no exceedances of the air concentration limits outlined in **Table 1-5**.

The corresponding stack test reports are included in **Appendix A**.

TABLE 2-1 SUMMARY OF STACK TESTING RESULTS AND POWER STATION OPERATING CONDITIONS

Sampling Date	Unit & Duct	Process Condition	Temperature (°C)	Oxygen (%)	Daily Coal Burn (t)	Fuel Oil Consumed (L)	Daily Generation (MWh)	Mass Rate (g/min)	Measured Concentration (mg/Nm³)*
Solid particles									
20/01/2026	1B	Load stable at 220 MW	112	11.0	3,560	7,300	8,562	42	4.9
20/01/2026	1A	Load stable at 220 MW	104	11.1	3,560	7,300	8,562	56	6.6
29/01/2026	2A	Load stable at 220 MW	102	11.0	6,919	10,656	15,507	43	4.0
28/01/2026	2B	Load stable at 220 MW	105	11.6	7,970	12,223	16,465	53	6.1
21/04/2026	1B	Load stable at 220 MW	114	11.5	5,448	11,543	12,458	28	3.4
21/04/2026	1A	Load stable at 220 MW	112	11.4	5,448	11,543	12,458	24	2.9
22/04/2026	2A	Load stable at 220 MW	112	12.1	6,332	8,963	11,993	<30	<3
22/04/2026	2B	Load stable at 220 MW	111	12.5	6,332	8,963	11,993	<30	<3
Sulfuric acid mist and sulfur trioxide (as SO₃)									
21/04/2026	1B	Load stable at 220 MW	114	11.5	5,448	11,543	12,458	15	1.9
22/04/2026	2A	Load stable at 220 MW	112	12.1	6,332	8,963	11,993	21	2.5
Volatile organic compounds (VOCs) as n-propane equivalent									
21/04/2026	1B	Load stable at 220 MW	114	11.5	5,448	11,543	12,458	<0.8	<0.09
22/04/2026	2A	Load stable at 220 MW	112	12.1	6,332	8,963	11,993	<0.6	<0.07
Chlorine									
21/04/2026	1B	Load stable at 220 MW	114	11.5	5,448	11,543	12,458	0.46	0.06
22/04/2026	2A	Load stable at 220 MW	112	12.1	6,332	8,963	11,993	<0.2	<0.03
Hydrogen chloride									
21/04/2026	1B	Load stable at 220 MW	114	11.5	5,448	11,543	12,458	4.1	0.49
22/04/2026	2A	Load stable at 220 MW	112	12.1	6,332	8,963	11,993	8.7	1.1
Fluorine									
21/04/2026	1B	Load stable at 220 MW	114	11.5	5,448	11,543	12,458	24	3
22/04/2026	2A	Load stable at 220 MW	112	12.1	6,332	8,963	11,993	52	6.3
Cadmium									
20/01/2026	1B	Load stable at 220 MW	112	11.0	3,560	7,300	8,562	0.044	0.0051
20/01/2026	1A	Load stable at 220 MW	104	11.1	3,560	7,300	8,562	0.0044	0.00052
29/01/2026	2A	Load stable at 220 MW	102	11.0	6,919	10,656	15,507	0.0015	0.00014
28/01/2026	2B	Load stable at 220 MW	105	11.6	7,970	12,223	16,465	0.00091	0.0001

Sampling Date	Unit & Duct	Process Condition	Temperature (°C)	Oxygen (%)	Daily Coal Burn (t)	Fuel Oil Consumed (L)	Daily Generation (MWh)	Mass Rate (g/min)	Measured Concentration (mg/Nm³)*
Mercury									
20/01/2026	1B	Load stable at 220 MW	112	11.0	3,560	7,300	8,562	0.0056	0.00064
20/01/2026	1A	Load stable at 220 MW	104	11.1	3,560	7,300	8,562	0.0044	0.00052
29/01/2026	2A	Load stable at 220 MW	102	11.0	6,919	10,656	15,507	<0.002	<0.0002
28/01/2026	2B	Load stable at 220 MW	105	11.6	7,970	12,223	16,465	0.0027	0.0003
Type 1 and Type 2 substances in aggregate									
20/01/2026	1B	Load stable at 220 MW	112	11.0	3,560	7,300	8,562	<0.23	<0.026
20/01/2026	1A	Load stable at 220 MW	104	11.1	3,560	7,300	8,562	<0.18	<0.021
29/01/2026	2A	Load stable at 220 MW	102	11.0	6,919	10,656	15,507	<0.24	<0.023
28/01/2026	2B	Load stable at 220 MW	105	11.6	7,970	12,223	16,465	<0.46	<0.052

Notes: *Reported as dry, 0°C, 101.325 kPa and corrected to 7% O₂.

2.2 CEMS

Condition M2.2 – *Air Monitoring Requirements* requires the continuous monitoring of specific stack parameters. **Table 2-2** summarises the continuous emissions monitoring system (CEMS) data as required in Condition M2.2.

The following sections summarise the CEMS data and quality assurance program.

TABLE 2-2 LIST OF REQUIRED CEMS PARAMETERS

Pollutant	Monitoring Points	Unit & Duct
Nitrogen Oxides	Point 2, 3, 4, 5, 6, 7	Unit 1, Unit 2, Unit 1B, Unit 1A, Unit 2A, Unit 2B
Sulfur dioxide		
Flow rate	Point 4, 5, 6, 7	Unit 1B, Unit 1A, Unit 2A, Unit 2B
Moisture		
Oxygen (O ₂)		
Temperature		

Moisture, temperature and oxygen are monitored as part of the existing CEMS at MPPS. EnergyAustralia submitted the *Development of Fan Curve Methodology for Calculating Flue Gas Flowrate for MPPS* report to the EPA on 20 December 2024 as required by EPL 13007. EnergyAustralia are continuing to work with EPA on implementation of the flowrate monitoring.

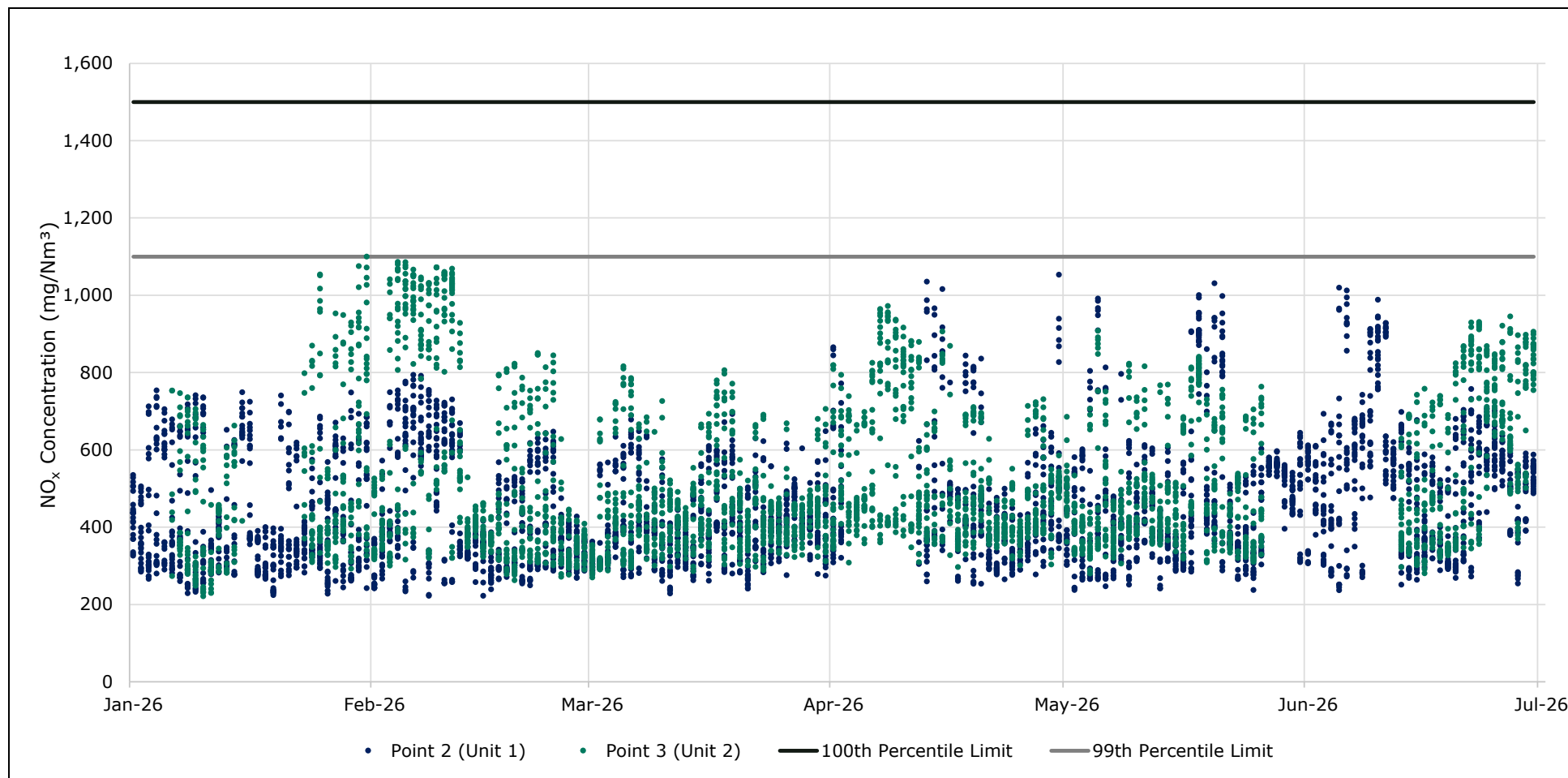
2.2.1 CEMS RESULTS SUMMARY

The FY26H2 CEMS monitoring results are summarised in **Table 2-3** and presented in **Figure 2-1** to **Figure 2-7**. Data is not reported for times when the generators are not operational, which includes maintenance outages in April and May.

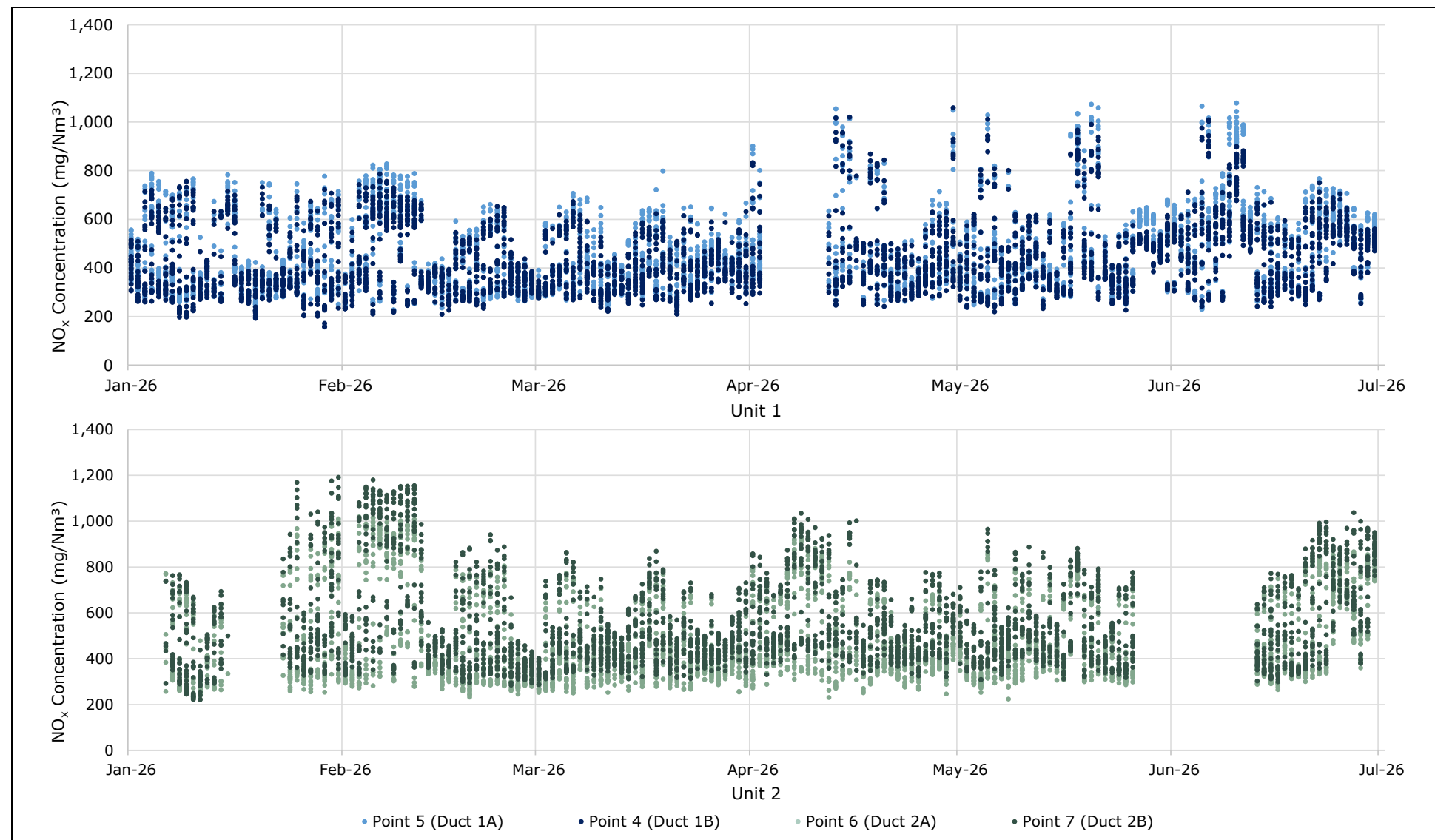
For NO_x and SO₂, compliance was achieved with the limits set for the 100th and 99th percentile concentration at the monitoring points. The NO_x concentrations are distributed broadly between 250 mg/Nm³ and 1,100 mg/Nm³, while the SO₂ concentrations are more concentrated between 800 mg/Nm³ and 1,300 mg/Nm³.

The moisture is generally between 4% and 9% for both boilers. The discharge oxygen range between approximately 7% and 14% with higher oxygen contents observed at lower boiler loads.

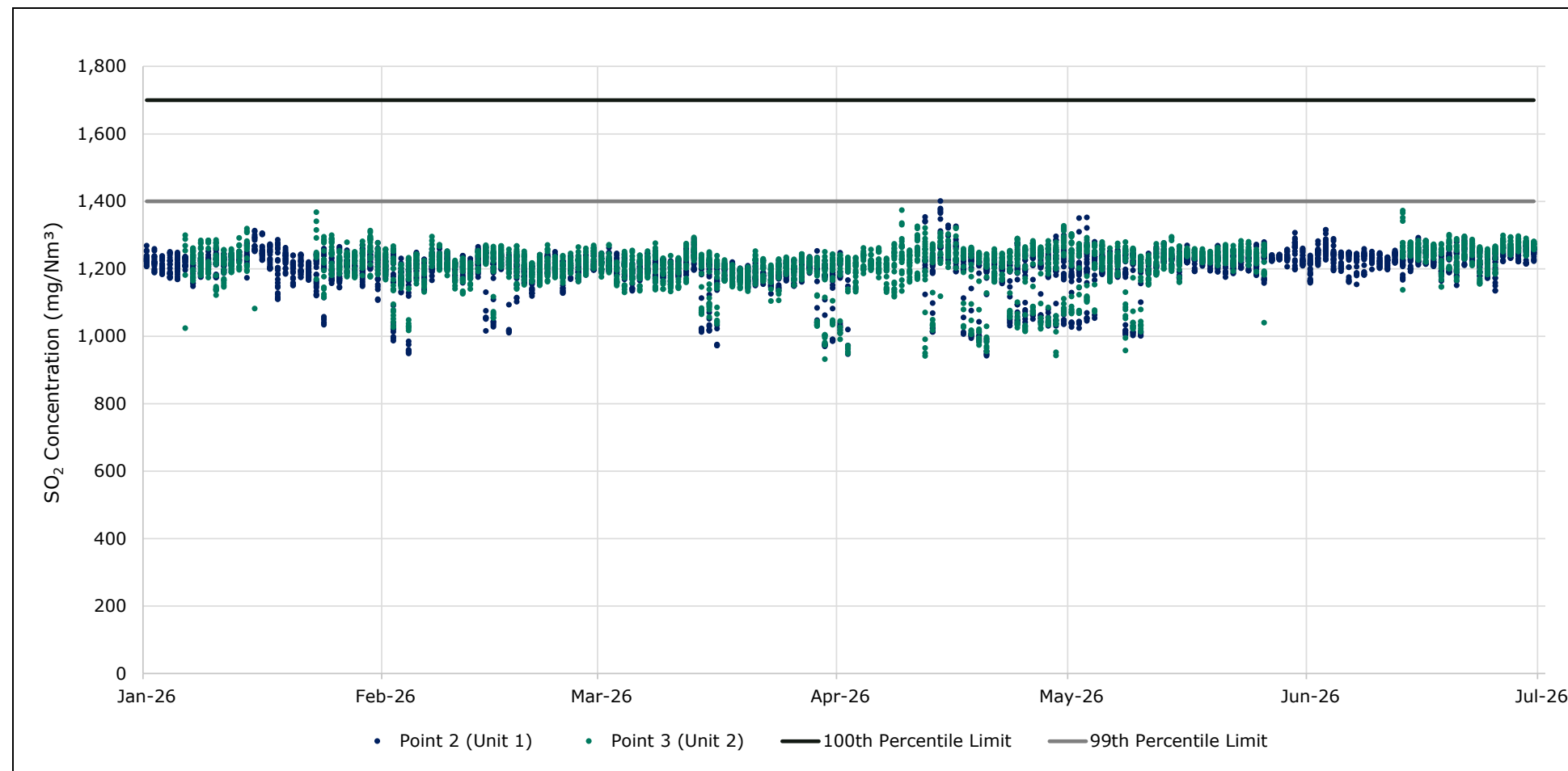
The discharge temperatures are mostly between 100°C and 140°C, with some lower temperatures of ~60°C observed close to start-up of the units. With the exception of SO₂, these parameters vary with unit load, which is shown in **Figure 2-8**.

FIGURE 2-1 CEMS RESULTS – NO_x (POINT 2 AND 3)

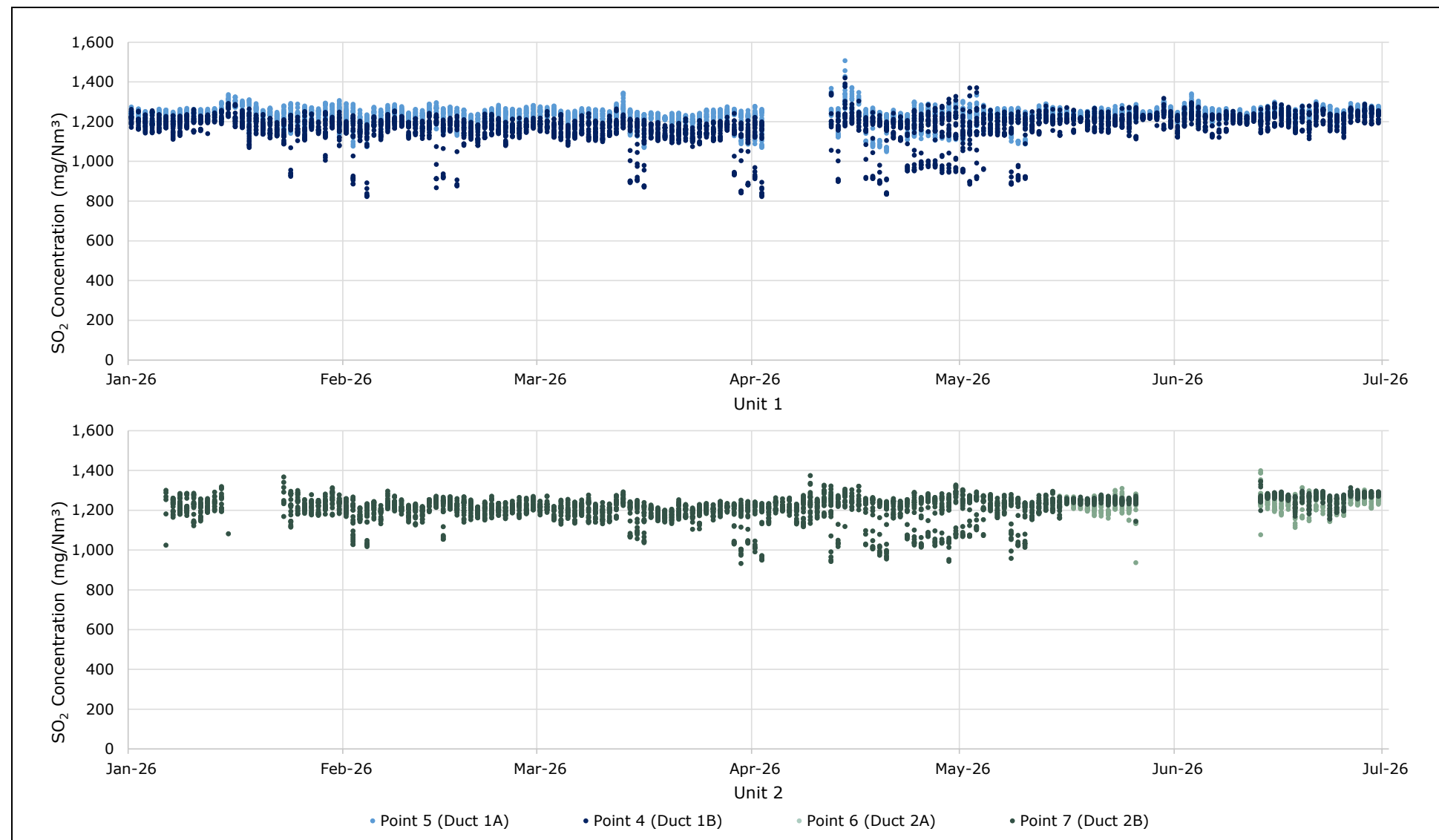
Note: All measurements shown at 7% O₂, dry. Hourly data shown at a horizontal resolution of 1 day.

FIGURE 2-2 CEMS RESULTS – NO_x (POINT 4, 5, 6 AND 7)

Note: All measurements shown at 7% O₂, dry. Hourly data shown at a horizontal resolution of 1 day.

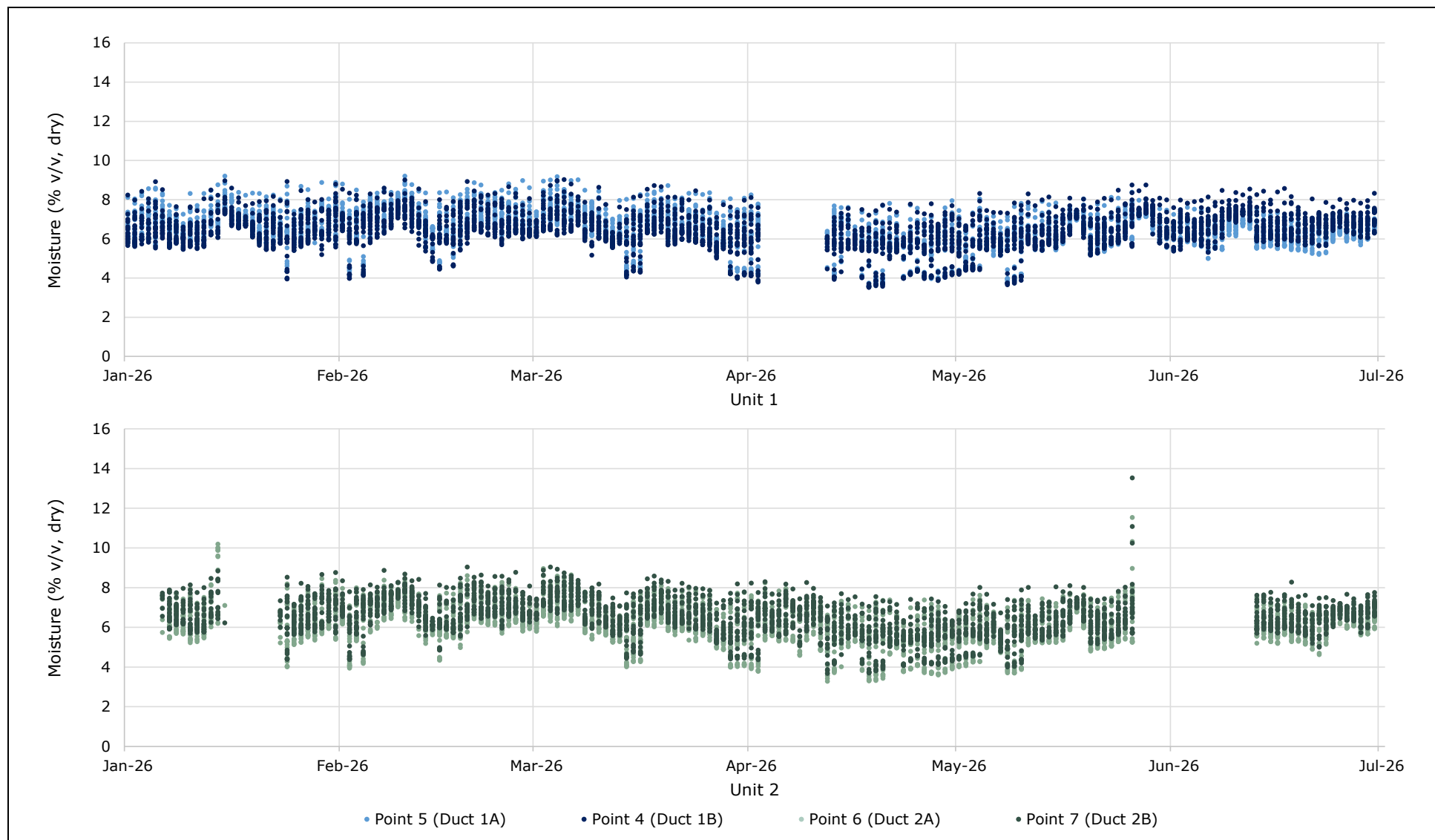
FIGURE 2-3 CEMS RESULTS – SO₂ (POINT 2 AND 3)

Note: All measurements shown at 7% O₂, dry. Hourly data shown at a horizontal resolution of 1 day.

FIGURE 2-4 CEMS RESULTS – SO₂ (POINT 4, 5, 6 AND 7)

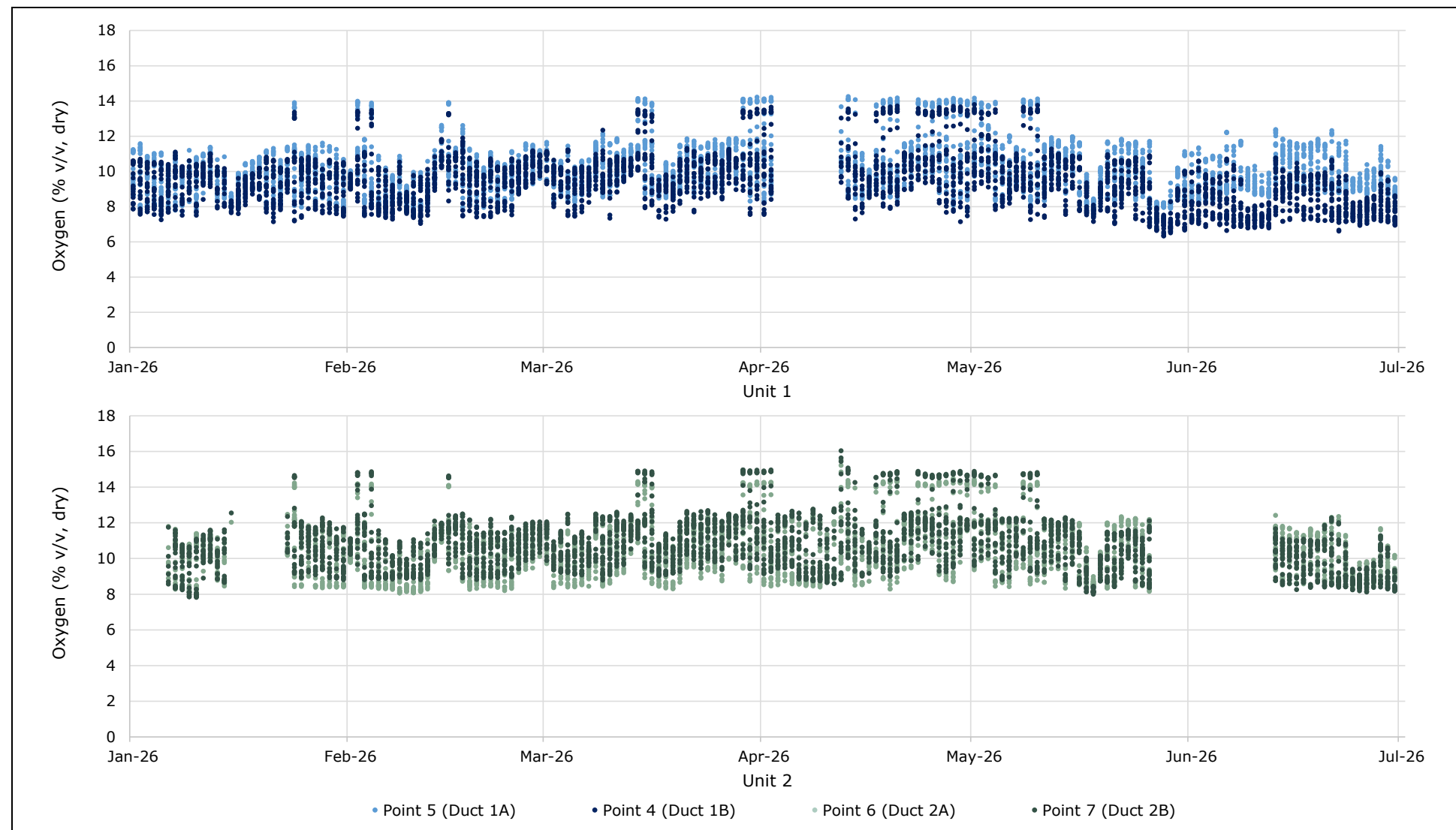
Note: All measurements shown at 7% O₂, dry. Hourly data shown at a horizontal resolution of 1 day.

FIGURE 2-5 CEMS RESULTS – MOISTURE (POINT 4, 5, 6 AND 7)



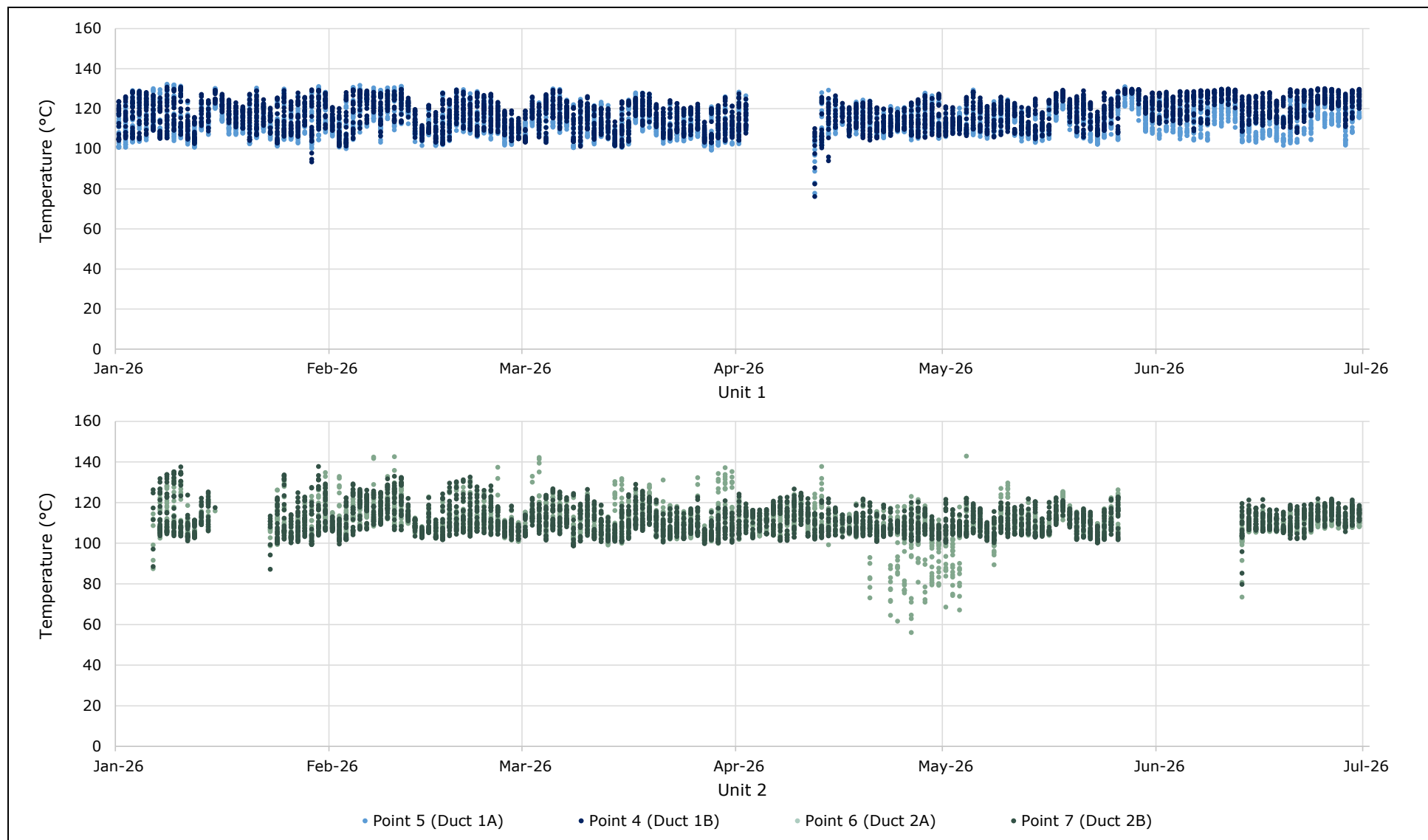
Note: Hourly data shown at a horizontal resolution of 1 day.

FIGURE 2-6 CEMS RESULTS – OXYGEN (POINT 4, 5, 6 AND 7)



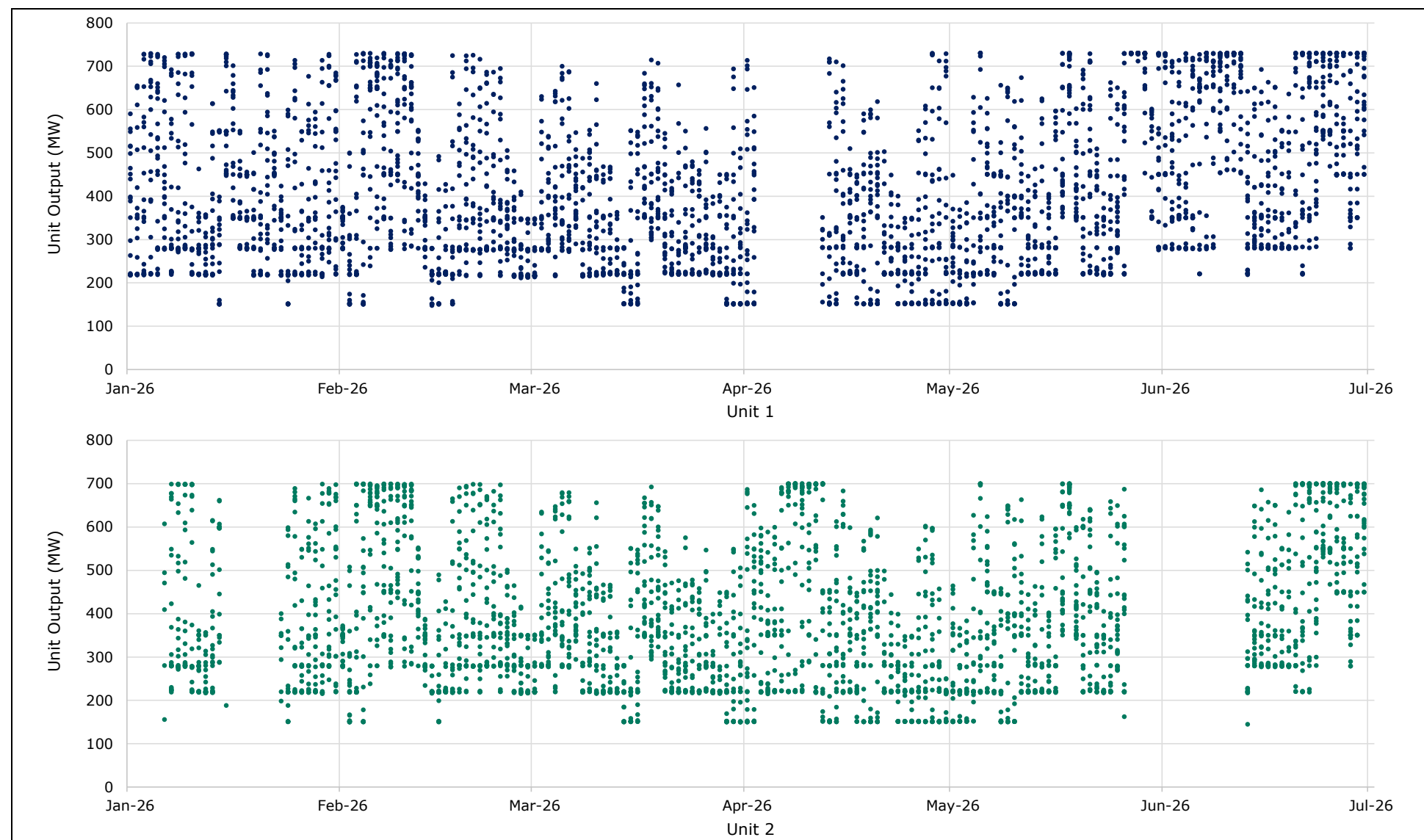
Note: Hourly data shown at a horizontal resolution of 1 day.

FIGURE 2-7 CEMS RESULTS – TEMPERATURE (POINT 4, 5, 6 AND 7)



Note: Hourly data shown at a horizontal resolution of 1 day.

FIGURE 2-8 CEMS RESULTS – LOAD (MW)



Note: Hourly data shown at a horizontal resolution of 1 day.

TABLE 2-3 SUMMARY OF FY26H2 CEMS RESULTS

Monitoring Point	Data Capture ^a	Statistic						Compliance	
		Minimum	Average	Maximum	50 th Percentile	70 th Percentile	99 th Percentile	100 th Percentile Concentration Limit	99 th percentile Concentration Limit
NO _x (mg/Nm ³) – 1-hour average									
Point 2 (Unit 1)	98.8%	222	449	1,053	403	516	929	✓	✓
Point 3 (Unit 2)	98.8%	221	511	1,100	445	544	1,044	✓	✓
Point 5 (Unit 1A)	98.8%	226	461	1,078	412	528	982	N/A	
Point 4 (Unit 1B)	98.8%	157	436	1,058	396	500	891		
Point 6 (Unit 2A)	98.8%	222	474	1,024	404	509	976		
Point 7 (Unit 2B)	98.8%	220	548	1,191	485	601	1,118		
SO ₂ (mg/Nm ³) – 1-hour average									
Point 2 (Unit 1)	98.8%	942	1,204	1,400	1,214	1,230	1,289	✓	✓
Point 3 (Unit 2)	98.8%	932	1,212	1,373	1,222	1,242	1,298	✓	✓
Point 5 (Unit 1A)	98.8%	1,049	1,234	1,507	1,240	1,251	1,316	N/A	
Point 4 (Unit 1B)	98.8%	823	1,174	1,420	1,189	1,211	1,279		
Point 6 (Unit 2A)	98.8%	932	1,210	1,399	1,219	1,239	1,299		
Point 7 (Unit 2B)	98.8%	932	1,214	1,373	1,224	1,246	1,299		
Moisture (%)									
Point 5 (Unit 1A)	98.8%	3.6	6.6	9.2	6.6	7.0	8.5	N/A	
Point 4 (Unit 1B)	98.8%	3.5	6.4	9.0	6.4	6.9	8.3		
Point 6 (Unit 2A)	98.8%	3.3	6.2	11.5	6.2	6.7	8.2		
Point 7 (Unit 2B)	98.8%	3.7	6.5	13.5	6.5	7.0	8.4		

Monitoring Point	Data Capture ^a	Statistic						Compliance	
		Minimum	Average	Maximum	50 th Percentile	70 th Percentile	99 th Percentile	100 th Percentile Concentration Limit	99 th percentile Concentration Limit
O ₂ (%)									
Point 5 (Unit 1A)	98.8%	7.7	10.1	14.3	9.9	10.8	14.0	N/A	
Point 4 (Unit 1B)	98.8%	6.3	9.4	13.8	9.4	10.2	13.5		
Point 6 (Unit 2A)	98.8%	8.1	10.5	15.5	10.5	11.4	14.3		
Point 7 (Unit 2B)	98.8%	7.8	10.7	16.0	10.6	11.4	14.9		
Temperature (°C)									
Point 5 (Unit 1A)	98.8%	78	114	132	113	118	130	N/A	
Point 4 (Unit 1B)	98.8%	76	117	131	117	122	129		
Point 6 (Unit 2A)	98.3%	56	110	143	110	113	131		
Point 7 (Unit 2B)	98.8%	80	111	138	109	114	131		

Notes:

- ^a Data capture calculation based on periods of operation at loads of greater than 150 MW. Periods when the boilers are out of service are excluded.
- N/A: Not Applicable.

2.2.2 CEMS QUALITY ASSURANCE AND CONTROL PROCEDURES

Condition E2.1 requires an implemented CEMS Quality Assurance and Quality Control Procedure. The document *ENERGYAUSTRALIA NSW Mt Piper Power Station – Continuous Emissions Monitoring Plan Quality Assurance and Control Procedures* (HRL, 2022) ('the Procedures') was compared with the requirements of Condition E2.1 in **Table 2-4**.

TABLE 2-4 NSW EPA EPL13007 CONDITION – E2 CONTINUOUS EMISSIONS MONITORING SYSTEMS QUALITY ASSURANCE AND CONTROL PROCEDURES

E2	Continuous Emissions Monitoring Systems Quality Assurance and Control Procedures	Review
E2.1	<i>The licensee must implement and maintain a CEMS quality assurance (QA) and quality control (QC) procedure which enables the evaluation of the quality of data produced by any CEMS monitoring required by conditions of this licence. As a minimum, the CEMS QA/QC procedure must describe in detail the following:</i>	EnergyAustralia has provided the Procedure for ERM to review.
	<i>a) calibration and adjustment measures;</i>	Detailed in section 8 of the Procedure.
	<i>b) preventive maintenance measures (including spare parts inventory);</i>	Detailed in section 9 of the Procedure.
	<i>c) data handling, recording and calculation procedures;</i>	Detailed in section 10.3 of the Procedure.
	<i>d) processes for evaluating, verifying and reporting monitoring data;</i>	Detailed in section 11.2 of the Procedure.
	<i>e) accuracy audit measures including sampling and analysis methods;</i>	Detailed in section 11.3 of the Procedure.
	<i>f) fault identification and corrective action measures; and</i>	Detailed in section 11.4 of the Procedure.
	<i>g) process for ongoing review and evaluation of the effectiveness of the CEMS QA/QC procedures</i>	Detailed in section 12 of the Procedure.

The CEMS quality assurance and quality control reporting has been reviewed and demonstrates compliance with the Procedures. The procedures require completion of the following audit measures:

- Quarterly cylinder gas audits.
- Quarterly Relative Accuracy Audit (RAA) / Relative Accuracy Test Audit (RATA) processes.

ERM has been provided with cylinder gas audit documentation:

- Group Instrumentation 2026a, *Cylinder Gas Audit, Mt Piper Power Station Unit 1 Duct A*, Group Instrumentation Pty Ltd, 14 January 2026;
- Group Instrumentation 2026b, *Cylinder Gas Audit, Mt Piper Power Station Unit 1 Duct B*, Group Instrumentation Pty Ltd, 14 January 2026;
- Group Instrumentation 2026c, *Cylinder Gas Audit, Mt Piper Power Station Unit 2 Duct A*, Group Instrumentation Pty Ltd, 14 January 2026;
- Group Instrumentation 2026d, *Cylinder Gas Audit, Mt Piper Power Station Unit 2 Duct B*, Group Instrumentation Pty Ltd, 14 January 2026;
- Group Instrumentation 2026e, *Cylinder Gas Audit, Mt Piper Power Station Unit 1 Duct A*, Group Instrumentation Pty Ltd, 15 April 2026;

- Group Instrumentation 2026f, *Cylinder Gas Audit, Mt Piper Power Station Unit 1 Duct B*, Group Instrumentation Pty Ltd, 15 April 2026;
- Group Instrumentation 2026g, *Cylinder Gas Audit, Mt Piper Power Station Unit 2 Duct A*, Group Instrumentation Pty Ltd, 15 April 2026; and
- Group Instrumentation 2026h, *Cylinder Gas Audit, Mt Piper Power Station Unit 2 Duct B*, Group Instrumentation Pty Ltd, 15 April 2026.

ERM has also been provided with the following RAA test reporting:

- Ektimo 2026a, *Relative Accuracy Audit, Service Stream Limited*, Report R019895, EnergyAustralia NSW Pty Ltd, Mt Piper Power Station, Ektimo Pty Ltd, 3 March 2026; and
- Ektimo 2026d, *Relative Accuracy Audit, Service Stream Limited*, Report R20270, EnergyAustralia NSW Pty Ltd, Mt Piper Power Station, Ektimo Pty Ltd, 27 May 2026.

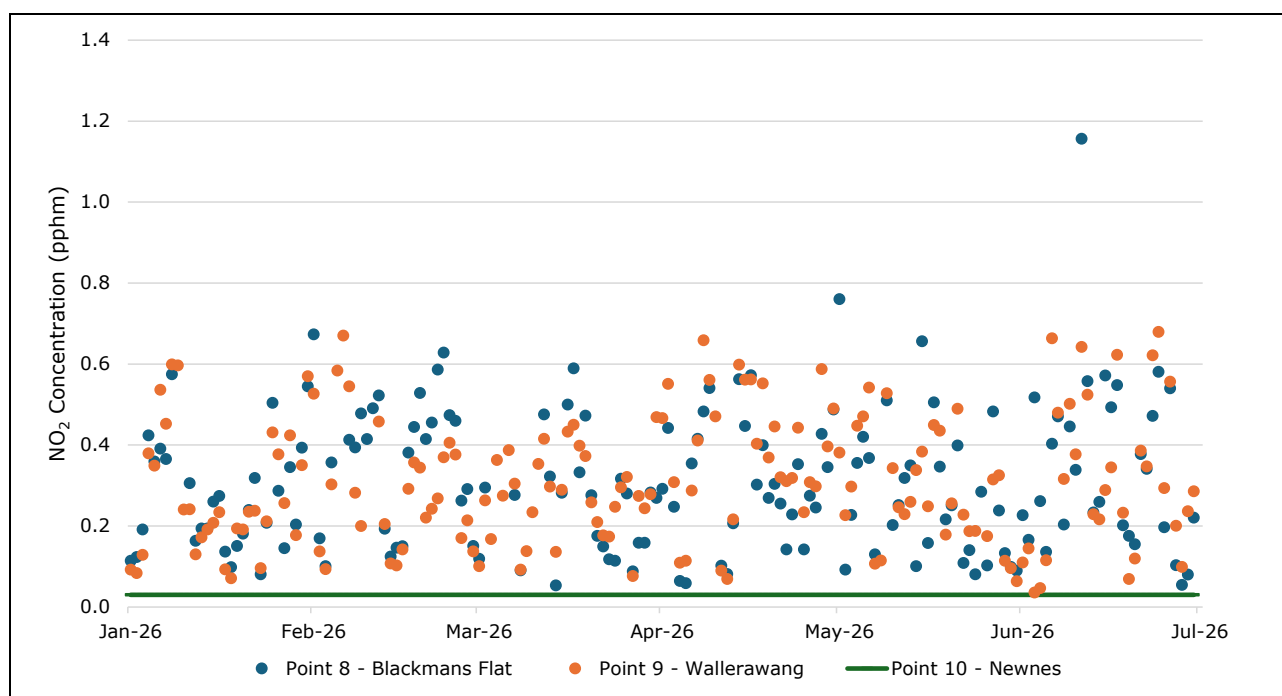
2.3 AMBIENT AIR MONITORING

As shown in **Table 1-2**, ambient air monitoring is required at three locations:

- Point 8 (Blackmans Flat);
- Point 9 (Wallerawang); and
- Point 10 (Newnes Plateau).

The ambient air monitoring results for the reporting period are summarised in **Table 2-6** and presented in **Figure 2-9** to **Figure 2-11**.

FIGURE 2-9 AMBIENT MONITORING RESULTS – NO₂



Note: Point 10 results below the limit of reporting (LOR) have been shown at half of the LOR (all results < LOR).

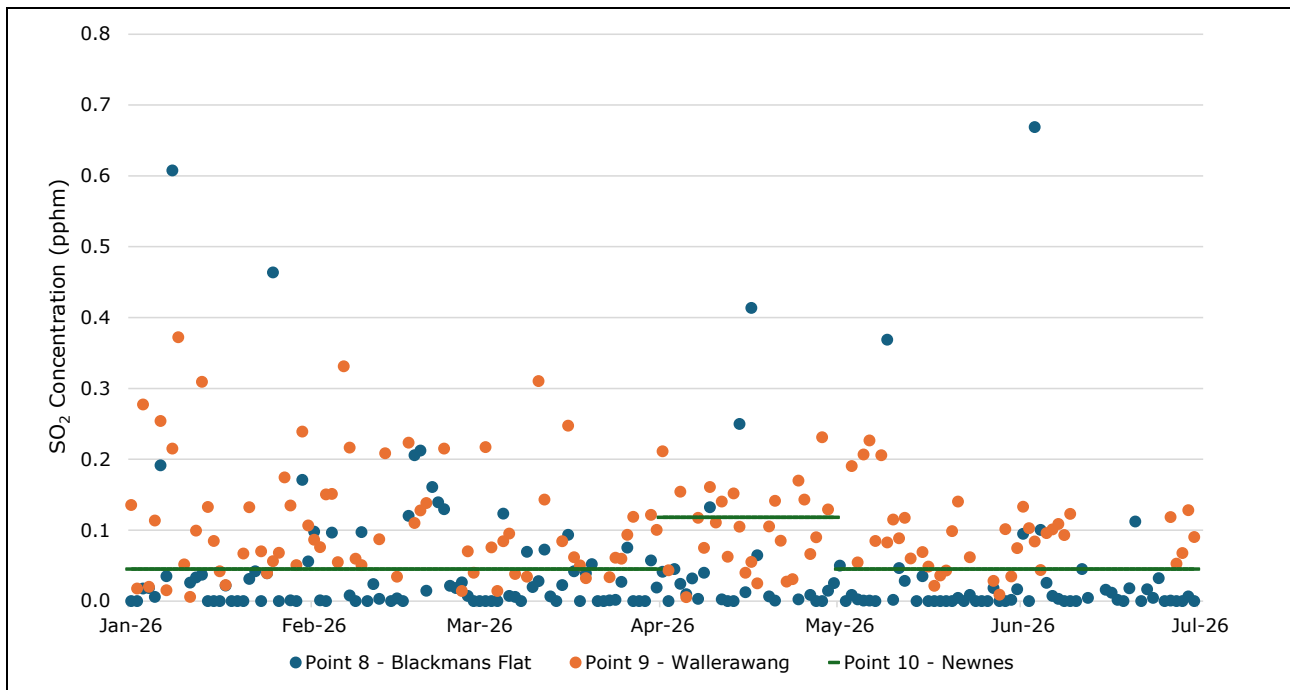
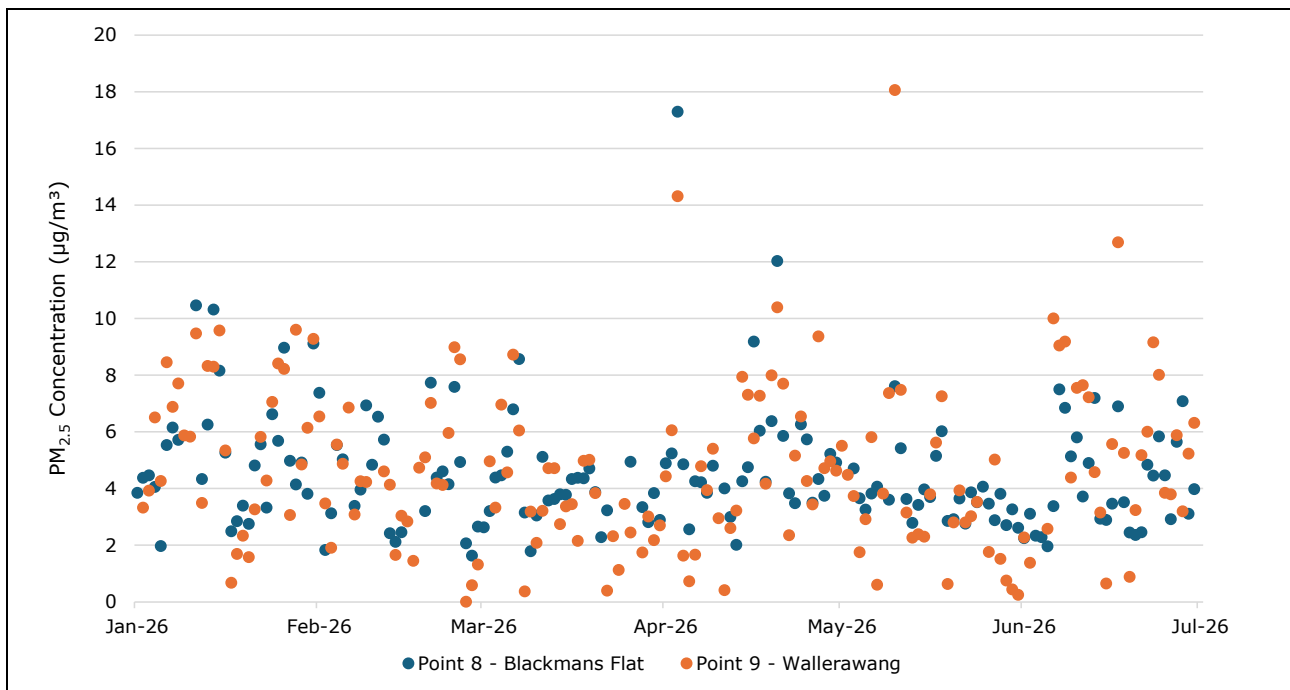
FIGURE 2-10 AMBIENT MONITORING RESULTS – SO₂FIGURE 2-11 AMBIENT MONITORING RESULTS – PM_{2.5}

TABLE 2-5 SUMMARY OF FY26H2 AMBIENT MONITORING RESULTS

Pollutant	Average Period	Unit of Concentration	Data Capture	Concentration Statistic					
				Minimum	Average	Maximum	50 th percentile	70 th percentile	99 th percentile
Point 8 (Blackmans Flat)									
Nitrogen dioxide	1-hour	pphm	95%	0.0	0.3	6.6*	0.2	0.4	1.4
	24-hour		93%	0.1	0.3	1.2	0.3	0.4	0.7
Sulfur dioxide	1-hour		98%	-0.1	0.0	5.5	0.0	0.0	0.9
	24-hour		97%	-0.1	0.0	0.7	0.0	0.0	0.5
PM _{2.5}	24-hour	µg/m ³	92%	1.6	4.5	17.3	4.1	4.9	11.0
Fluoride	7 days		100%	0.006	0.013	0.029	0.010	0.013	0.013
	30 days		100%	0.008	0.013	0.018	0.013	0.015	0.015
	90 days		100%	0.011	0.013	0.014	0.013	0.013	0.013
Point 9 (Wallerawang)									
Nitrogen dioxide	1-hour	pphm	98%	0.0	0.3	2.6	0.2	0.4	1.3
	24-hour		98%	0.0	0.3	0.7	0.3	0.4	0.7
Sulfur dioxide	1-hour		89%	-0.2	0.1	2.8	0.1	0.1	0.7
	24-hour		90%	-0.2	0.1	0.4	0.1	0.1	0.3
PM _{2.5}	24-hour	µg/m ³	98%	-0.8	4.5	18.1	4.2	5.8	13.1
Point 10 (Newnes Plateau)									
Nitrogen dioxide	1 month	pphm	100%	0.030	0.030	0.030	0.030	0.030	0.030
Sulfur dioxide	1 month		100%	0.045	0.057	0.118	0.045	0.045	0.118

Notes: "<" – Less than LOR. Average and percentile values incorporate values less than the LOR at half of the LOR. *Peak value noted as suspect. EnergyAustralia are enquiring with the monitoring contractor to resolve.

2.4 COMPLIANCE REVIEW

Compliance against monitoring requirements (EPL Condition M2.2) and air concentration limits (EPL Condition L3.2 and L3.4) has been reviewed and is summarised in **Table 2-6**.

TABLE 2-6 SUMMARY OF MONITORING REQUIREMENTS AND LIMIT COMPLIANCE REVIEW

Pollutant	Compliance			Comments
	Monitoring Frequency	Monitoring Method	Concentration Limit	
Point 2,3				
Cadmium	✓	✓	✓	-
Chlorine	✓	✓	✓	
Fluorine	✓	✓	✓	
Hydrogen chloride	✓	✓	✓	
Mercury	✓	✓	✓	
Nitrogen oxides	✓	✓	✓	
Solid particles	✓	✓	✓	
Sulfur dioxide	✓	✓	✓	
Sulfuric acid mist and sulfur trioxide (as SO ₃)	✓	✓	✓	
Type 1 and Type 2 substances in aggregate	✓	✓	✓	
Volatile organic compounds as n-propane equivalent	✓	✓	✓	
Point 4,5,6,7				
Cadmium	✓	✓	N/A	-
Flow rate	N/A	N/A	N/A	
Mercury	✓	✓	N/A	
Moisture	✓	✓	N/A	
Nitrogen oxides	✓	✓	N/A	
Oxygen (O ₂)	✓	✓	N/A	
Solid particles	✓	✓	N/A	
Sulfur dioxide	✓	✓	N/A	
Temperature	✓	✓	N/A	
Type 1 and Type 2 substance in aggregate	✓	✓	N/A	
Point 4,6				
Carbon dioxide	✓	✓	N/A	-
Chlorine	✓	✓	N/A	
Fluorine	✓	✓	N/A	
Hydrogen chloride	✓	✓	N/A	
Sulfuric acid mist and sulfur trioxide (as SO ₃)	✓	✓	N/A	
Volatile organic compounds as n-propane equivalent	✓	✓	N/A	

Pollutant	Compliance			Comments
	Monitoring Frequency	Monitoring Method	Concentration Limit	
Point 8				
Fluoride	✓	✓	N/A	-
Point 8,9				
Nitrogen dioxide	✓	✓	N/A	-
PM _{2.5}	✓	✓	N/A	
Sulfur dioxide	✓	✓	N/A	
Point 10				
Nitrogen dioxide	✓	✓	N/A	-
Sulfur dioxide	✓	✓	N/A	

2.4.1 EXCEEDANCES OF AIR EMISSION LIMITS AND PLANT OPERATING CONDITIONS AT THE TIME

No exceedances of air emission limits were reported during the reporting period.

2.4.2 SUMMARY OF EMISSION REDUCTION MEASURES

MPPS continued to conduct boiler upgrades and tuning during the reporting period, which is a continuous optimisation process. This has involved the following:

- Ongoing study of the boiler tune with continual engineering input and monitoring of the results of differing mill combinations across varying load ranges;
- Additional automation of Over Air dampers was installed and commissioned;
- The Unit 2 A-mill was placed on extended maintenance, thus providing a lower NO_x mill combination at full load for 4 months; and
- In April 2026 a Contractor was engaged to test milling plant and report on potential NO_x reduction strategies.

A major outage has been commenced for Unit 2 with several NO_x reduction works being executed including:

- Inner and outer burner replacement to OEM specification;
- Secondary Gas damper replacement;
- Air Register stroking and maintenance;
- Air Heater and air/ gas duct maintenance;
- Installation of burner shrouds to increase localised air velocities, enable better flame swirl control and increase air to over air ports; and
- Boiler tuning by an External Contractor to maximise the benefit of burner shrouds.

Mt. Piper is currently undertaking a comprehensive options analysis and business case to address emission limits proposed under the Protection of the Environment Operations (Clean Air) Regulation 2022.

3. HISTORICAL AIR EMISSION MONITORING REVIEW

Condition R2.1(b) requires an analysis of the boilers' emissions performance for the past five years. The historical analysis was completed for the pollutants listed in Condition M2.2. The data used for the historical analysis were sourced from annual returns, stack testing, CEMS data and ambient air monitoring and have been reported at dry, 0°C, 101.325 kPa conditions, corrected to 7% O₂.

3.1 HISTORICAL FUEL USAGE

MPPS has combusted black coal as the primary fuel with supplementary firing using fuel oil during start-up operations for at least the past ten years.

Monthly amounts of coal burnt and average coal analysis for the reporting period are shown in **Table 3-1**. The stack tests for the reporting period were performed in January and April, as shown in **bold font** in **Table 3-1**. While there is variability in the coal quality, the quality of coal burnt during the stack testing did not favour any specific conditions and is considered to be representative of typical coal properties for coal used at MPPS.

The long-term trends of the coal consumption and coal quality are presented in **Figure 3-1** to **Figure 3-3**. The data show the monthly coal consumption variations over the past five years. Coal consumption typically peaks in the winter months (June, July and August). The coal quality has been generally stable over the past five years, especially for carbon, ash, sulfur, nitrogen and hydrogen percentages. The moisture and oxygen contents show more variation. Based on the review of the coal composition during FY26H2 and the long-term trends of coal quality, the coal quality during stack testing is considered to be representative of typical conditions.

TABLE 3-1 MONTHLY COAL CONSUMED AND COAL ANALYSIS – FY26H2

Month	Coal Burn (t)	Average Coal Analysis							
		As Fired			Dry, Ash-Free (DAF)				
		Moisture	Ash	F	S	C	H	N	O
		%	%	ppm	%	%	%	%	%
Jan	181,907	7.2	23.5	118	0.8	82.9	5.3	1.9	9.1
Feb	222,576	8.3	22.7	131	0.8	82.5	5.5	1.9	9.2
Mar	205,549	8.2	22.1	103	0.8	82.2	5.6	2.0	9.5
Apr	172,311	7.9	22.2	113	0.8	82.9	5.6	2.0	8.8
May	213,185	8.7	22.3	121	0.8	82.3	5.6	2.0	9.3
Jun	228,785	8.8	22.3	107	0.8	82.5	5.6	2.0	9.1
Average	204,052	8.2	22.5	116	0.8	82.6	5.5	2.0	9.2
Total	1,224,313	-							

FIGURE 3-1 HISTORICAL MONTHLY COAL BURNT (TONNES)

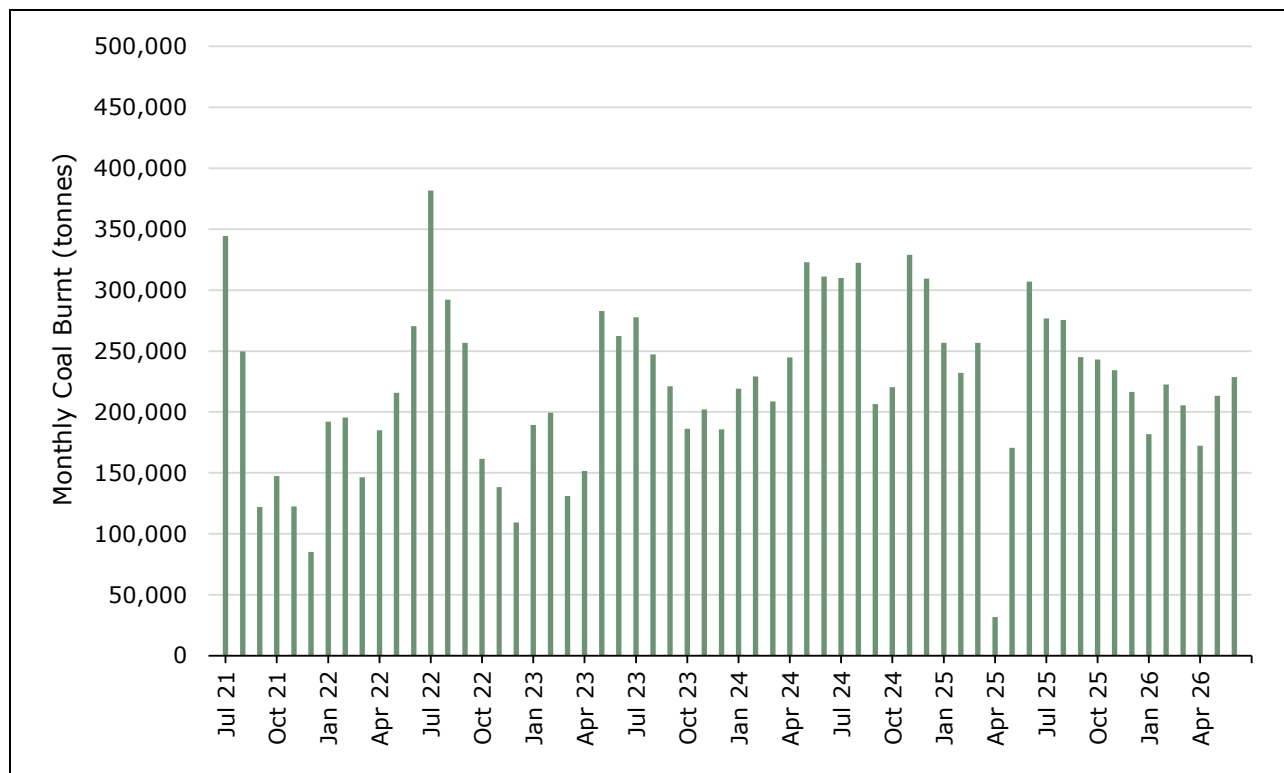


FIGURE 3-2 HISTORICAL COAL ANALYSIS – CARBON AND ASH (%)

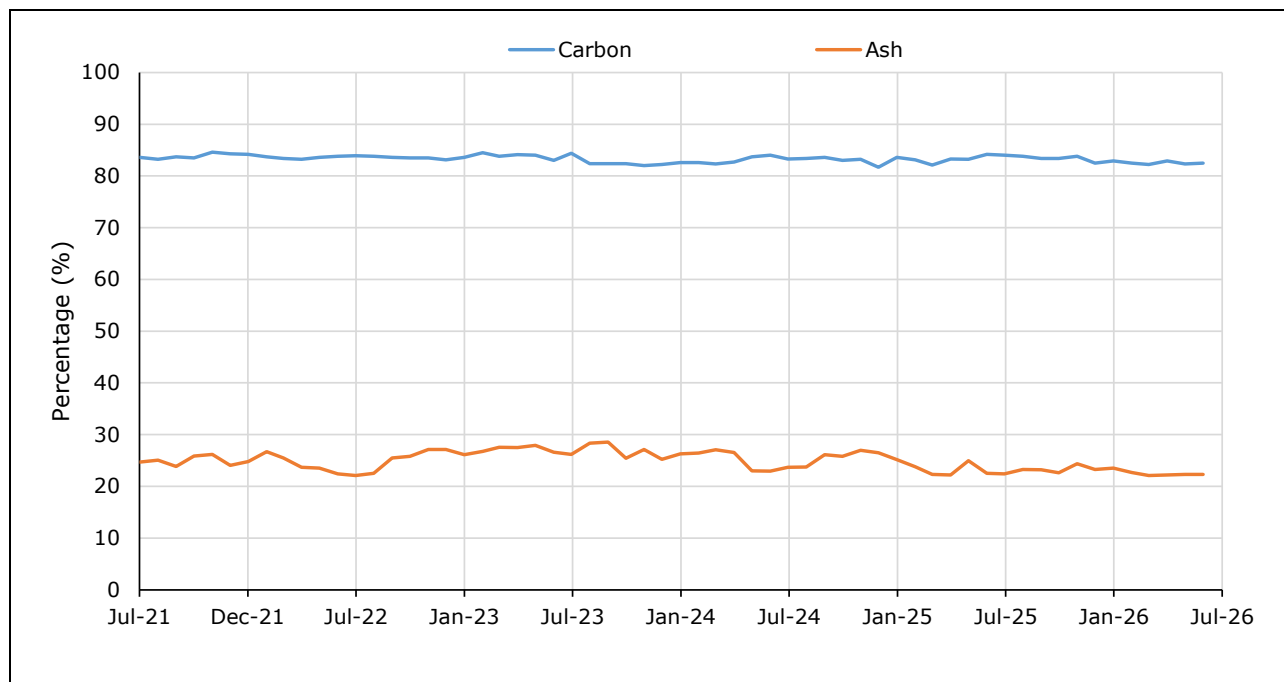
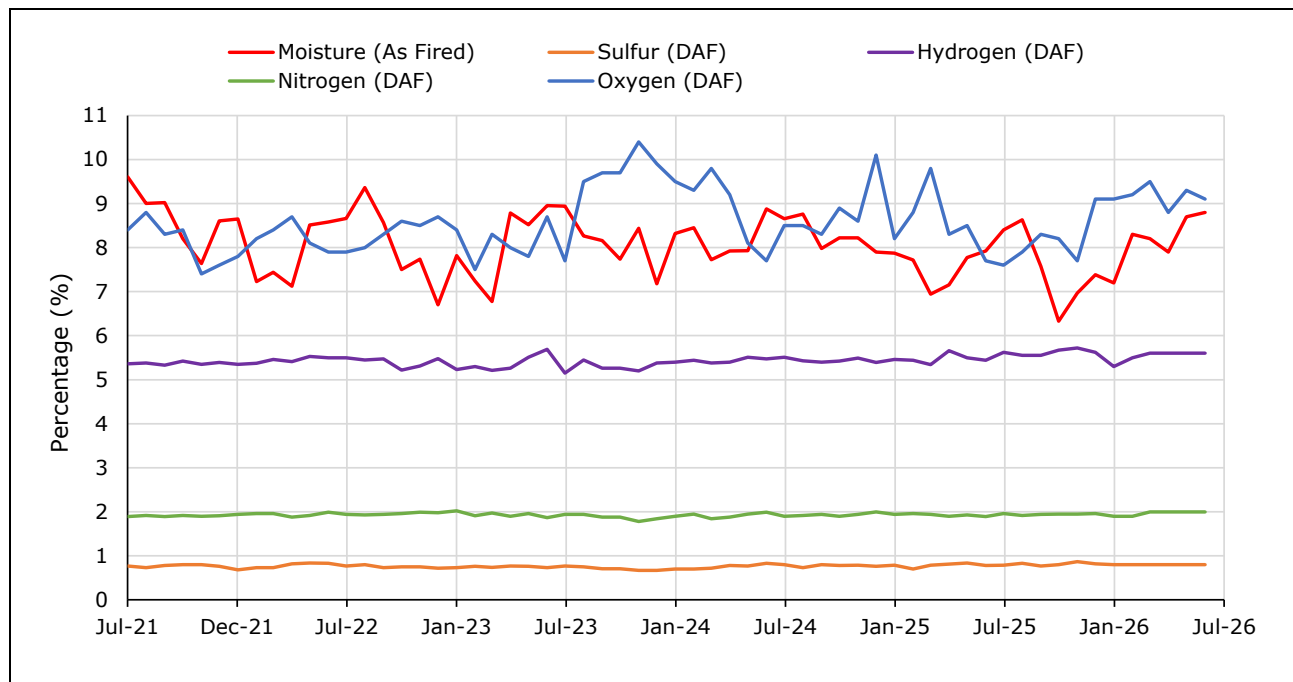


FIGURE 3-3 HISTORICAL COAL ANALYSIS – MOISTURE, SULFUR, HYDROGEN, NITROGEN AND OXYGEN (%)



3.2 COMPARISON WITH HISTORICAL STACK EMISSION MONITORING

The analysis of the historical stack emissions includes review of the fuel usage, stack concentrations (at dry, 0 °C, 101.325 kPa conditions, corrected to 7% O₂), as well as the analysis of correlations with default emission factors and potential coal quality influences. Samples below the LOR have been shown at half of the LOR.

The historical stack test documents reviewed include:

- Ektimo 2021, Quarterly (Q3) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R011365, 13 October 2021;
- Ektimo 2021, Quarterly (Q4) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R011676, 5 January 2022;
- Ektimo 2022, Quarterly (Q1) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R012309, 30 March 2022;
- Ektimo 2022, Quarterly (Q2) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R012769a, 12 July 2022;
- Ektimo 2022, Quarterly (Q3) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R013250, 29 July 2022;
- Ektimo 2022, Quarterly (Q4) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R013593, 25 October 2022;
- Ektimo 2022, Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R013819, 9 November 2022;
- Ektimo 2022, Quarterly (Q4) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R013949, 16 December 2022;
- Ektimo 2023, Quarterly (Q1) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R014323, 5 April 2023;
- Ektimo 2023, Quarterly (Q1) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R014518, 26 April 2023;
- Ektimo 2023, Quarterly (Q3) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R015163, 14 August 2023;
- Ektimo 2023, Quarterly (Q4) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R015826, 30 November 2023; and
- Ektimo 2024, Quarterly (Q2) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R014882a, 15 January 2024.
- Ektimo 2024a, Quarterly (Q1) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R016420, 1 March 2024;
- Ektimo 2024b, Quarterly (Q2) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R016840, 6 June 2024;
- Ektimo 2024c, Quarterly (Q3) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R017264, 12 August 2024;
- Ektimo 2024d, Quarterly (Q4) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R017581, 5 December 2024; and
- Ektimo 2025, Quarterly (Q4) Emission Testing Report – EnergyAustralia NSW Pty Ltd – Mt Piper Power Station. Report number R017581-1a2r, 5 February 2025.

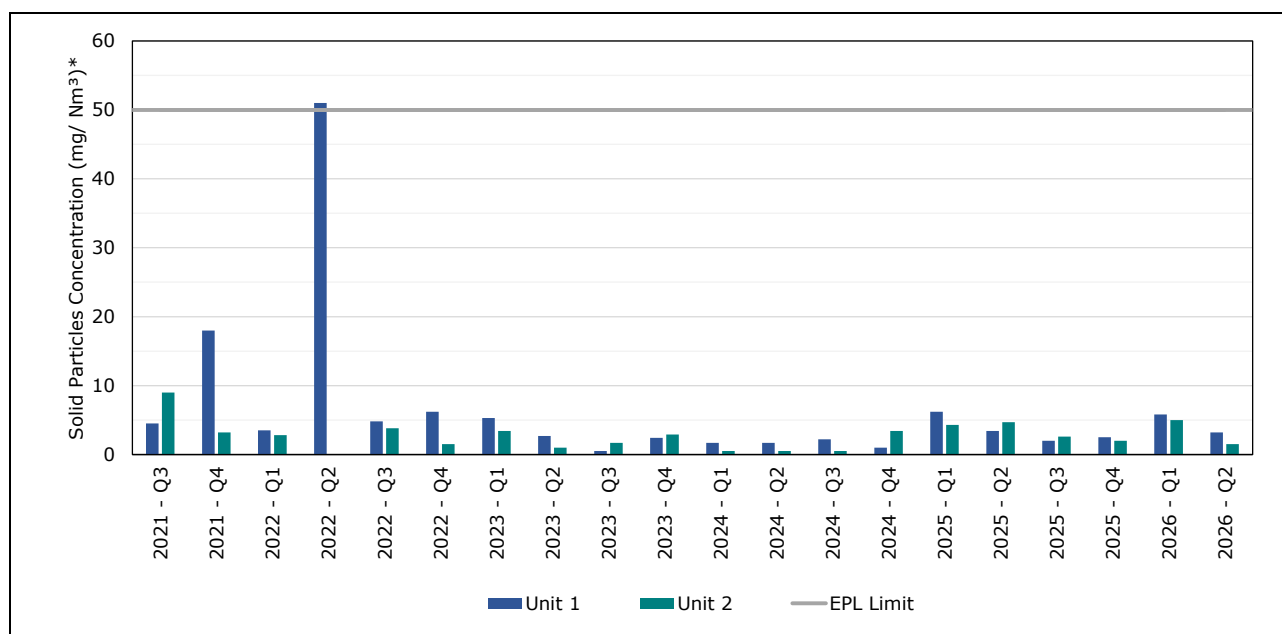
The FY26H2 stack test reports are listed in **Section 2.1** and included in full within **Appendix A**. Prior testing reports are provided within previous AAEMRs.

The charts below present stack test results according to the quarter or half of the calendar year they were collected in. For example, 2026 – Q1 represents stack test results collected between January and March 2026. It is also noted that the first half of the calendar year 2026 ('2026 – H1') is equivalent to the second half of financial year 2026 (i.e. 'FY26H2').

3.2.1 SOLID PARTICLES

Figure 3-4 shows the solid particles concentrations measured across the last 5 years. The solid particles limit is 50 mg/Nm³ in both the current and previous EPL, measured quarterly. Reported concentrations were below the EPL limit during the reporting period.

FIGURE 3-4 2021 – FY26H2 STACK TESTING RESULTS – SOLID PARTICLES

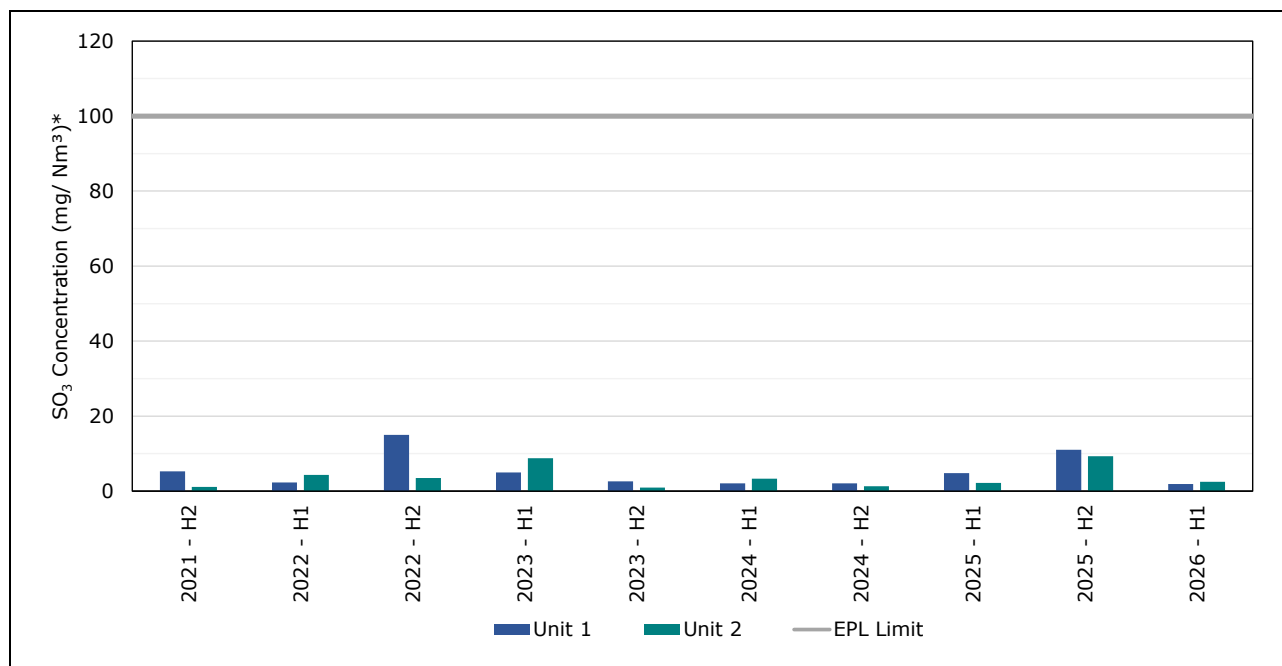


Note: * Dry, 273K, 101.3 kPa, 7% O₂

3.2.2 SULFUR TRIOXIDE/SULFURIC ACID (AS SO₃)

Figure 3-5 shows the sulfur trioxide/sulfuric acid (as SO₃) concentrations measured between July 2021 and June 2026. The sulfur trioxide/sulfuric acid (as SO₃) limit is 100 mg/Nm³ in both the current and previous EPL, measured six-monthly. All reported concentrations were below the EPL limit as shown in **Figure 3-5**.

FIGURE 3-5 2021 – FY26H2 STACK TESTING RESULTS – SULFUR TRIOXIDE AND/OR SULFURIC ACID (AS SO₃)



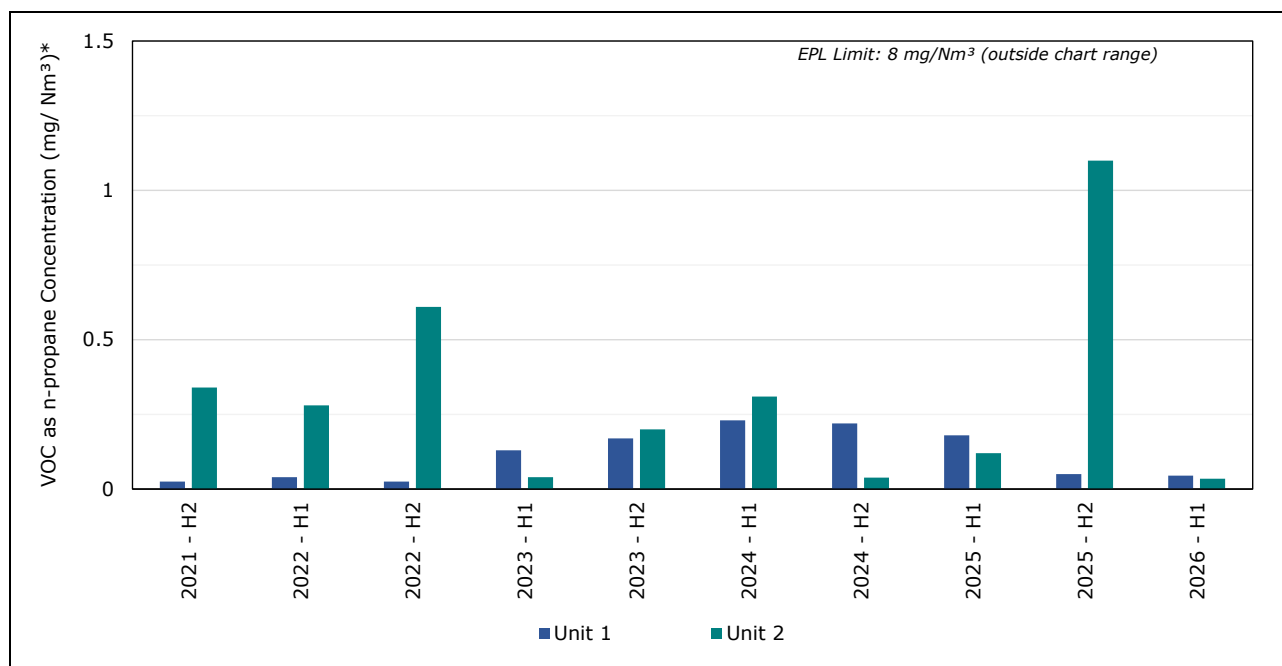
Note: * Dry, 273K, 101.3 kPa, 7% O₂

3.2.3 VOC (AS N-PROPANE)

Figure 3-6 shows VOC concentrations measured between July 2021 and June 2026. The VOC limit reduced from 10 mg/Nm³ to 8 mg/Nm³ in 2024, measured six-monthly. All reported concentrations were below the EPL limit as shown in **Figure 3-6**. Reported concentrations are often below the LOR, which varies based on sampling and analysis conditions, and is commonly in the range of 0.05 – 0.10 mg/Nm³.

These results show variability between samples, with the previous 2025 Unit 2 H2 result being higher than measurements collected during the reporting period.

FIGURE 3-6 2021 – FY26H2 STACK TESTING RESULTS – VOC (AS N-PROPANE)

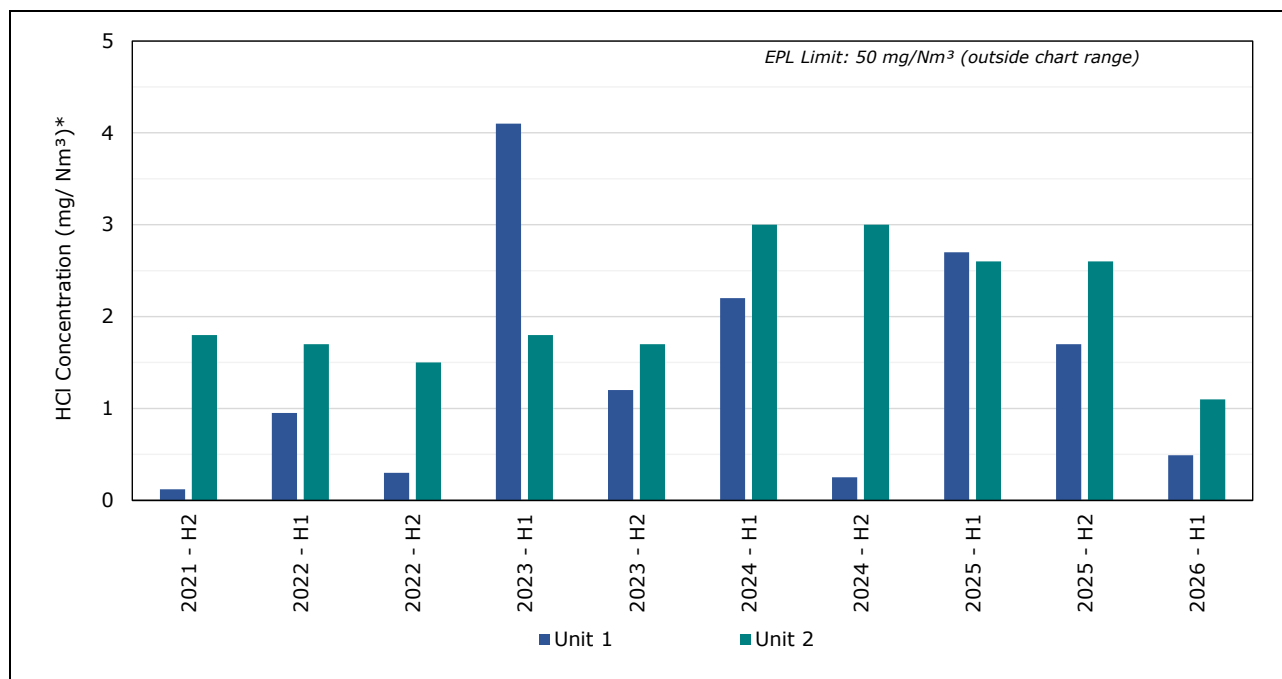


Note: * Dry, 273K, 101.3 kPa, 7% O₂

3.2.4 HYDROGEN CHLORIDE

Figure 3-7 shows hydrogen chloride concentrations measured between July 2021 and June 2026. The hydrogen chloride limit is 50 mg/Nm³ in both the current and previous EPL, measured six-monthly. All reported concentrations were below the EPL limit as shown in **Figure 3-7**.

FIGURE 3-7 2021 – FY26H2 STACK TESTING RESULTS – HYDROGEN CHLORIDE

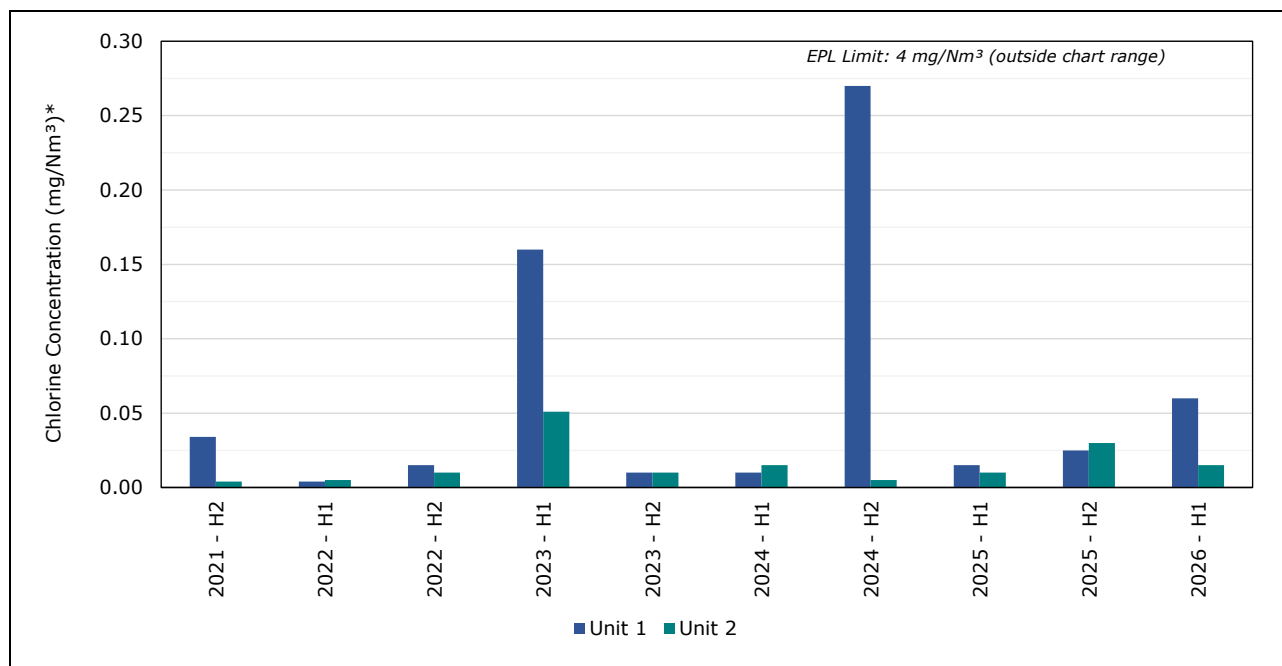


Note: * Dry, 273K, 101.3 kPa, 7% O₂

3.2.5 CHLORINE

Figure 3-8 shows chlorine concentrations measured between July 2021 and June 2026. The chlorine limit reduced from 20 mg/Nm³ to 4 mg/Nm³ in 2024, measured six-monthly. All reported concentrations were well below the EPL limit as shown in **Figure 3-8**. Reported concentrations were commonly below the LOR, which varied based on sampling and analysis conditions, and was commonly less than 0.03 mg/Nm³.

FIGURE 3-8 2021 – FY26H2 STACK TESTING RESULTS – CHLORINE

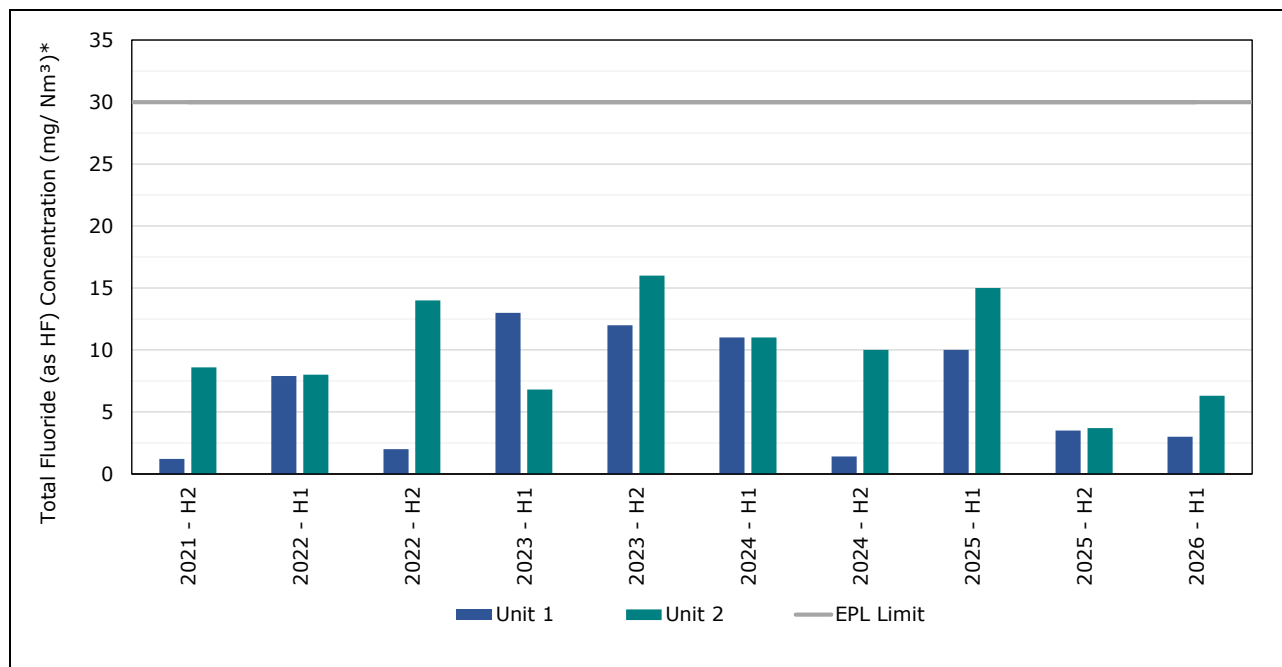


Note: * Dry, 273K, 101.3 kPa, 7% O₂

3.2.6 TOTAL FLUORIDE

Figure 3-9 shows total fluoride concentrations measured between July 2021 and June 2026. The total fluoride limit is 30 mg/Nm³ in both the current and previous EPL, measured six-monthly. All reported concentrations were below the EPL limit as shown in **Figure 3-9**.

FIGURE 3-9 2021 – FY26H2 STACK TESTING RESULTS – TOTAL FLUORIDE

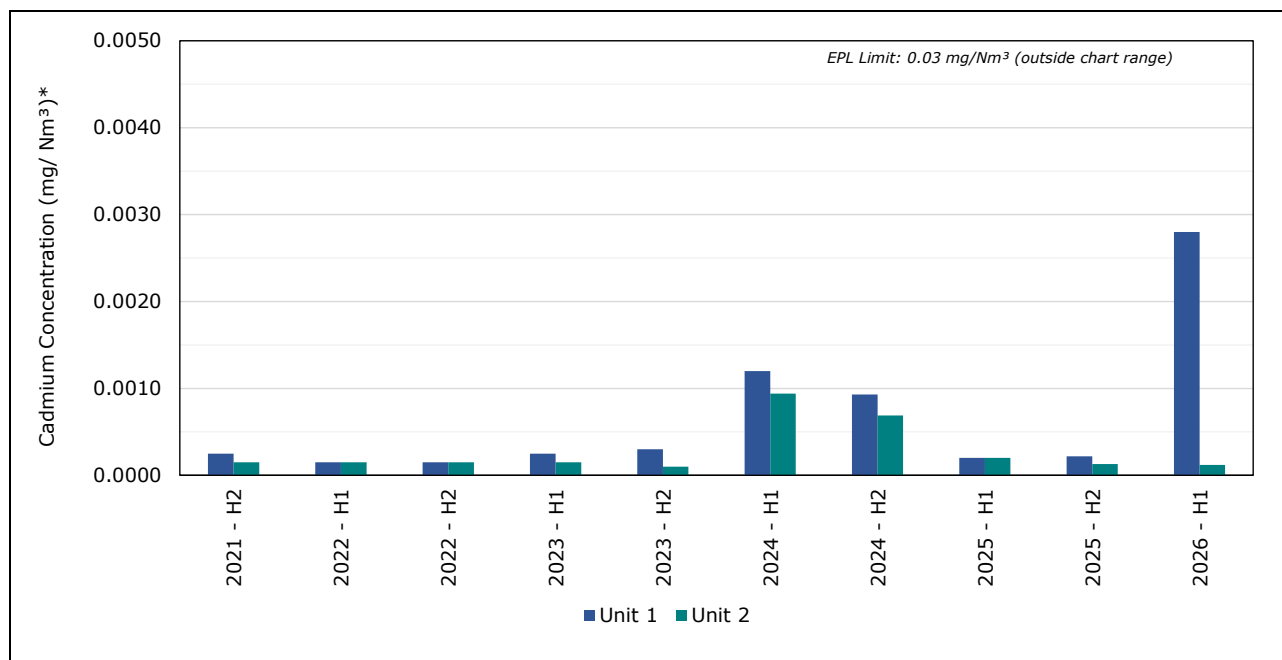


Note: * Dry, 273K, 101.3 kPa, 7% O₂

3.2.7 CADMIUM

Figure 3-10 shows cadmium concentrations measured between July 2021 and June 2026. The cadmium limit reduced from 0.2 mg/Nm³ to 0.03 mg/Nm³ in 2024, measured six-monthly. All reported concentrations were below the EPL limit as shown in **Figure 3-10**. Reported concentrations were commonly below the LOR, which varied based on sampling and analysis conditions, and is commonly less than 0.0006 mg/Nm³.

FIGURE 3-10 2021 – FY26H2 STACK TESTING RESULTS – CADMIUM

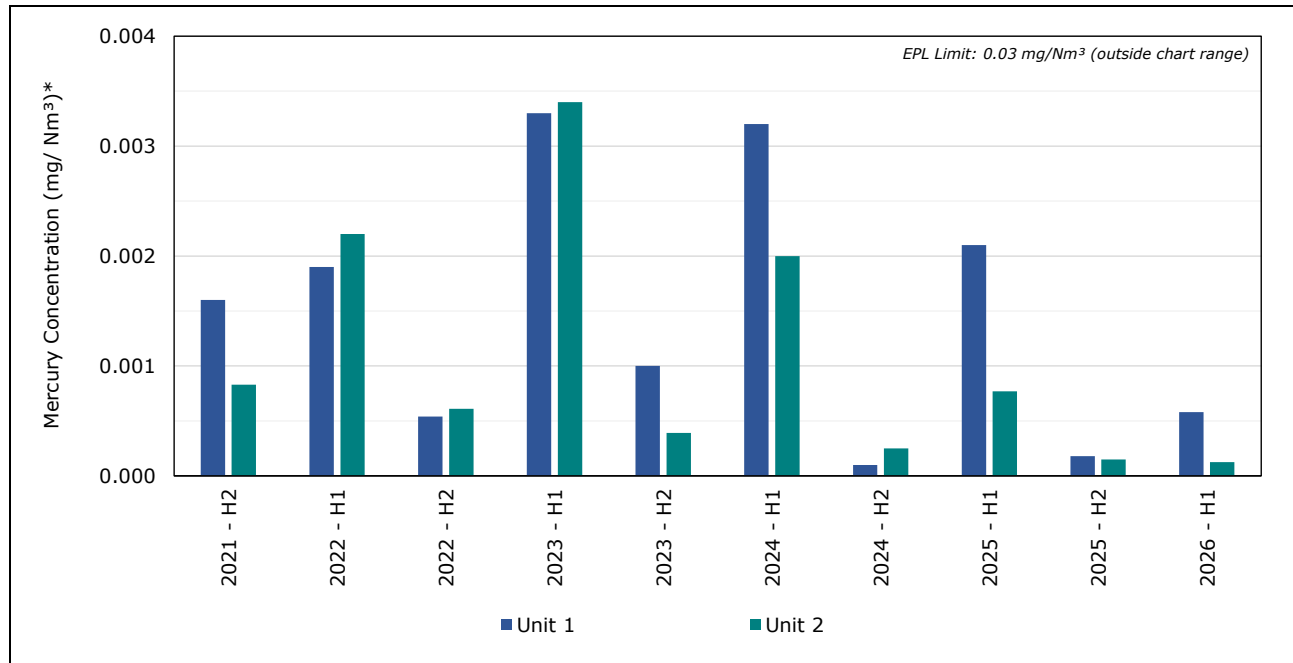


Note: * Dry, 273K, 101.3 kPa, 7% O₂

3.2.8 MERCURY

Figure 3-11 shows mercury concentrations measured between July 2021 and June 2026. The mercury limit reduced from 0.05 mg/Nm³ to 0.03 mg/Nm³ in 2024, measured six-monthly. All reported concentrations were below the EPL limit as shown in **Figure 3-11**.

FIGURE 3-11 2021 – FY26H2 STACK TESTING RESULTS – MERCURY

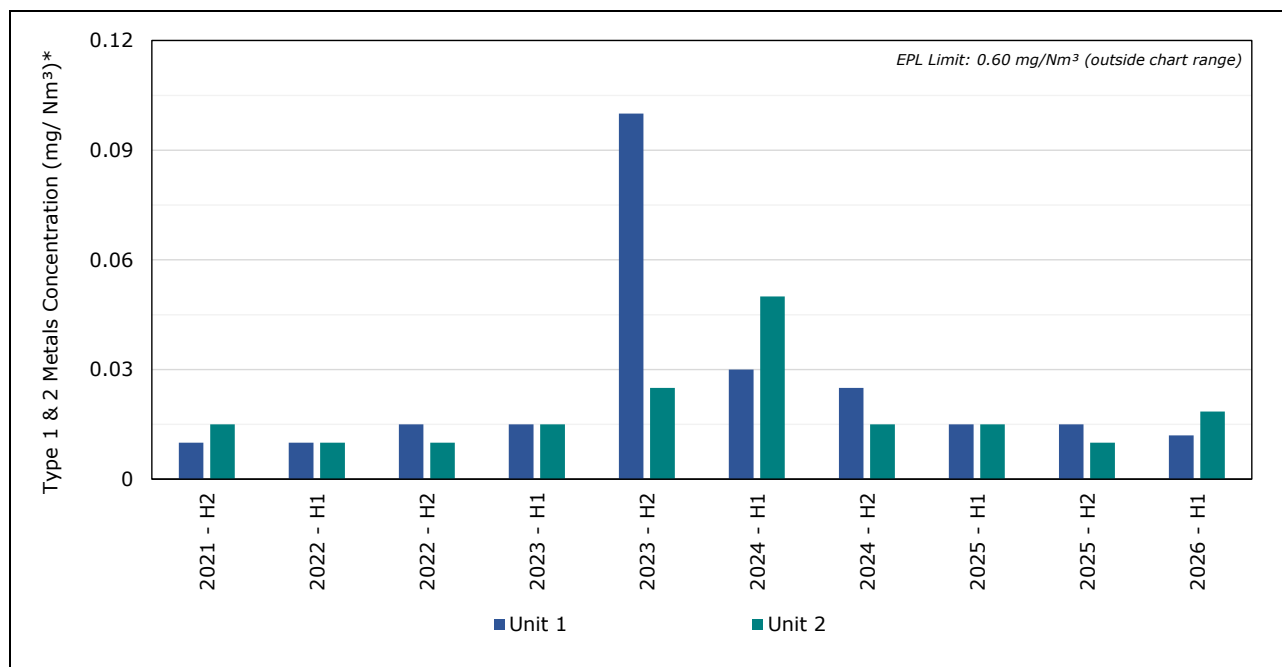


Note: * Dry, 273K, 101.3 kPa, 7% O₂

3.2.9 TYPE 1 & 2 METALS

Figure 3-12 shows type 1 & 2 metals concentrations measured between July 2021 and June 2026. The type 1 & 2 metals limit reduced from 0.75 mg/Nm³ to 0.60 mg/Nm³ in 2024, measured six-monthly. All reported concentrations were below the EPL limit as shown in **Figure 3-12**.

FIGURE 3-12 2021 – FY26H2 STACK TESTING RESULTS – TYPE 1 & 2 METALS



Note: * Dry, 273K, 101.3 kPa, 7% O₂

3.2.10 NO_x AND SO₂ MONITORING REVIEW

NO_x and SO₂ (including SO₂ and sulfuric acid/sulfuric trioxide) are the assessable pollutants emitted in greatest quantity by the MPPS facility via the two boiler stacks. The licence has required SO₂ and NO_x to be monitored using CEMS since 2019.

Table 3-2 summarises the statistics of the CEMS monitoring results for the period of 2021 – FY26H2 (inclusive). **Figure 3-13** and **Figure 3-14** provide hourly monitoring data plots for this period for NO_x and SO₂, respectively. In addition to **Figure 3-15** and **Figure 3-16**, which present the quarterly average CEMS NO_x and SO₂ concentration to visually assess long term trends.

TABLE 3-2 STATISTICS OF 2021 TO FY26H2 CEMS MONITORING RESULTS

Unit	Year	Data Capture	Concentration (mg/Nm³)*		
			Minimum	Average	Maximum
NO _x (as NO ₂)					
Unit 1 (Point 2)	2021	98%	230	627	1,072
	2022	99%	202	694	1,193
	2023	95%	182	695	1,187
	2024	99%	172	584	1,178
	2025	98%	230	597	1,073
	FY26H2	99%	222	449	1,053
Unit 2 (Point 3)	2021	100%	178	619	1,133
	2022	99%	224	624	1,260
	2023	99%	247	697	1,201
	2024	98%	207	559	1,193
	2025	98%	242	548	1,162
	FY26H2	99%	221	511	1,100
SO ₂					
Unit 1 (Point 2)	2021	98%	1,006	1,185	1,381
	2022	99%	885	1,238	1,402
	2023	95%	644	1,115	1,378
	2024	99%	887	1,170	1,358
	2025	99%	740	1,176	1,398
	FY26H2	99%	942	1,204	1,400
Unit 2 (Point 3)	2021	100%	906	1,203	1,417
	2022	99%	1,002	1,229	1,399
	2023	97%	730	1,121	1,311
	2024	98%	830	1,148	1,320
	2025	98%	760	1,180	1,363
	FY26H2	99%	932	1,212	1,373

Note: *Reported as dry, 0°C, 101.325 kPa and corrected to 7% O₂. **Calendar year statistics

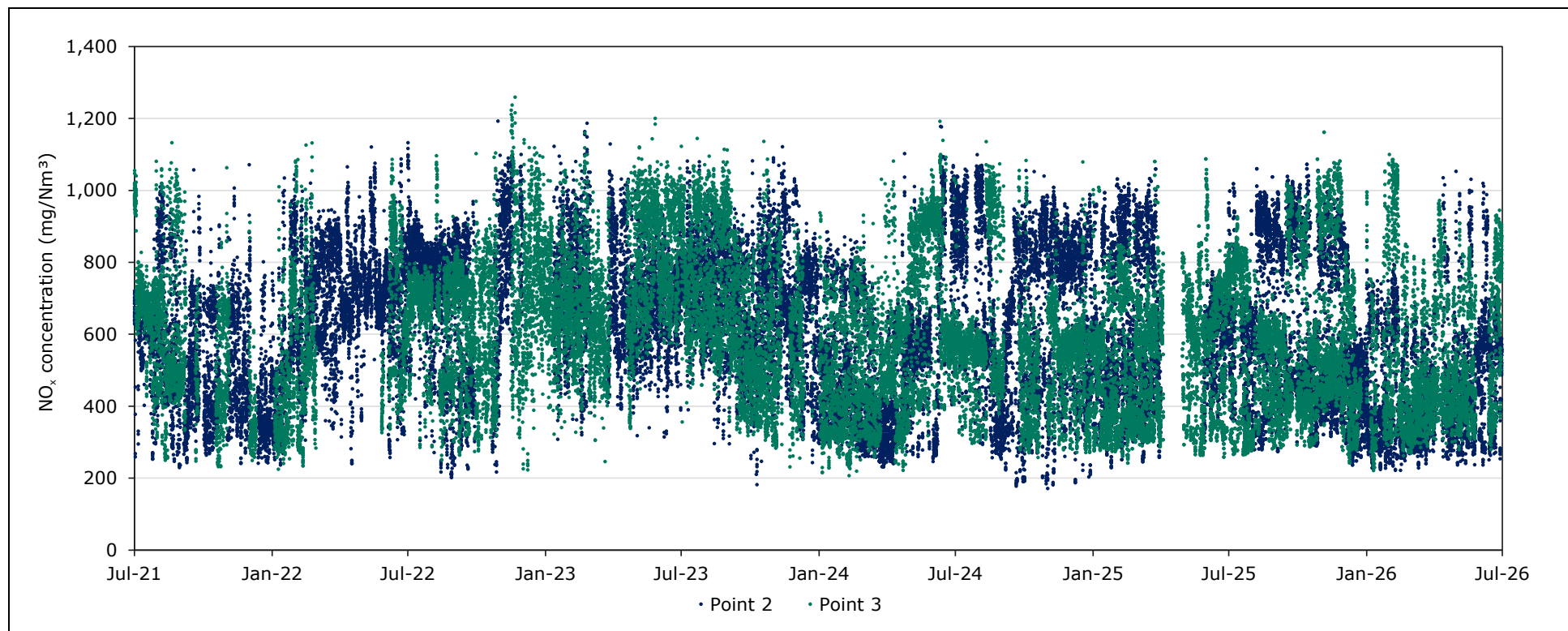
FIGURE 3-13 2021 TO FY26H2 CEMS RESULTS – NO_x

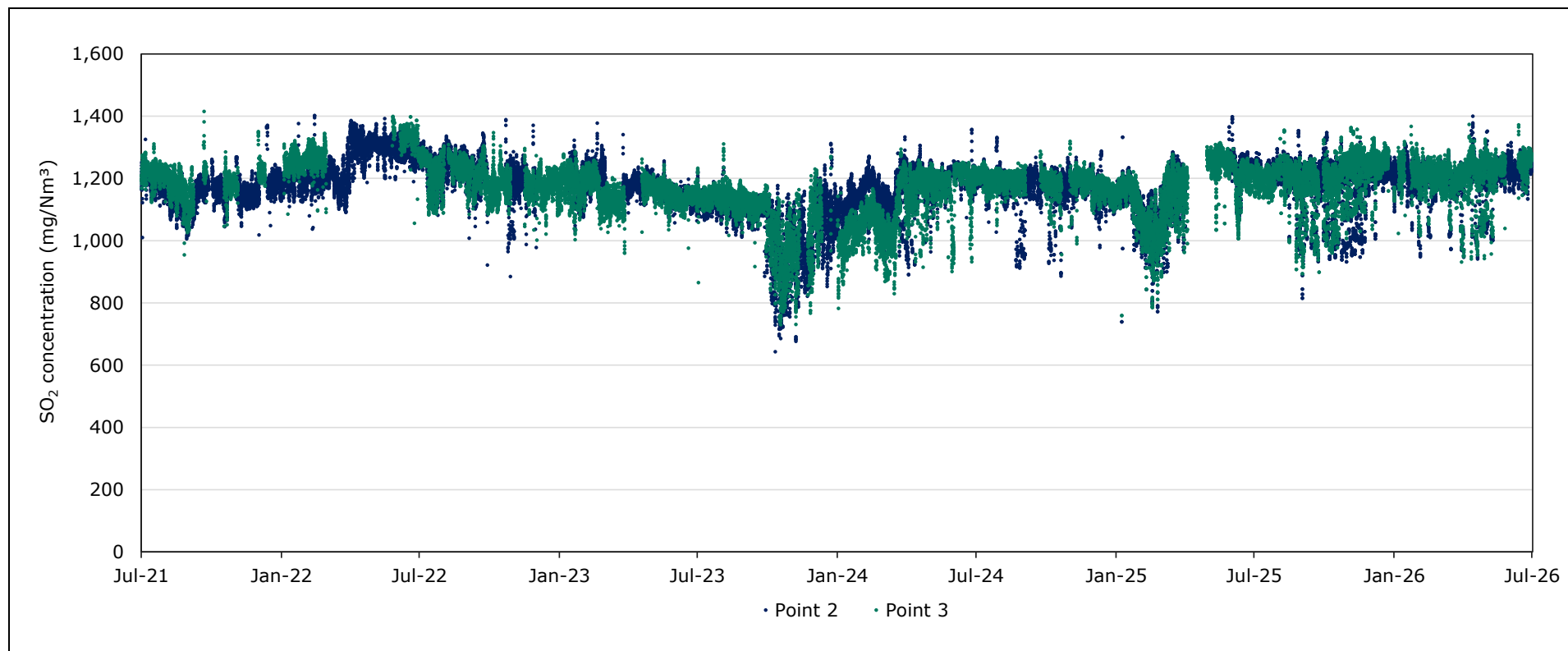
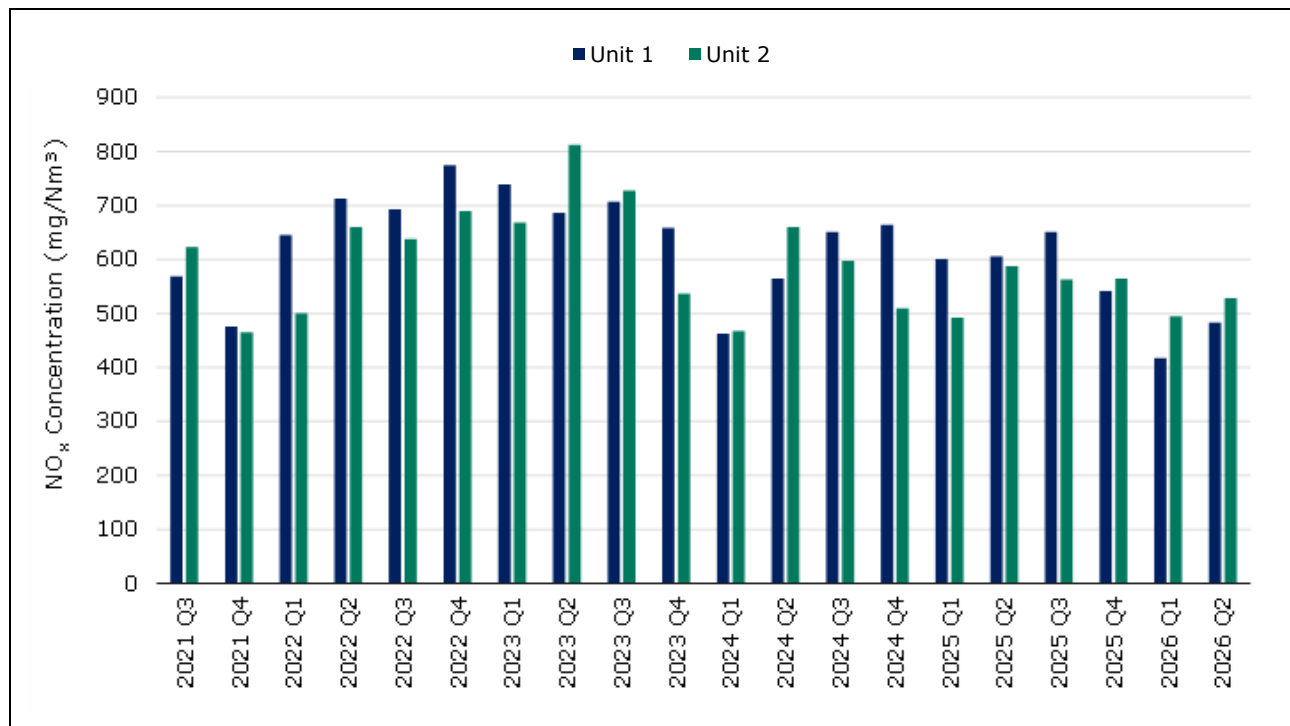
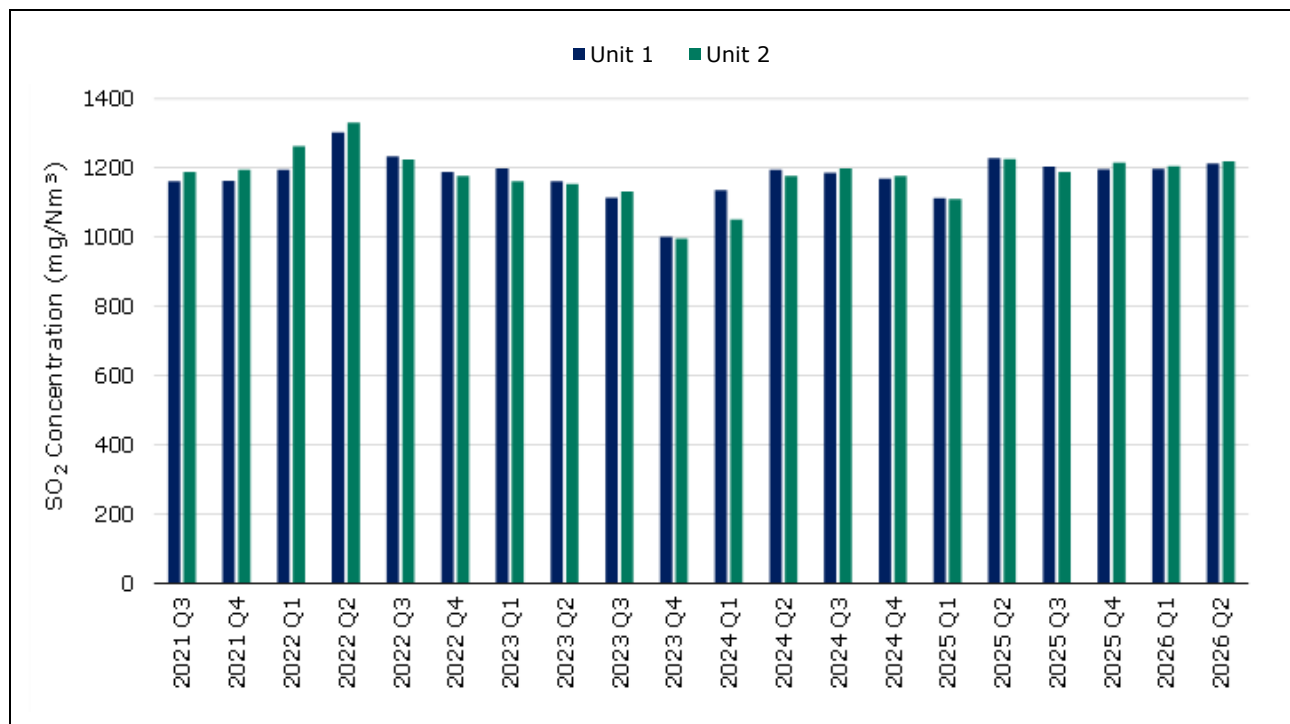
FIGURE 3-14 2021 TO FY26H2 CEMS RESULTS – SO₂

FIGURE 3-15 QUARTERLY AVERAGE CEMS MONITORING RESULTS – NO_xFIGURE 3-16 QUARTERLY AVERAGE CEMS MONITORING RESULTS – SO₂

3.3 AMBIENT AIR MONITORING REVIEW

EnergyAustralia monitors ambient air quality at three locations, Blackmans Flat (continuously), Wallerawang (continuously) and Newnes Plateau (monthly), (monitoring Points 8, 9 and 10, respectively in the EPL). To analyse the long-term trends of the ambient air monitoring, the available monitoring results for the current reporting period (FY26H2) and previous five calendar years are reviewed and analysed in this section.

Statistics of the hourly ambient air monitoring results for Points 8 & 9 and monthly ambient air monitoring results for Point 10 are summarised in **Table 3-3**. The annual average concentrations are shown in **Figure 3-17** and **Figure 3-18** for NO₂ and SO₂, respectively. Blackmans Flat (Point 8) and Wallerawang (Point 9) have similar NO₂ concentrations over the past 5 years inclusive of 2025, fluctuating between 0.1 – 0.3 pphm. These trends are influenced by the prevalence of rainfall as well as progressive changes in the instrument noise floor.

Blackmans Flat (Point 8) and Wallerawang (Point 9) had higher SO₂ concentrations in 2025. These appear to be due to the instrumentation noise floor, which was elevated at Blackman's flat pre-June and Wallerawang post-June, as indicated in **Figure 3.19**.

When reviewing annual average trends and patterns in data at Point 10, it should be noted that samples that registered results below the LOR have been reported at half of the LOR (e.g. **Figure 3-21**).

The daily average concentrations for Point 8 and Point 9 are plotted in **Figure 3-19** and **Figure 3-20**, respectively. The monthly concentrations for Point 10 are provided in **Figure 3-21**.

TABLE 3-3 SUMMARY OF AMBIENT AIR MONITORING RESULTS BETWEEN 2021 AND FY26H2

Pollutant	Year	Data Capture	Concentration (pphm)					
			Min	Average	Max	50 th percentile	70 th percentile	99 th percentile
Point 8 (Blackmans Flat) – 1-hour average								
NO ₂	2021	96%	0.0	0.3	2.4	0.2	0.3	1.2
	2022	94%	0.0	0.2	2.5	0.2	0.3	1.1
	2023	95%	0.0	0.4	2.5	0.2	0.4	1.5
	2024	91%	-0.1	0.3	2.6	0.2	0.3	1.3
	2025	95%	0.0	0.4	2.9	0.3	0.4	1.4
	FY26H2	95%	0.0	0.3	6.6	0.2	0.4	1.4
SO ₂	2021	95%	0.0	0.2	4.6	0.2	0.2	1.3
	2022	95%	0.0	0.2	3.8	0.2	0.2	1.2
	2023	95%	-0.1	0.2	3.5	0.1	0.2	1.1
	2024	92%	-0.2	0.2	4.0	0.1	0.2	1.2
	2025	92%	0.0	0.4	2.9	0.0	0.1	1.4
	FY26H2	98%	-0.1	0.0	5.5	0.0	0.0	0.9

Pollutant	Year	Data Capture	Concentration (pphm)					
			Min	Average	Max	50 th percentile	70 th percentile	99 th percentile
Point 9 (Wallerawang) – 1-hour average								
NO ₂	2021	90%	0.0	0.3	3.8	0.2	0.4	1.4
	2022	87%	0.0	0.2	2.3	0.1	0.3	1.2
	2023	92%	-0.1	0.3	2.7	0.2	0.3	1.4
	2024	90%	0.0	0.3	2.8	0.2	0.4	1.5
	2025	93%	-0.1	0.3	2.5	0.2	0.3	1.6
	FY26H2	98%	0.0	0.3	2.6	0.2	0.4	1.3
SO ₂	2021	90%	0.0	0.1	3.4	0.0	0.1	0.6
	2022	99%	0.0	0.1	2.6	0.0	0.0	0.5
	2023	92%	-0.1	0.0	2.1	0.0	0.0	0.3
	2024	89%	-0.1	0.0	2.8	0.0	0.0	0.6
	2025	93%	-0.1	0.3	2.5	0.0	0.1	0.6
	FY26H2	89%	-0.2	0.1	2.8	0.1	0.1	0.7
Point 10 (Newnes Plateau) – Monthly averaged								
NO ₂	2021	100%	0.030	0.030	0.030	0.030	0.030	0.030
	2022	100%	0.030	0.055	0.330	0.030	0.030	0.297
	2023	100%	0.030	0.034	0.075	0.030	0.030	0.070
	2024	100%	0.030	0.030	0.030	0.030	0.030	0.030
	2025	100%	0.030	0.030	0.030	0.030	0.030	0.030
	FY26H2	100%	0.030	0.030	0.030	0.030	0.030	0.030
SO ₂	2021	100%	0.045	0.091	0.435	0.045	0.045	0.411
	2022	100%	0.045	0.065	0.185	0.045	0.045	0.181
	2023	100%	0.045	0.045	0.045	0.045	0.045	0.045
	2024	100%	0.045	0.061	0.213	0.045	0.045	0.197
	2025	100%	0.045	0.064	0.215	0.045	0.045	0.202
	FY26H2	100%	0.045	0.057	0.118	0.045	0.045	0.118

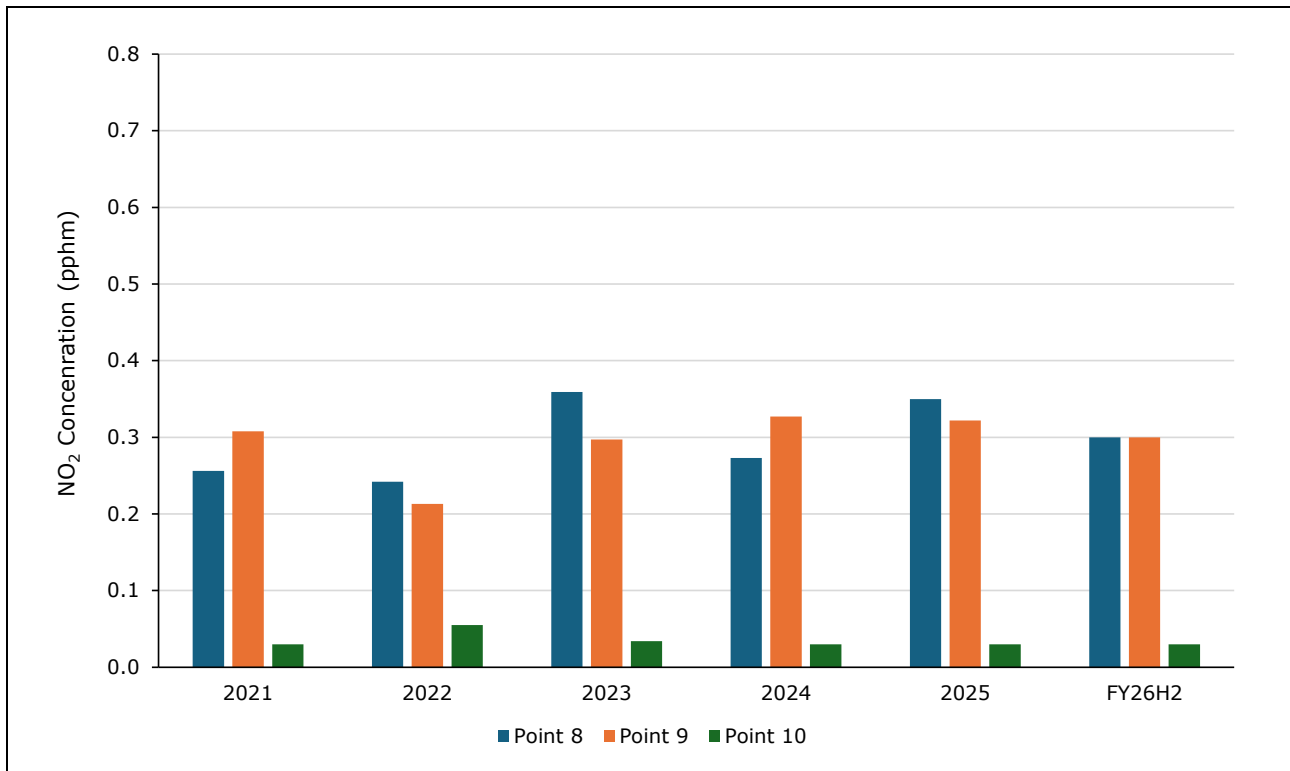
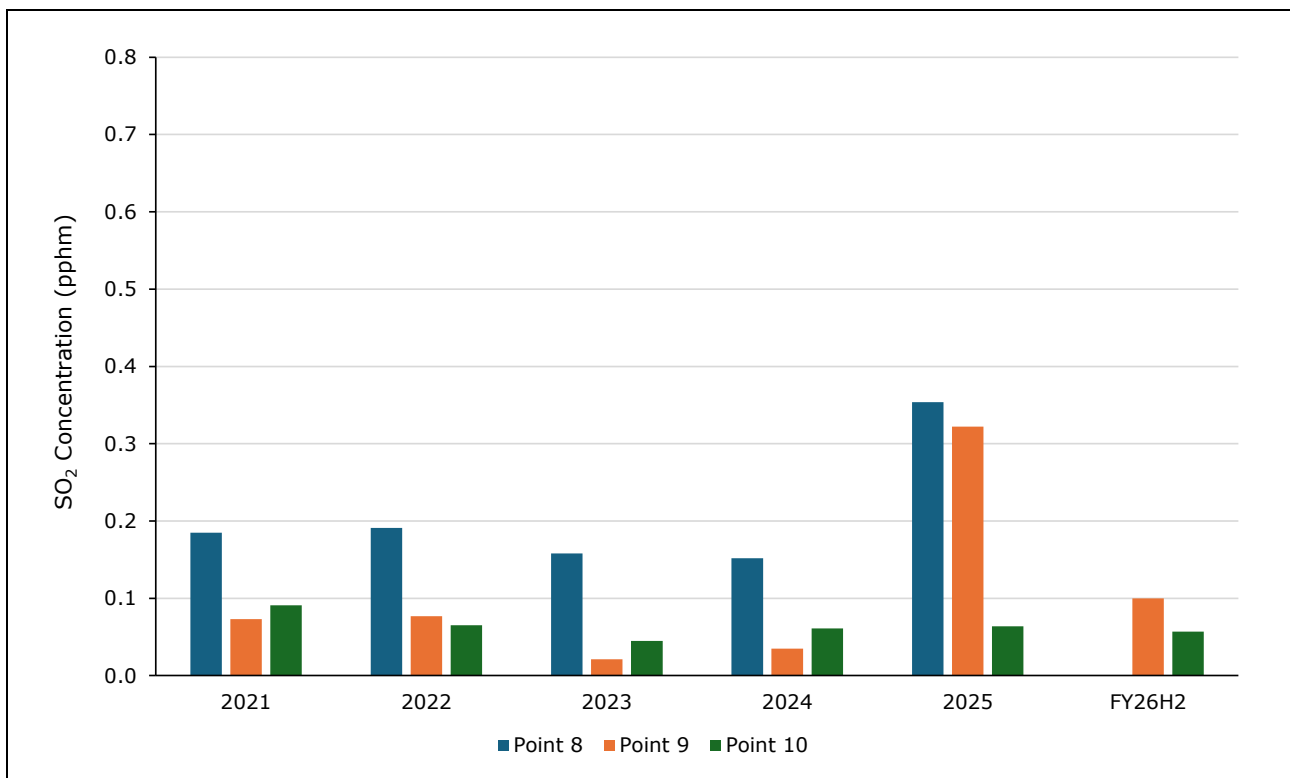
FIGURE 3-17 AMBIENT AIR MONITORING RESULTS – PERIOD AVERAGE NO₂FIGURE 3-18 AMBIENT AIR MONITORING RESULTS – PERIOD AVERAGE SO₂

FIGURE 3-19 AMBIENT AIR MONITORING – POINT 8 (BLACKMANS FLAT)

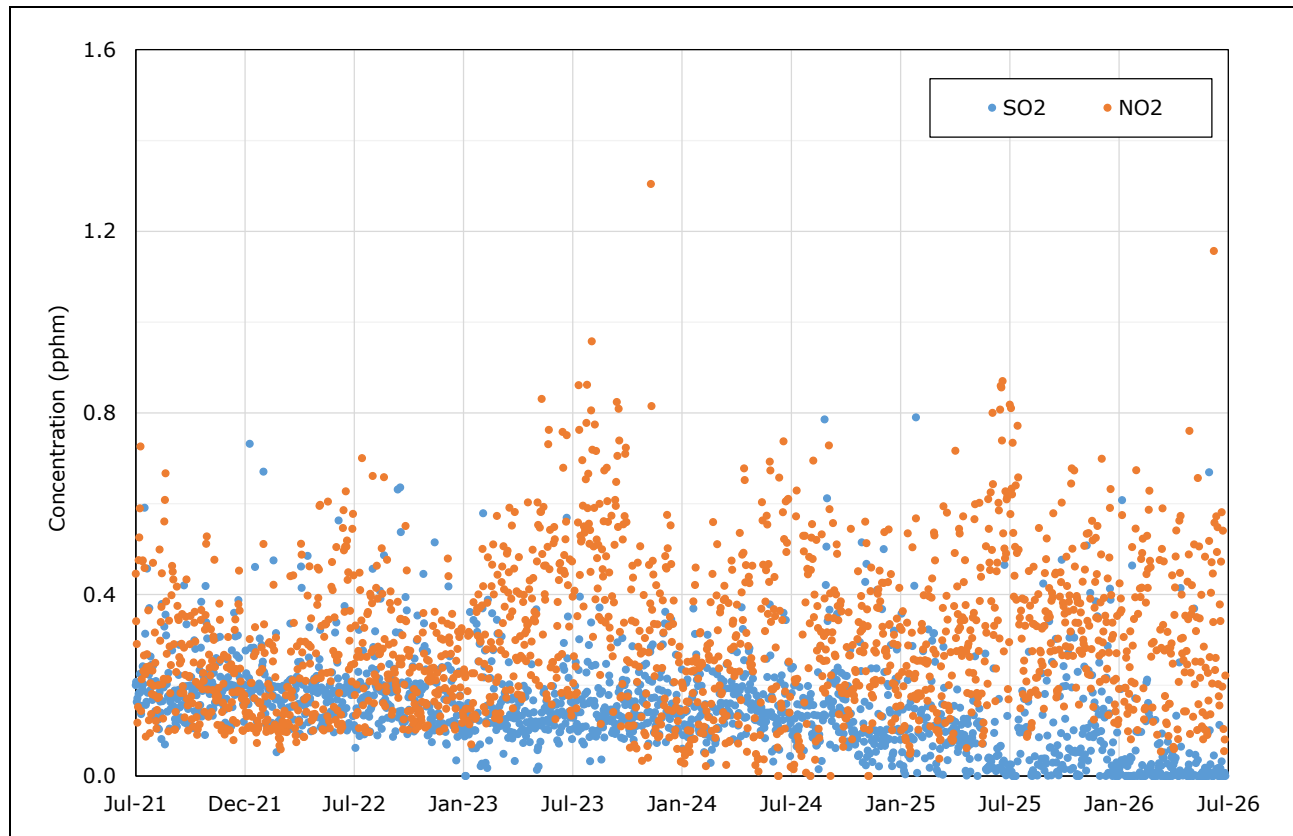


FIGURE 3-20 AMBIENT AIR MONITORING – POINT 9 (WALLERAWANG)

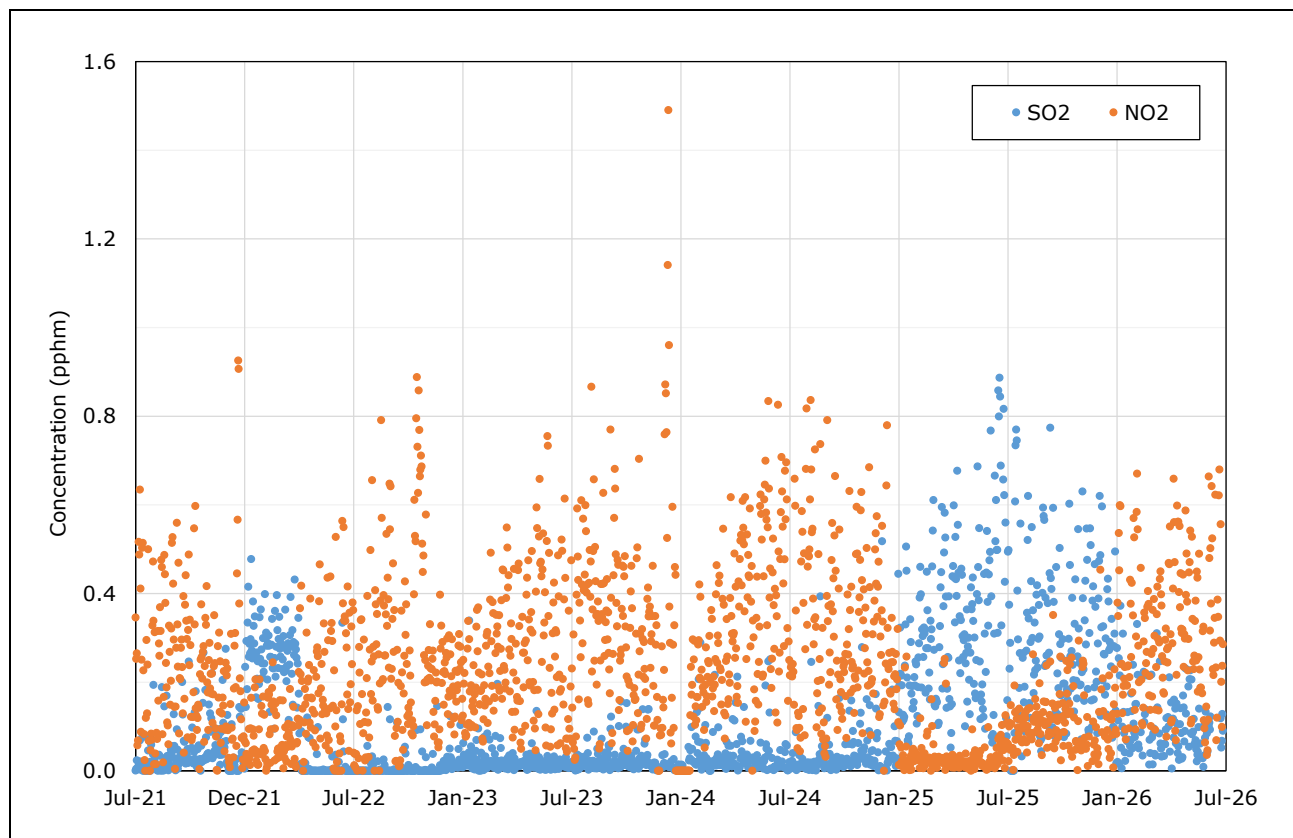
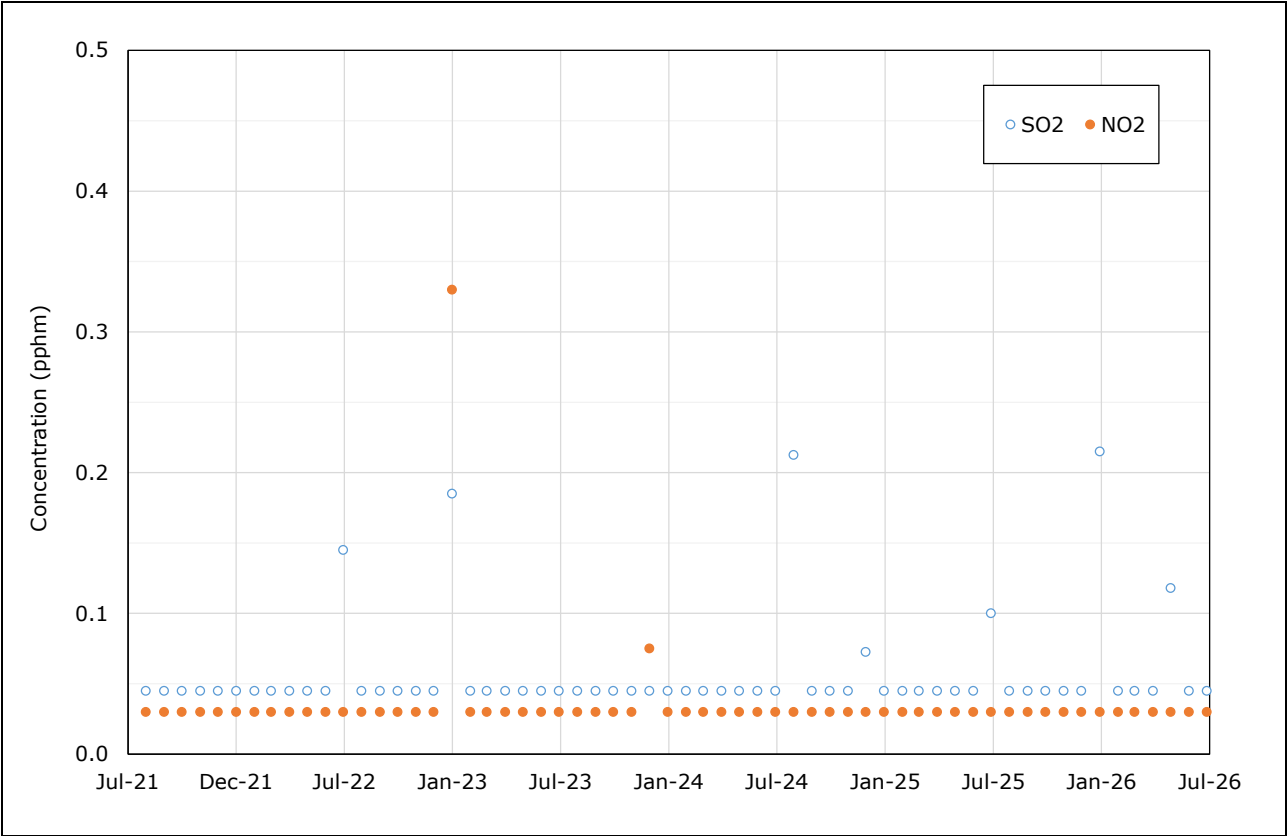


FIGURE 3-21 AMBIENT AIR MONITORING – POINT 10 (NEWNES PLATEAU)



4. DETAILED CALCULATIONS OF FY26H2 BOILER EMISSIONS

The emissions associated with the stack emission listed in R2.1 are detailed in this section. The reporting period emissions are either estimated from the CEMS data or the stack test results. The calculation methods, based on data type, are detailed in the sections below.

4.1 NO_x AND SO₂ – CEMS

NO_x and SO₂ emission are determined using CEMS data. Monthly emissions are determined then summed for the reporting period. The monthly emissions are calculated based on:

- Unit 1 and Unit 2's CEMS daily monitoring concentration were used to obtain monthly weighted average (based on MWh) stack concentrations in dry, STP, 7% O₂ part per million (ppm);
- The monthly volume of flue gas emitted from the stacks is calculated by EnergyAustralia based on the combustion reaction stoichiometry, i.e. based on gases present in the combustion air, elements present in the coal and fuel oil, and combustion products and by-products. The volume is calculated at dry, STP and 7% O₂ conditions;
- The monthly emissions are calculated by multiplying the CEMS ppm and the calculated volume of flue gas, divided by the ideal gas molar density and converted to the units of kilograms; and
- The average CEMS value is determined from the average monthly values. The sums of the monthly values are reported as the reporting period emissions and the reported maximum and minimum are based on the hourly data.

4.2 OTHER POLLUTANTS – STACK TESTS

Stack test data and flue gas volumes were used by EnergyAustralia to estimate the FY26H2 pollutant loads for the majority of applicable pollutants. It is noted that in these estimates, TVOCs are reported using the NPI EET Manual emission factor that estimates emissions due to fuel storage only. The estimated PAH emissions were based on a site-specific emission factor (i.e. 5.90×10^{-08} kg/tonne of coal as received), which has been used since 2007.

Metal emissions are estimated as the product of measured flue gas concentrations and corresponding flue gas volumes. For each boiler, the flue gas volume is estimated as an output-weighted (MWh) proportion of the combined MPPS flue gas volume. The in-stack concentration for each 6-month period is assumed equal to the average of the two (A and B) duct measurements.

5. COAL ASH MONITORING

This section has been prepared to satisfy conditions M9.1 and R5.2 under EPL13007. Coal ash from the Mt Piper Power Station is disposed of in the Mt Piper Ash Repository (MPAR) and the Lamberts North Ash Repository (LNAR) which are both dry ash repositories.

The MPAR was approved under Development Consent DA80/10060. Water conditioned ash (WCA) was placed at MPAR up to RL 946 m, brine condition ash (BCA) has been placed above RL946 up to the maximum approved height of RL 980 m. MPAR has reached its maximum approved ash storage capacity and is in the process of being decommissioned. The eastern batter has been capped with mine overburden and seeded to stabilize the landform. It is proposed to cap the top of MPAR with a high density polyethylene (HDPE) liner or equivalent which is the subject of a Modification application being prepared for submission to the Department of Environment, Housing and Infrastructure.

The LNAR operates under Project Approval 09_0186 and LNAR is managed in accordance with its approved Operational Environment Management Plan (OEMP). The OEMP provides the framework to manage the environmental aspects associated with the operation of the LNAR. The OEMP can be found on the EnergyAustralia website [Lamberts North Ash Repository | EnergyAustralia](#). LNAR has been lined with a leachate barrier management system. WCA was placed below the liner and BCA is placed above the liner on LNAR.

Solid salt and mixed lime salts from the Springvale Water Treatment Plant (SWTP) are approved to be co-disposed at LNAR. LNAR will be capped with a HDPE liner or equivalent that will allow for future access and beneficial reuse of the stored coal ash.

Table 5-1 and **Table 5-2** provide a summary of coal ash quantities for FY26H2.

TABLE 5-1 SUMMARY OF COAL ASH QUANTITIES – FY26H2

Item	Coal Ash	FY26H2 (Tonnes)
1	Coal consumed for electricity generation at the premises	1,224,313
2	Fly ash generated at the premises	250,554
3	Fly ash deposited and/or stored at the premises	193,748
4	Bottom ash generated at the premises	27,839
5	Bottom ash deposited and/or stored at the premises	27,839

Note: * Grade of fly ash is unknown.

TABLE 5-2 TRANSPORTED COAL ASH – FY26

Item	Transported from the premises	Tonnes	Destination
6	Fly ash	55,916	Fly Ash Australia Pty Ltd
7	Water Conditioned fly ash	0	Holcim Australia Pty Ltd
8	Water Conditioned fly ash	890	Regional Quarries Australia Pty Ltd
9	Bottom ash	0	-

Note: N/A – Not Applicable.

It is noted that the sum of transported, stored and deposited fly ash does not directly add to the amount generated. Transported fly ash can include reclaimed fly ash that has been generated and stored in years prior to the current reporting period.

6. SUMMARY OF COMPLIANCE WITH REPORTING CONDITIONS

This report has been completed to comply with EPL13007 Conditions R2.1, M9.1 and R5.2. The study has reviewed stack test reports, CEMS monitoring results and ambient monitoring results from 2021 to FY26H2.

Table 6-1 summarises the study's findings in relation to the EPL13007 Conditions R2.1, M9.1 and R5.2 requirements and where additional detail can be found in this report.

TABLE 6-1 EPL13007 CONDITIONS AND STUDY SUMMARY

Conditions		Review Comment	Compliant
R2.1			
a)	<i>a comprehensive summary (tabulated and graphical) of all periodic and continuous monitoring data as required by condition M2.2 of this licence, including a comparison with the concentration limits specified in condition L3.2 and L3.3;</i>	All monitoring results were reviewed and summarised in tables and graphs.	Yes
b)	<i>analysis of trends in emission performance for all pollutants monitored as required under condition M2.2. Trend analysis must include comparison of emission performance during the reporting period with emission performance from the previous 4 years;</i>	Historical monitoring data and coal quality from the most recent five years (2021 to FY26H2) were reviewed and analysed. No significant changes were identified in emission performance over this time period. Coal quality in FY26H2 is generally consistent with the previous four years. The observed variability in the stack monitoring data for FY26H2 is within the range of variability observed over the previous four years.	Yes
c)	<i>details of any exceedances of air emission licence limits and details of plant operating conditions at the times the exceedances occurred;</i>	There were no exceedances of air emission licence limits during the reporting period.	Yes
d)	<i>details of plant operating conditions, including Boiler load (MW), during sampling for each Boiler;</i>	The operating condition, including boiler load, during sampling for each boiler is presented in Table 2-1 .	Yes
e)	<i>demonstrated compliance with the CEMS Quality Assurance and Control Procedures prepared for the premises;</i>	The procedure was reviewed, no non-compliances were found.	Yes

Conditions		Review Comment	Compliant
f)	<i>summary of fuel usage, including: i) total coal and other permitted fuels consumed in each Boiler (including start-up); ii) a statement about the representativeness of fuel quality during periodic air emission sampling compared to non-sampling periods; ii) total fuel consumed by each Boiler during times when periodic air emission sampling was undertaken; and</i>	The total coal consumption and coal quality during the reporting period is summarised in Table 3-1 . The daily fuel consumption during stack sampling is shown in Table 2-1 . Based on the review of the coal composition during FY26H2 and the long-term trends of coal quality, the coal quality during stack testing is representative of typical operating conditions.	Yes
g)	<i>detailed calculations used to determine the aggregated pollutant emission rates for each boiler.</i>	The detailed methodology to determine the pollutant emission rates for each boiler has been presented in this report. Methods used to determine annual emission for reporting to the annual returns have also been provided.	Yes
M9.1			
a)	<i>Quantity of coal used for electricity generation at the premises;</i>	Quantities provided in Table 5-1 .	Yes
b)	<i>Quantity of bottom ash; and quantity of fly ash, generated at the premises and the grade of fly ash produced (if the grade is known);</i>		
c)	<i>Quantity of bottom ash; and quantity of fly ash, deposited, and/or stored at the premises with a description of how it is stored and the processes for managing the storage;</i>		
d)	<i>Quantity of bottom ash; and quantity of fly ash, transported from the premises together with identification of the destination; and</i>	Quantities provided in Table 5-2 .	Yes
e)	<i>Management measures used for coal ash repositories on the premises to maintain the viability of ash reuse, including identification of any other materials being stored concurrently with newly deposited coal ash.</i>	Description of management measures provided in Section 5 .	Yes
R5.2			
<i>The licensee must prepare an Annual Coal Ash Monitoring Report that details information required under condition M9.1 in respect of generation, deposition, storage, transport and reuse of coal ash generated at the premises for each Annual Return reporting period.</i>		Provided in Section 5 .	Yes

7. STATEMENT OF LIMITATIONS

1. This report is based solely on the scope of work described in our proposal P0754354 dated 5 August 2026 (Scope of Work) and performed by Environmental Resources Management Australia Pty Ltd (ERM) for EnergyAustralia NSW Pty Ltd (the Client). The Scope of Work was governed by a contract between ERM and the Client (Contract).
2. No limitation, qualification or caveat set out below is intended to derogate from the rights and obligations of ERM and the Client under the Contract.
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Group Instrumentation 2026h, Cylinder Gas Audit, Mt Piper Power Station Unit 2 Duct B, Group Instrumentation Pty Ltd, 15 April 2026.



APPENDIX A FY26H2 EMISSION TESTING REPORTS



Experts in air quality, odour and emission monitoring.

Emission Testing Report

Report: R019893

EnergyAustralia NSW Pty Ltd, Mt Piper Power Station

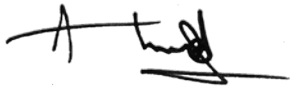


Accredited for compliance with ISO/IEC 17025 - Testing. NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, calibration, and inspection reports.

Document Information

Client Name: EnergyAustralia NSW Pty Ltd
Report Number: R019893
Date of Issue: 23 March 2026
Attention: Jarvis Lulham
Address: Mt Piper Power Station, Locked Mail Bag 1
Portland NSW 2847
Testing Laboratory: Ektimo Pty Ltd, ABN 86 600 381 413

Report Authorisation



Ahmad Ramiz
Air Monitoring Consultant



NATA Accredited Laboratory
No. 14601



Steven Cooper
Ektimo Signatory

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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 EnergyAustralia NSW Pty Ltd to perform emission testing at Mt Piper Power Station, Portland, NSW. Testing was carried out in accordance with Environment Protection Licence 13007.

1.2 Project Objective & Overview

The objective of the project was to conduct a monitoring programme to quantify emissions from four (4) discharge points to determine compliance with EnergyAustralia NSW Pty Ltd's Environmental Licence.

Monitoring was performed as follows:

Location	Test Date	Test Parameters*
EPA 4 - Unit 1, Duct B	20 January 2026	Solid particles (total) Metals type 1 and 2 substances, copper, zinc
EPA 5 - Unit 1, Duct A	20 January 2026	Solid particles (total) Metals type 1 and 2 substances, copper, zinc
EPA 6 - Unit 2, Duct A	29 January 2026	Solid particles (total) Metals type 1 and 2 substances, copper, zinc
EPA 7 - Unit 2, Duct B	28 January 2026	Solid particles (total) Metals type 1 and 2 substances, copper, zinc

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

All volume-based concentrations are reported on a dry basis at STP.

Plant operating conditions have been noted in this report.

1.3 Results Summary

All analytes are within the licence limit set by the NSW EPA as per licence 13007 (last amended on 12 February 2026).

Report Number		R019893	R019893
Test Date		20/01/26	20/01/26
EPA		5	4
Unit		Unit 1 Duct A	Unit 1 Duct B

	Limit	Units	Measured Results		EPA 2 Combined Ducts
Type 1 and Type 2 substances in aggregate	0.6	mg/m ³	<0.021	<0.026	≤0.024
Antimony		mg/m ³	<0.001	<0.001	<0.001
Arsenic (LBL)		mg/m ³	<0.001	<0.001	<0.001
Beryllium		mg/m ³	<0.0001	<0.0001	<0.0001
Cadmium	0.03	mg/m ³	0.00052	0.0051	0.0028
Chromium		mg/m ³	0.00085	0.003	0.00190
Cobalt		mg/m ³	<0.00008	<0.00009	<0.00009
Copper		mg/m ³	0.004	0.0043	0.0042
Lead (LBL)		mg/m ³	0.0018	0.0025	0.0022
Manganese		mg/m ³	0.0083	0.0025	0.0054
Mercury	0.03	mg/m ³	0.00052	0.00064	0.00058
Nickel		mg/m ³	0.0022	0.0054	0.0038
Selenium		mg/m ³	0.0027	0.0032	0.0030
Tin		mg/m ³	<0.001	<0.001	<0.001
Vanadium		mg/m ³	0.00019	0.00022	0.00021
Zinc		mg/m ³	0.0095	0.018	0.014
Solid particles	50	mg/m ³	6.6	4.9	5.8

Combined air emissions from **boiler 1** via points 4 & 5.
All results corrected to 7% O₂.

Report Number	R019893	R019893
Test Date	29/01/26	28/01/26
EPA	6	7
Unit	Unit 2 Duct A	Unit 2 Duct B

	LIMIT	UNITS	Measured Results		EPA 3 Combined Ducts
Type 1 and Type 2 substances in aggregate	0.6	mg/m ³	<0.023	<0.052	≤0.037
Antimony		mg/m ³	<0.001	<0.001	<0.001
Arsenic (LBL)		mg/m ³	<0.001	<0.001	<0.001
Beryllium		mg/m ³	<0.0001	<0.0001	<0.0001
Cadmium	0.03	mg/m ³	0.00014	0.0001	0.00012
Chromium		mg/m ³	0.0062	0.017	0.011
Cobalt		mg/m ³	<0.0001	0.00027	≤0.00018
Copper		mg/m ³	0.0025	0.0029	0.0027
Lead (LBL)		mg/m ³	0.0032	0.0072	0.0051
Manganese		mg/m ³	0.002	0.0044	0.0031
Mercury	0.03	mg/m ³	<0.0002	0.0003	≤0.00025
Nickel		mg/m ³	0.0063	0.015	0.01
Selenium		mg/m ³	0.001	0.0029	0.0019
Tin		mg/m ³	<0.001	<0.001	<0.001
Vanadium		mg/m ³	0.0002	0.00028	0.00024
Zinc		mg/m ³	0.012	0.025	0.018
Solid particles	50	mg/m ³	4	6.1	5

Combined air emissions from **boiler 2** via points 6 & 7.
All results corrected to 7% O₂.

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

Refer to the Test Methods table for the measurement uncertainties.

2 Results

2.1 EPA 4 - Unit 1, Duct B

Date	20/01/2026	Client	EnergyAustralia NSW Pty Ltd
Report	R019893	Stack ID	Mt Piper Power Station - EPA 4 Unit 1 Duct B (Lower)
Licence No.	13007	Location	Portland
Ektimo Staff	Ahmad Ramiz/ Bhargav Joshi	State	NSW
Process Conditions	Load stabilised at 220 MW		

260119

Stack Parameters		
Moisture content, %v/v	5.3	
Gas molecular weight, g/g mole	29.4 (wet)	30.0 (dry)
Gas density at STP, kg/m ³	1.31 (wet)	1.34 (dry)
Gas density at discharge conditions, kg/m ³	0.83	
% Oxygen correction & Factor	7% O ₂	1.41
Gas Flow Parameters		
Temperature, °C	112	
Temperature, K	385	
Ambient pressure, kPa	91	
Stack pressure, kPa	90	
Velocity at sampling plane, m/s	9.4	
Volumetric flow rate, actual, m ³ /s	340	
Volumetric flow rate (wet STP), m ³ /s	210	
Volumetric flow rate (dry STP), m ³ /s	200	
Mass flow rate (wet basis), kg/h	1000000	

Gas Analyser Results	Sampling time	Average	Minimum	Maximum
		0923 - 1059	0923 - 1059	0923 - 1059
		Concentration	Concentration	Concentration
		%v/v	%v/v	%v/v
Carbon dioxide		9.2	9.1	9.4
Oxygen		11	10.7	11.2

Isokinetic Results	Sampling time	Results		
		0923-1059		
		Corrected to		
		Concentration	7% O ₂	Mass Rate
		mg/m ³	mg/m ³	g/min
Solid Particles		3.5	4.9	42
Antimony		<0.0009	<0.001	<0.01
Arsenic		<0.0009	<0.001	<0.01
Beryllium		<0.00009	<0.0001	<0.001
Cadmium		0.0036	0.0051	0.044
Chromium		0.0021	0.003	0.026
Cobalt		<0.00006	<0.00009	<0.0007
Copper		0.0031	0.0043	0.037
Lead		0.0018	0.0025	0.022
Manganese		0.0018	0.0025	0.022
Mercury		0.00046	0.00064	0.0056
Nickel		0.0038	0.0054	0.046
Selenium		0.0023	0.0032	0.028
Tin		<0.0009	<0.001	<0.01
Vanadium		0.00016	0.00022	0.0019
Zinc		0.013	0.018	0.15
Type 1 & 2 Substances				
Upper Bound				
Total Type 1 Substances		≤0.0076	≤0.011	≤0.092
Total Type 2 Substances		≤0.011	≤0.016	≤0.14
Total Type 1 & 2 Substances		≤0.019	≤0.026	≤0.23
Isokinetic Sampling Parameters				
Sampling time, min			84	
Isokinetic rate, %			102	
Gravimetric analysis date (total particulate)			30-01-2026	

2.2 EPA 5 - Unit 1, Duct A

Date	20/01/2026	Client	EnergyAustralia NSW Pty Ltd
Report	R019893	Stack ID	Mt Piper Power Station - EPA 5 Unit 1 Duct A (Upper)
Licence No.	13007	Location	Portland
Ektimo Staff	Ahmad Ramiz/ Bhargav Joshi	State	NSW
Process Conditions	Load stable at 220MW		

260119

Stack Parameters			
Moisture content, %v/v	5.4		
Gas molecular weight, g/g mole	29.4 (wet)	30.1 (dry)	
Gas density at STP, kg/m ³	1.31 (wet)	1.34 (dry)	
Gas density at discharge conditions, kg/m ³	0.84		
% Oxygen correction & Factor	7% O ₂	1.42	
Gas Flow Parameters			
Temperature, °C	104		
Temperature, K	377		
Ambient pressure, kPa	91		
Stack pressure, kPa	90		
Velocity at sampling plane, m/s	9.1		
Volumetric flow rate, actual, m ³ /s	330		
Volumetric flow rate (wet STP), m ³ /s	210		
Volumetric flow rate (dry STP), m ³ /s	200		
Mass flow rate (wet basis), kg/h	1000000		

Gas Analyser Results	Sampling time	Average	Minimum	Maximum
		1140 - 1310	1140 - 1310	1140 - 1310
		Concentration %v/v	Concentration %v/v	Concentration %v/v
Carbon dioxide		9.4	9.1	9.7
Oxygen		11.1	10.9	11.4

Isokinetic Results	Sampling time	Results		
		1140-1310		
		Corrected to		
		Concentration mg/m ³	7% O ₂ mg/m ³	Mass Rate g/min
Solid Particles		4.7	6.6	56
Antimony		<0.0009	<0.001	<0.01
Arsenic		<0.0009	<0.001	<0.01
Beryllium		<0.00009	<0.0001	<0.001
Cadmium		0.00036	0.00052	0.0044
Chromium		0.0006	0.00085	0.0072
Cobalt		<0.00006	<0.00008	<0.0007
Copper		0.0028	0.004	0.034
Lead		0.0013	0.0018	0.015
Manganese		0.0059	0.0083	0.07
Mercury		0.00037	0.00052	0.0044
Nickel		0.0016	0.0022	0.019
Selenium		0.0019	0.0027	0.023
Tin		<0.0009	<0.001	<0.01
Vanadium		0.00013	0.00019	0.0016
Zinc		0.0067	0.0095	0.081
Type 1 & 2 Substances				
Upper Bound				
Total Type 1 Substances		≤0.0038	≤0.0054	≤0.046
Total Type 2 Substances		≤0.011	≤0.016	≤0.13
Total Type 1 & 2 Substances		≤0.015	≤0.021	≤0.18
Isokinetic Sampling Parameters				
Sampling time, min			84	
Isokinetic rate, %			104	
Gravimetric analysis date (total particulate)			30-01-2026	

2.3 EPA 6 - Unit 2, Duct A

Date	29/01/2026	Client	EnergyAustralia NSW Pty Ltd
Report	R019893	Stack ID	Mt Piper Power Station - EPA 6 Unit 2 Duct A (Lower)
Licence No.	13007	Location	Portland
Ektimo Staff	Ahmad Ramiz/ Bhargav Joshi	State	NSW
Process Conditions	Load Stable at 220MW		

260119

Stack Parameters			
Moisture content, %v/v	5.2		
Gas molecular weight, g/g mole	29.4 (wet)	30.0 (dry)	
Gas density at STP, kg/m ³	1.31 (wet)	1.34 (dry)	
Gas density at discharge conditions, kg/m ³	0.86		
% Oxygen correction & Factor	7% O ₂	1.41	
Gas Flow Parameters			
Temperature, °C	102		
Temperature, K	375		
Ambient pressure, kPa	91		
Stack pressure, kPa	91		
Velocity at sampling plane, m/s	11		
Volumetric flow rate, actual, m ³ /s	400		
Volumetric flow rate (wet STP), m ³ /s	260		
Volumetric flow rate (dry STP), m ³ /s	250		
Mass flow rate (wet basis), kg/h	1200000		

Gas Analyser Results	Sampling time	Average	Minimum	Maximum
		0836 - 1011	0836 - 1011	0836 - 1011
		Concentration %v/v	Concentration %v/v	Concentration %v/v
Carbon dioxide		8.9	8.4	9.3
Oxygen		11	10.6	11.4

Isokinetic Results	Sampling time	Results		
		0836-1011		
		Corrected to		
		Concentration mg/m ³	7% O ₂ mg/m ³	Mass Rate g/min
Solid Particles		2.9	4	43
Antimony		<0.0008	<0.001	<0.01
Arsenic		<0.0008	<0.001	<0.01
Beryllium		<0.00008	<0.0001	<0.001
Cadmium		0.0001	0.00014	0.0015
Chromium		0.0044	0.0062	0.066
Cobalt		<0.00009	<0.0001	<0.001
Copper		0.0018	0.0025	0.027
Lead		0.0023	0.0032	0.034
Manganese		0.0014	0.002	0.021
Mercury		<0.0001	<0.0002	<0.002
Nickel		0.0045	0.0063	0.068
Selenium		0.00072	0.001	0.011
Tin		<0.0008	<0.001	<0.01
Vanadium		0.00014	0.0002	0.0021
Zinc		0.0083	0.012	0.12
Type 1 & 2 Substances				
Upper Bound				
Total Type 1 Substances		≤0.0041	≤0.0058	≤0.061
Total Type 2 Substances		≤0.012	≤0.017	≤0.18
Total Type 1 & 2 Substances		≤0.016	≤0.023	≤0.24
Isokinetic Sampling Parameters				
Sampling time, min			84	
Isokinetic rate, %			100	
Gravimetric analysis date (total particulate)			10-02-2026	

2.4 EPA 7 - Unit 2, Duct B

Date	28/01/2026	Client	EnergyAustralia NSW Pty Ltd
Report	R019893	Stack ID	Mt Piper Power Station - EPA 7 Unit 2 Duct B (Upper)
Licence No.	13007	Location	Portland
Ektimo Staff	Ahmad Ramiz/ Bhargav Joshi	State	NSW
Process Conditions	Load Stable at 220MW		

260119

Stack Parameters		
Moisture content, %v/v	5.4	
Gas molecular weight, g/g mole	29.4 (wet)	30.0 (dry)
Gas density at STP, kg/m ³	1.31 (wet)	1.34 (dry)
Gas density at discharge conditions, kg/m ³	0.84	
% Oxygen correction & Factor	7% O ₂	1.50
Gas Flow Parameters		
Temperature, °C	105	
Temperature, K	378	
Ambient pressure, kPa	91	
Stack pressure, kPa	90	
Velocity at sampling plane, m/s	10	
Volumetric flow rate, actual, m ³ /s	360	
Volumetric flow rate (wet STP), m ³ /s	230	
Volumetric flow rate (dry STP), m ³ /s	220	
Mass flow rate (wet basis), kg/h	1100000	

Gas Analyser Results	Sampling time	Average	Minimum	Maximum
		0930 - 1104	0930 - 1104	0930 - 1104
		Concentration	Concentration	Concentration
		%v/v	%v/v	%v/v
Carbon dioxide		8.8	8.1	9.2
Oxygen		11.6	11.3	12.2

Isokinetic Results	Sampling time	Results		
		0933-1105		
		Corrected to		
		Concentration	7% O ₂	Mass Rate
		mg/m ³	mg/m ³	g/min
Solid Particles		4	6.1	53
Antimony		<0.0008	<0.001	<0.01
Arsenic		<0.0008	<0.001	<0.01
Beryllium		<0.00008	<0.0001	<0.001
Cadmium		0.000068	0.0001	0.00091
Chromium		0.012	0.017	0.15
Cobalt		0.00018	0.00027	0.0024
Copper		0.0019	0.0029	0.026
Lead		0.0048	0.0072	0.064
Manganese		0.0029	0.0044	0.039
Mercury		0.0002	0.0003	0.0027
Nickel		0.01	0.015	0.13
Selenium		0.0019	0.0029	0.026
Tin		<0.0008	<0.001	<0.01
Vanadium		0.00019	0.00028	0.0025
Zinc		0.017	0.025	0.22
Type 1 & 2 Substances				
Upper Bound				
Total Type 1 Substances		≤0.0067	≤0.01	≤0.089
Total Type 2 Substances		≤0.028	≤0.042	≤0.37
Total Type 1 & 2 Substances		≤0.035	≤0.052	≤0.46
Isokinetic Sampling Parameters				
Sampling time, min			84	
Isokinetic rate, %			100	
Gravimetric analysis date (total particulate)			30-01-2026	

3 Sample Plane Compliance

3.1 EPA 4 & 5 - Unit 1, Duct A & B

Sampling Plane Details	
Source tested	Power plant - coal-fired
Pollution control equipment	Filter baghouse
Sampling plane dimensions	5460 x 6600 mm
Sampling plane area	36 m ²
Sampling port size, number	6" Flange (x6)
Duct orientation & shape	Horizontal Rectangular
Downstream disturbance	Junction 0.5 D
Upstream disturbance	Damper 0.6 D
No. traverses & points sampled	6 42
Sample plane conformance to USEPA Method 1	Conforming (alternative procedure)

3.2 EPA 6 & 7 - Unit 2, Duct A & B

Sampling Plane Details	
Source tested	Power plant - coal-fired
Pollution control equipment	Filter baghouse
Sampling plane dimensions	5460 x 6600 mm
Sampling plane area	36 m ²
Sampling port size, number	6" Flange (x6)
Duct orientation & shape	Horizontal Rectangular
Downstream disturbance	Junction 0.5 D
Upstream disturbance	Damper 0.6 D
No. traverses & points sampled	6 42
Sample plane conformance to USEPA Method 1	Conforming (alternative procedure)

4 Plant Operating Conditions

See EnergyAustralia NSW Pty Ltd records for complete process conditions.

Based on information received from EnergyAustralia NSW Pty Ltd personnel, it is our understanding that samples were collected during typical plant operations.

Location	Test Date	Boiler Load
EPA 4 - Unit 1, Duct B (Lower)	20 January 2026	Stable at 220 MW
EPA 5 - Unit 1, Duct A (Upper)		
EPA 6 - Unit 2, Duct A (Lower)	29 January 2026	
EPA 7 - Unit 2, Duct B (Upper)	28 January 2026	

5 Test Methods

All sampling and analysis were 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	NSW EPA TM-1 (USEPA Method 1)	NA	NA	✓	NA
Flow rate, temperature & velocity	NSW EPA TM-2 (USEPA Method 2)	NSW EPA TM-2 (USEPA Method 2)	8%, 2%, 7%	NA	✓
Moisture content	NSW EPA TM-22 (USEPA Method 4)	NSW EPA TM-22 (USEPA Method 4)	8%	✓	✓
Molecular weight	NA	NSW EPA TM-23 (USEPA Method 3)	not specified	NA	✓
Dry gas density	NA	NSW EPA TM-23 (USEPA Method 3)	not specified	NA	✓
Combination of air impurities from two or more sources	NA	NSW EPA TM-38	not specified	NA	✓
Carbon dioxide	NSW EPA TM-24 (USEPA Method 3A)	NSW EPA TM-24 (USEPA Method 3A)	13%	✓	✓
Oxygen	NSW EPA TM-25 (USEPA Method 3A)	NSW EPA TM-25 (USEPA Method 3A)	13%	✓	✓
Solid particles (total)	NSW EPA TM-15 (USEPA Method 17)	NSW EPA TM-15 (USEPA Method 17)	3%	✓	✓ ^{††}
Total (gaseous & particulate) metals & metallic compounds	NSW EPA TM-12, NSW EPA TM-13, NSW EPA TM- 14 (USEPA Method 29)	Ektimo 666	not specified	✓	✓ [†]
Type 1 substances (As, Cd, Hg, Pb, Sb)	NSW EPA TM-12 (USEPA Method 29)	Ektimo 666	not specified	✓	✓ [†]
Type 2 substances (Be, Cr, Co, Mn, Ni, Se, Sn, V)	NSW EPA TM-13 (USEPA Method 29)	Ektimo 666	not specified	✓	✓ [†]
Metals (Zn)	USEPA Method 29	Ektimo 666	not specified	✓	✓ [†]

230126

* 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 11 February 2026 in report LV-008426.

†† Gravimetric analysis conducted at the Ektimo NSW laboratory.

6 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.

Unless specifically noted, all samples were collected and handled in accordance with Ektimo's QA/QC standards.

7 Definitions

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

% v/v	Volume to volume ratio
~	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
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.
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
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
RATA	Relative accuracy test audit
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
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.
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.

8 Appendices

Appendix A: Chain of Custody



Checked at Ektimo Dispatch by Wahy 2-2-26
Sign/Date

Please send all results and queries to: laboratory@ektimo.com.au
Samples received in good order AKO 3/2
Sign/Date

Sample ID	Job No.	Analysis Required	Units Required	Analytical Lab	Purchase Order No.	Ektimo Contact	Notes	TAT Required (days)
N 25709	019893	Metals on filter (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/sample	Ektimo		Ahmad Ramiz	Filter Blank	
N 25710	019893	Metals in solution (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/litre	Ektimo		Ahmad Ramiz	Imp 1-4 Blank	
N 25711	019893	Metals in solution (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/litre	Ektimo		Ahmad Ramiz	Metal Rinse Blank	
N 25712	019893	Metals in solution (Hg)	ug/litre	Ektimo		Ahmad Ramiz	Imp 5-6 Blank	
N 25713	019893	Metals in solution (Hg)	ug/litre	Ektimo		Ahmad Ramiz	HCl Rinse Blank	
N 25714	019893	Metals on filter (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/sample	Ektimo		Ahmad Ramiz	Filter	
N 25715	019893	Metals in solution (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/litre	Ektimo		Ahmad Ramiz	Imp 1-4	
N 25716	019893	Metals in solution (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/litre	Ektimo		Ahmad Ramiz	Metal Rinse	
N 25717	019893	Metals in solution (Hg)	ug/litre	Ektimo		Ahmad Ramiz	Imp 5-6	
N 25718	019893	Metals in solution (Hg)	ug/litre	Ektimo		Ahmad Ramiz	HCl Rinse	
N 25719	019893	Metals on filter (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/sample	Ektimo		Ahmad Ramiz	Filter	
N 25720	019893	Metals in solution (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/litre	Ektimo		Ahmad Ramiz	Imp 1-4	
N 25721	019893	Metals in solution (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/litre	Ektimo		Ahmad Ramiz	Metal Rinse	
N 25722	019893	Metals in solution (Hg)	ug/litre	Ektimo		Ahmad Ramiz	Imp 5-6	
N 25723	019893	Metals in solution (Hg)	ug/litre	Ektimo		Ahmad Ramiz	HCl Rinse	
N 25724	019893	Metals on filter (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/sample	Ektimo		Ahmad Ramiz	Filter	
N 25725	019893	Metals in solution (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/litre	Ektimo		Ahmad Ramiz	Imp 1-4	
N 25726	019893	Metals in solution (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/litre	Ektimo		Ahmad Ramiz	Metal Rinse	
N 25727	019893	Metals in solution (Hg)	ug/litre	Ektimo		Ahmad Ramiz	Imp 5-6	
N 25728	019893	Metals in solution (Hg)	ug/litre	Ektimo		Ahmad Ramiz	HCl Rinse	
N 25729	019893	Metals on filter (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/sample	Ektimo		Ahmad Ramiz	Filter	
N 25730	019893	Metals in solution (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/litre	Ektimo		Ahmad Ramiz	Imp 1-4	
N 25731	019893	Metals in solution (Ektimo) (Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Sn, V, Zn)	ug/litre	Ektimo		Ahmad Ramiz	Metal Rinse	
N 25732	019893	Metals in solution (Hg)	ug/litre	Ektimo		Ahmad Ramiz	Imp 5-6	
N 25733	019893	Metals in solution (Hg)	ug/litre	Ektimo		Ahmad Ramiz	HCl Rinse	

rec'd & logged 3/2

5x Metals (F)

10x Metals (S)

10x Hg

Appendix B: Laboratory Results



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ABN 86 600 381 413

CERTIFICATE OF ANALYSIS

Testing Laboratory: Ektimo
26 Redland Drive
Mitcham, VIC 3132

Report Number: LV-008426
Job Number: R019893
Date of Issue: 11/02/2026

Attention: EnergyAustralia NSW Pty Ltd (Mt Piper)
Address: Mt Piper Power Station, Locked Mail Bag 1
Portland NSW 2847

Date samples received: 3/2/2026
Number of samples received: 25
Date samples analysed: 9/02/2026
No of samples analysed: 25
Test method(s) used: Ektimo 666

Comments

QC Acceptance Criteria:	Parameter	Criteria	Pass/Fail
	Standard Curve	$R^2 > 0.99$	Pass
	Range	All samples < 110% of highest standard	Pass
	Repeat samples	Between 70% - 130%	Pass
	Method Blanks	All method blanks < PQL	Pass
	QC sample	2 standard deviations of theoretical	Pass
	Chemical Expiry	All chemicals within expiry date	Pass

This report supersedes any previous report(s) with this reference. Sample(s) have been analysed as received.

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

A formal Quality Control program is in place at Ektimo to monitor analyses performed in the laboratory and sampling conducted in the field. The program is designed to check where appropriate, the sampling reproducibility, analytical method, accuracy, precision and the performance of the analyst. The Laboratory Manager is responsible for the administration and maintenance of this program.

REPORT AUTHORISATION

Version: 291025



Daniel Balaam
Laboratory Chemist



Cappi Tuffery
Senior Laboratory Chemist



NATA Accredited Laboratory 14601

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

Analytical Results

Report No. LV-008426

Job No. R019893

Client Name: Energy Australia Mt. Piper

Parameter	PQL	Units	N 25709 R019893	N 25710 R019893	N 25711 R019893	N 25712 R019893
Volume	1	mL		195	232	190
Antimony	1	µg/L		<1	<1	
Arsenic	1	µg/L		<1	<1	
Beryllium	0.1	µg/L		<0.1	<0.1	
Cadmium	0.1	µg/L		<0.1	<0.1	
Chromium	1	µg/L		<1	<1	
Cobalt	0.1	µg/L		<0.1	<0.1	
Copper	1	µg/L		<1	<1	
Lead	1	µg/L		<1	<1	
Manganese	1	µg/L		2.8	<1	
Mercury	0.1	µg/L		<0.1	<0.1	<0.1
Nickel	1	µg/L		<1	<1	
Selenium	0.1	µg/L		<0.1	<0.1	
Tin	1	µg/L		<1	<1	
Vanadium	0.1	µg/L		<0.1	<0.1	
Zinc	1	µg/L		39	4.2	
Antimony (Total)	0.031	µg	<0.31			
Arsenic (Total)	0.031	µg	<0.31			
Beryllium (Total)	0.0031	µg	<0.031			
Cadmium (Total)	0.0031	µg	<0.031			
Chromium (Total)	0.031	µg	1.9			
Cobalt (Total)	0.0031	µg	0.75			
Copper (Total)	0.031	µg	0.32			
Lead (Total)	0.031	µg	<0.31			
Manganese (Total)	0.031	µg	<0.31			
Mercury (Total)	0.0031	µg	<0.031			
Nickel (Total)	0.031	µg	0.65			
Selenium (Total)	0.0031	µg	<0.031			
Tin (Total)	0.031	µg	<0.31			
Vanadium (Total)	0.0031	µg	<0.031			
Zinc (Total)	0.031	µg	0.65			

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



NATA Accredited Laboratory 14601

Results page 2 of 8

Analytical Results

Report No. LV-008426

Job No. R019893

Client Name: Energy Australia Mt. Piper

Parameter	PQL	Units	N 25713 R019893	N 25714 R019893	N 25715 R019893	N 25716 R019893
Volume	1	mL	198		224	186
Antimony	1	µg/L			<1	<1
Arsenic	1	µg/L			<1	<1
Beryllium	0.1	µg/L			<0.1	<0.1
Cadmium	0.1	µg/L			13	0.44
Chromium	1	µg/L			1.6	<1
Cobalt	0.1	µg/L			<0.1	<0.1
Copper	1	µg/L			8	2
Lead	1	µg/L			4.7	<1
Manganese	1	µg/L			5.6	1.6
Mercury	0.1	µg/L	<0.1		1.7	<0.1
Nickel	1	µg/L			4.6	1.6
Selenium	0.1	µg/L			0.95	<0.1
Tin	1	µg/L			<1	<1
Vanadium	0.1	µg/L			0.13	0.11
Zinc	1	µg/L			57	15
Antimony (Total)	0.031	µg		<0.31		
Arsenic (Total)	0.031	µg		<0.31		
Beryllium (Total)	0.0031	µg		<0.031		
Cadmium (Total)	0.0031	µg		<0.031		
Chromium (Total)	0.031	µg		3.3		
Cobalt (Total)	0.0031	µg		0.76		
Copper (Total)	0.031	µg		0.71		
Lead (Total)	0.031	µg		0.44		
Manganese (Total)	0.031	µg		0.49		
Mercury (Total)	0.0031	µg		<0.031		
Nickel (Total)	0.031	µg		2.5		
Selenium (Total)	0.0031	µg		1.7		
Tin (Total)	0.031	µg		<0.31		
Vanadium (Total)	0.0031	µg		0.082		
Zinc (Total)	0.031	µg		4.2		

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



NATA Accredited Laboratory 14601

Results page 3 of 8

Analytical Results

Report No. LV-008426

Job No. R019893

Client Name: Energy Australia Mt. Piper

Parameter	PQL	Units	N 25717 R019893	N 25718 R019893	N 25719 R019893	N 25720 R019893
Volume	1	mL	350	220		236
Antimony	1	µg/L				<1
Arsenic	1	µg/L				<1
Beryllium	0.1	µg/L				<0.1
Cadmium	0.1	µg/L				0.94
Chromium	1	µg/L				<1
Cobalt	0.1	µg/L				<0.1
Copper	1	µg/L				4.1
Lead	1	µg/L				3.1
Manganese	1	µg/L				7.6
Mercury	0.1	µg/L	<0.1	<0.1		1.3
Nickel	1	µg/L				1.4
Selenium	0.1	µg/L				0.48
Tin	1	µg/L				<1
Vanadium	0.1	µg/L				<0.1
Zinc	1	µg/L				37
Antimony (Total)	0.031	µg			<0.31	
Arsenic (Total)	0.031	µg			<0.31	
Beryllium (Total)	0.0031	µg			<0.031	
Cadmium (Total)	0.0031	µg			0.049	
Chromium (Total)	0.031	µg			2.4	
Cobalt (Total)	0.0031	µg			0.75	
Copper (Total)	0.031	µg			0.46	
Lead (Total)	0.031	µg			<0.31	
Manganese (Total)	0.031	µg			0.38	
Mercury (Total)	0.0031	µg			<0.031	
Nickel (Total)	0.031	µg			1.2	
Selenium (Total)	0.0031	µg			1.5	
Tin (Total)	0.031	µg			<0.31	
Vanadium (Total)	0.0031	µg			0.068	
Zinc (Total)	0.031	µg			1.3	

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



NATA Accredited Laboratory 14601

Results page 4 of 8

Analytical Results

Report No. LV-008426

Job No. R019893

Client Name: Energy Australia Mt. Piper

Parameter	PQL	Units	N 25721 R019893	N 25722 R019893	N 25723 R019893	N 25724 R019893
Volume	1	mL	218	455	202	
Antimony	1	µg/L	<1			
Arsenic	1	µg/L	<1			
Beryllium	0.1	µg/L	<0.1			
Cadmium	0.1	µg/L	0.15			
Chromium	1	µg/L	<1			
Cobalt	0.1	µg/L	<0.1			
Copper	1	µg/L	5.7			
Lead	1	µg/L	1.5			
Manganese	1	µg/L	15			
Mercury	0.1	µg/L	<0.1	<0.1	<0.1	
Nickel	1	µg/L	2			
Selenium	0.1	µg/L	<0.1			
Tin	1	µg/L	<1			
Vanadium	0.1	µg/L	0.2			
Zinc	1	µg/L	22			
Antimony (Total)	0.031	µg				<0.31
Arsenic (Total)	0.031	µg				<0.31
Beryllium (Total)	0.0031	µg				<0.031
Cadmium (Total)	0.0031	µg				0.061
Chromium (Total)	0.031	µg				12
Cobalt (Total)	0.0031	µg				0.91
Copper (Total)	0.031	µg				1.1
Lead (Total)	0.031	µg				4.3
Manganese (Total)	0.031	µg				1.8
Mercury (Total)	0.0031	µg				<0.031
Nickel (Total)	0.031	µg				9
Selenium (Total)	0.0031	µg				1.6
Tin (Total)	0.031	µg				<0.31
Vanadium (Total)	0.0031	µg				0.13
Zinc (Total)	0.031	µg				11

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



NATA Accredited Laboratory 14601

Results page 5 of 8

Analytical Results

Report No. LV-008426

Job No. R019893

Client Name: Energy Australia Mt. Piper

Parameter	PQL	Units	N 25725 R019893	N 25726 R019893	N 25727 R019893	N 25728 R019893
Volume	1	mL	224	204	335	164
Antimony	1	µg/L	<1	<1		
Arsenic	1	µg/L	<1	<1		
Beryllium	0.1	µg/L	<0.1	<0.1		
Cadmium	0.1	µg/L	<0.1	<0.1		
Chromium	1	µg/L	1.3	<1		
Cobalt	0.1	µg/L	<0.1	<0.1		
Copper	1	µg/L	2.4	2		
Lead	1	µg/L	<1	<1		
Manganese	1	µg/L	4.2	2		
Mercury	0.1	µg/L	0.8	<0.1	<0.1	<0.1
Nickel	1	µg/L	1.2	1.6		
Selenium	0.1	µg/L	0.53	<0.1		
Tin	1	µg/L	<1	<1		
Vanadium	0.1	µg/L	<0.1	0.19		
Zinc	1	µg/L	47	14		
Antimony (Total)	0.031	µg				
Arsenic (Total)	0.031	µg				
Beryllium (Total)	0.0031	µg				
Cadmium (Total)	0.0031	µg				
Chromium (Total)	0.031	µg				
Cobalt (Total)	0.0031	µg				
Copper (Total)	0.031	µg				
Lead (Total)	0.031	µg				
Manganese (Total)	0.031	µg				
Mercury (Total)	0.0031	µg				
Nickel (Total)	0.031	µg				
Selenium (Total)	0.0031	µg				
Tin (Total)	0.031	µg				
Vanadium (Total)	0.0031	µg				
Zinc (Total)	0.031	µg				

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



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Results page 6 of 8

Analytical Results

Report No. LV-008426

Job No. R019893

Client Name: Energy Australia Mt. Piper

Parameter	PQL	Units	N 25729 R019893	N 25730 R019893	N 25731 R019893	N 25732 R019893
Volume	1	mL		290	194	455
Antimony	1	µg/L		<1	<1	
Arsenic	1	µg/L		<1	<1	
Beryllium	0.1	µg/L		<0.1	<0.1	
Cadmium	0.1	µg/L		0.26	0.14	
Chromium	1	µg/L		<1	1.2	
Cobalt	0.1	µg/L		<0.1	<0.1	
Copper	1	µg/L		3.3	3.4	
Lead	1	µg/L		<1	<1	
Manganese	1	µg/L		1.6	4	
Mercury	0.1	µg/L		<0.1	<0.1	<0.1
Nickel	1	µg/L		1.8	6.1	
Selenium	0.1	µg/L		1	<0.1	
Tin	1	µg/L		<1	<1	
Vanadium	0.1	µg/L		<0.1	0.22	
Zinc	1	µg/L		19	19	
Antimony (Total)	0.031	µg	<0.31			
Arsenic (Total)	0.031	µg	<0.31			
Beryllium (Total)	0.0031	µg	<0.031			
Cadmium (Total)	0.0031	µg	<0.031			
Chromium (Total)	0.031	µg	6.1			
Cobalt (Total)	0.0031	µg	0.79			
Copper (Total)	0.031	µg	0.53			
Lead (Total)	0.031	µg	2.3			
Manganese (Total)	0.031	µg	0.64			
Mercury (Total)	0.0031	µg	<0.031			
Nickel (Total)	0.031	µg	3.5			
Selenium (Total)	0.0031	µg	0.44			
Tin (Total)	0.031	µg	<0.31			
Vanadium (Total)	0.0031	µg	0.1			
Zinc (Total)	0.031	µg	6.3			

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



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Analytical Results

Report No. LV-008426

Job No. R019893

Client Name: Energy Australia Mt. Piper

Parameter	PQL	Units	N 25733 R019893
Volume	1	mL	200
Antimony	1	µg/L	
Arsenic	1	µg/L	
Beryllium	0.1	µg/L	
Cadmium	0.1	µg/L	
Chromium	1	µg/L	
Cobalt	0.1	µg/L	
Copper	1	µg/L	
Lead	1	µg/L	
Manganese	1	µg/L	
Mercury	0.1	µg/L	<0.1
Nickel	1	µg/L	
Selenium	0.1	µg/L	
Tin	1	µg/L	
Vanadium	0.1	µg/L	
Zinc	1	µg/L	
Antimony (Total)	0.031	µg	
Arsenic (Total)	0.031	µg	
Beryllium (Total)	0.0031	µg	
Cadmium (Total)	0.0031	µg	
Chromium (Total)	0.031	µg	
Cobalt (Total)	0.0031	µg	
Copper (Total)	0.031	µg	
Lead (Total)	0.031	µg	
Manganese (Total)	0.031	µg	
Mercury (Total)	0.0031	µg	
Nickel (Total)	0.031	µg	
Selenium (Total)	0.0031	µg	
Tin (Total)	0.031	µg	
Vanadium (Total)	0.0031	µg	
Zinc (Total)	0.031	µg	

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



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Experts in air quality, odour and emission monitoring.

Emission Testing Report

Report: R020240 [DRAFT]

EnergyAustralia NSW Pty Ltd, Mt Piper Power Station



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: EnergyAustralia NSW Pty Ltd
Report Number: R020240[DRAFT]
Date of Issue: 20 May 2026
Attention: Jarvis Lulham
Address: Mt Piper Power Station, Locked Mail Bag 1
Portland NSW 2847
Testing Laboratory: Ektimo Pty Ltd, ABN 86 600 381 413

Report Authorisation

Ahmad Ramiz
Air Monitoring Consultant



NATA Accredited Laboratory
No. 14601



Aaron Davis
Ektimo Signatory

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1 Executive Summary

1.1 Background

Ektimo was engaged by EnergyAustralia NSW Pty Ltd to perform emission testing at Mt Piper Power Station, Portland, NSW. Testing was carried out in accordance with Environment Protection Licence 13007.

1.2 Project Objective & Overview

The objective of the project was to conduct a monitoring programme to quantify emissions from four (4) discharge points to determine compliance with EnergyAustralia NSW Pty Ltd's Environmental Licence.

Monitoring was performed as follows:

Location	Test Date	Test Parameters*
EPA 4 - Unit 1, Duct B (Lower)	21 April 2026	Solid particles (total) Sulfuric acid mist and sulfur trioxide (as SO ₃) Oxygen (O ₂), carbon dioxide (CO ₂)
		Fluorine and fluorine compounds as (as total fluoride) Hydrogen chloride (HCl) Chlorine and chlorine compounds (as Cl ₂) Volatile organic compounds (VOCs) Oxygen (O ₂), carbon dioxide (CO ₂), nitrogen oxides (as NO ₂), sulfur dioxide (SO ₂)
EPA 5 - Unit 1, Duct A (Upper)	21 April 2026	Solid particles (total) Oxygen (O ₂), carbon dioxide (CO ₂)
EPA 6 - Unit 2, Duct A (Lower)	22 April 2026	Solid particles (total) Sulfuric acid mist and sulfur trioxide (as SO ₃) Oxygen (O ₂), carbon dioxide (CO ₂)
		Fluorine and fluorine compounds as (as total fluoride) Hydrogen chloride (HCl) Chlorine and chlorine compounds (as Cl ₂) Volatile organic compounds (VOCs) Oxygen (O ₂), carbon dioxide (CO ₂), nitrogen oxides (as NO ₂), sulfur dioxide (SO ₂)
EPA 7 - Unit 2, Duct B (Upper)	22 April 2026	Solid particles (total) Oxygen (O ₂), carbon dioxide (CO ₂)

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

All volume-based concentrations are reported on a dry basis at STP.

Plant operating conditions have been noted in this report.

1.3 Results Summary

The following licence comparison table shows that all analytes are within the licence limit set by the NSW EPA as per licence 13007 (last amended on 12 February 2026).

Report Number	R020240		R020240		
Test Date	21/04/26		21/04/26		
EPA	5		4		
Unit	Unit 1 Duct A		Unit 1 Duct B		
			EPA 2		
	LIMIT	UNITS	Measured Results		Combined Ducts
Volatile organic compounds as n-propane equivalent	8	mg/m³	-	<0.09	-
Fluorine	30	mg/m³	-	3	-
Hydrogen chloride	50	mg/m³	-	0.49	-
Chlorine	4	mg/m³	-	0.06	-
Sulfuric acid mist and sulfur trioxide (as SO₃)	100	mg/m³	-	1.9	-
Solid particles	50	mg/m³	2.9	3.4	3.2

Combined air emissions from **boiler 1** via points 4 & 5.

All results corrected to 7% oxygen correction.

Report Number	R020240		R020240		
Test Date	22/04/26		22/04/26		
EPA	6		7		
Unit	Unit 2 Duct A		Unit 2 Duct B		
EPA 3					
	LIMIT	UNITS	Measured Results		Combined Ducts
Volatile organic compounds as n-propane equivalent	8	mg/m³	<0.07	-	-
Fluorine	30	mg/m³	6.3	-	-
Hydrogen chloride	50	mg/m³	1.1	-	-
Chlorine	4	mg/m³	<0.03	-	-
Sulfuric acid mist and sulfur trioxide (as SO₃)	100	mg/m³	2.5	-	-
Solid particles	50	mg/m³	<3	<3	≤3

Combined air emissions from **boiler 2** via points 6 & 7.

All results corrected to 7% oxygen correction.

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

Refer to the Test Methods table for the measurement uncertainties.

2 Results

2.1 EPA 4 - Unit 1, Duct B

Date	21/04/2026	Client	EnergyAustralia
Report	R020240	Stack ID	Mt Piper Power Station - EPA 4 Unit 1 Duct B (Lower)
Licence No.	13007	Location	Portland
Ektimo Staff	Ahmad Ramiz/Mohamed Trabelsi	State	NSW
Process Conditions	Load stable at 220 MW		

260310

Stack Parameters			
Moisture content, %v/v	5		
Gas molecular weight, g/g mole	29.4 (wet)	30.0 (dry)	
Gas density at STP, kg/m ³	1.31 (wet)	1.34 (dry)	
Gas density at discharge conditions, kg/m ³	0.84		
% Oxygen correction & Factor	7 %	1.48	
Gas Flow Parameters			
Temperature, °C	114		
Temperature, K	387		
Ambient pressure, kPa	92		
Stack pressure, kPa	91		
Velocity at sampling plane, m/s	9.4		
Volumetric flow rate, actual, m ³ /s	340		
Volumetric flow rate (wet STP), m ³ /s	220		
Volumetric flow rate (dry STP), m ³ /s	200		
Mass flow rate (wet basis), kg/h	1000000		

Gas Analyser Results		Average	Minimum	Maximum
	Sampling time	1106 - 1240	1106 - 1240	1106 - 1240
		Concentration	Concentration	Concentration
		%v/v	%v/v	%v/v
Carbon dioxide		8.9	8.6	9
Oxygen		11.5	11.4	11.8

Isokinetic Results		Results		
	Sampling time	1106-1240		
		Corrected to		
		Concentration	7% O ₂	Mass Rate
		mg/m ³	mg/m ³	g/min
Solid Particles		2.3	3.4	28
Sulfur trioxide and/or Sulfuric acid (as SO ₃)		1.3	1.9	15
Isokinetic Sampling Parameters				
Sampling time, min			84	
Isokinetic rate, %			100	
Gravimetric analysis date (total particulate)			28-04-2026	

Date	21/04/2026	Client	EnergyAustralia
Report	R020240	Stack ID	Mt Piper Power Station - EPA 4 Unit 1 Duct B (Lower)
Licence No.	13007	Location	Portland
Ektimo Staff	Ahmad Ramiz/Mohamed Trabelsi	State	NSW
Process Conditions	Load stable at 220 MW		

2603D

Stack Parameters			
Moisture content, %v/v	4.5		
Gas molecular weight, g/g mole	29.5 (wet)	30.0 (dry)	
Gas density at STP, kg/m ³	1.31 (wet)	1.34 (dry)	
Gas density at discharge conditions, kg/m ³	0.84		
% Oxygen correction & Factor	7 %	1.48	
Gas Flow Parameters			
Temperature, °C	114		
Temperature, K	387		
Ambient pressure, kPa	92		
Stack pressure, kPa	91		
Velocity at sampling plane, m/s	9.3		
Volumetric flow rate, actual, m ³ /s	340		
Volumetric flow rate (wet STP), m ³ /s	210		
Volumetric flow rate (dry STP), m ³ /s	200		
Mass flow rate (wet basis), kg/h	1000000		

Gas Analyser Results	Average			Minimum			Maximum		
	0841 - 1042			0841 - 1042			0841 - 1042		
	Corrected to			Corrected to			Corrected to		
	Concentration	7% O2	Mass Rate	Concentration	7% O2	Mass Rate	Concentration	7% O2	Mass Rate
	mg/m³	mg/m³	g/min	mg/m³	mg/m³	g/min	mg/m³	mg/m³	g/min
Combustion Gases									
Nitrogen oxides (as NO₂)	220	320	2700	190	280	2300	240	350	2900
Sulfur dioxide	830	1200	10000	550	810	6700	880	1300	11000
		Concentration			Concentration			Concentration	
		%v/v			%v/v			%v/v	
Carbon dioxide		8.8			7.8			9.2	
Oxygen		11.5			11			12.6	

Isokinetic Results	Sampling time	Results 0841-1042		
		Corrected to		
		Concentration mg/m ³	7% O ₂ mg/m ³	Mass Rate g/min
Chlorine		0.04	0.06	0.49
Total fluoride (as HF)		2	3	24
Hydrogen chloride		0.33	0.49	4.1
Isokinetic Sampling Parameters				
Sampling time, min		84		
Isokinetic rate, %		100		

Total VOCs (as n-Propane)	Sampling time	Results 0912-1012		
		Corrected to		
		Concentration mg/m ³	7% O ₂ mg/m ³	Mass Rate g/min
Total		<0.06	<0.09	<0.8

VOC (speciated)	Sampling time	Results 0912-1012		
		Corrected to		
		Concentration mg/m ³	7% O ₂ mg/m ³	Mass Rate g/min
Detection limit ⁽¹⁾		<0.07	<0.1	<0.8

(1) Unless otherwise reported, the following target compounds were found to be below detection:

Ethanol, Acetone, Isopropanol, Pentane, 1,1-Dichloroethene, Acrylonitrile, Dichloromethane, trans-12-Dichloroethene, Methyl ethyl ketone, n-Hexane, cis-12-Dichloroethene, Ethyl acetate, Chloroform, 1,1,1-Trichloroethane, 1,2-Dichloroethane, Cyclohexane, Benzene, Carbon tetrachloride, Butanol, Isopropyl acetate, 2-Methylhexane, 2,3-Dimethylpentane, 1-Methoxy-2-propanol, 3-Methylhexane, Heptane, Trichloroethylene, Ethyl acrylate, Methyl methacrylate, Propyl acetate, Methylcyclohexane, Methyl Isobutyl Ketone, Toluene, 1,1,2-Trichloroethane, 2-Hexanone, Octane, Tetrahydrofuran, Butyl acetate, Chlorobenzene, Ethylbenzene, m + p-Xylene, 1-Methoxy-2-propyl acetate, Styrene, o-Xylene, Butyl acrylate, Nonane, 2-Butoxyethanol, Cellosolve acetate, 1,1,2,2-Tetrachloroethane, Isopropylbenzene, alpha-Pinene, Propylbenzene, 1,3,5-Trimethylbenzene, beta-Pinene, tert-Butylbenzene, 1,2,4-Trimethylbenzene, Decane, 3-Carene, 1,2,3-Trimethylbenzene, D-Limonene, Undecane, Dodecane, Tridecane, Tetradecane, Residuals as Toluene

2.2 EPA 5 - Unit 1, Duct A

Date	21/04/2026	Client	EnergyAustralia
Report	R020240	Stack ID	Mt Piper Power Station - EPA 5 Unit 1 Duct A (Upper)
Licence No.	13007	Location	Portland
Ektimo Staff	Ahmad Ramiz/Mohamed Trabelsi	State	NSW
Process Conditions	Load stable at 220 MW		

260310

Stack Parameters			
Moisture content, %v/v	5		
Gas molecular weight, g/g mole	29.4 (wet)	30.0 (dry)	
Gas density at STP, kg/m ³	1.31 (wet)	1.34 (dry)	
Gas density at discharge conditions, kg/m ³	0.84		
% Oxygen correction & Factor	7 %	1.46	
Gas Flow Parameters			
Temperature, °C	112		
Temperature, K	385		
Ambient pressure, kPa	92		
Stack pressure, kPa	91		
Velocity at sampling plane, m/s	9.2		
Volumetric flow rate, actual, m ³ /s	330		
Volumetric flow rate (wet STP), m ³ /s	210		
Volumetric flow rate (dry STP), m ³ /s	200		
Mass flow rate (wet basis), kg/h	1000000		

Gas Analyser Results		Average	Minimum	Maximum
	Sampling time	1318 - 1454	1318 - 1454	1318 - 1454
		Concentration	Concentration	Concentration
		%v/v	%v/v	%v/v
Carbon dioxide		8.9	8.7	9.1
Oxygen		11.4	11.2	11.5

Isokinetic Results		Results		
	Sampling time	1318-1454		
		Corrected to		
		Concentration	7% O2	Mass Rate
		mg/m ³	mg/m ³	g/min
Solid Particles		2	2.9	24
Isokinetic Sampling Parameters				
Sampling time, min			84	
Isokinetic rate, %			100	
Gravimetric analysis date (total particulate)			28-04-2026	

2.3 EPA 6 - Unit 2, Duct A

Date	22/04/2026	Client	EnergyAustralia
Report	R020240	Stack ID	Mt Piper Power Station - EPA 6 Unit 2 Duct A (Lower)
Licence No.	13007	Location	Portland
Ektimo Staff	Ahmad Ramiz/Mohamed Trabelsi	State	NSW
Process Conditions	Load stable at 220 MW		

260310

Stack Parameters			
Moisture content, %v/v	5.1		
Gas molecular weight, g/g mole	29.4 (wet)	30.0 (dry)	
Gas density at STP, kg/m ³	1.31 (wet)	1.34 (dry)	
Gas density at discharge conditions, kg/m ³	0.84		
% Oxygen correction & Factor	7 %	1.58	
Gas Flow Parameters			
Temperature, °C	112		
Temperature, K	385		
Ambient pressure, kPa	92		
Stack pressure, kPa	91		
Velocity at sampling plane, m/s	9.9		
Volumetric flow rate, actual, m ³ /s	360		
Volumetric flow rate (wet STP), m ³ /s	230		
Volumetric flow rate (dry STP), m ³ /s	220		
Mass flow rate (wet basis), kg/h	1100000		

Gas Analyser Results		Average	Minimum	Maximum
	Sampling time	0936 - 1107	0936 - 1107	0936 - 1107
		Concentration	Concentration	Concentration
		%v/v	%v/v	%v/v
Carbon dioxide		8.4	8.2	8.6
Oxygen		12.1	11.9	12.3

Isokinetic Results		Results		
	Sampling time	0936-1107		
		Corrected to		
		Concentration	7% O ₂	Mass Rate
		mg/m ³	mg/m ³	g/min
Solid Particles		<2	<3	<30
Sulfur trioxide and/or Sulfuric acid (as SO ₃)		1.6	2.5	21
Isokinetic Sampling Parameters				
Sampling time, min		84		
Isokinetic rate, %		100		
Gravimetric analysis date (total particulate)		28-04-2026		

Date	22/04/2026	Client	EnergyAustralia
Report	R020240	Stack ID	Mt Piper Power Station - EPA 6 Unit 2 Duct A (Lower)
Licence No.	13007	Location	Portland
Ektimo Staff	Ahmad Ramiz/Mohamed Trabelsi	State	NSW
Process Conditions	Load stable at 220 MW		

2603D

Stack Parameters			
Moisture content, %v/v	4.9		
Gas molecular weight, g/g mole	29.4 (wet)	30.0 (dry)	
Gas density at STP, kg/m ³	1.31 (wet)	1.34 (dry)	
Gas density at discharge conditions, kg/m ³	0.84		
% Oxygen correction & Factor	7 %	1.52	
Gas Flow Parameters			
Temperature, °C	112		
Temperature, K	385		
Ambient pressure, kPa	92		
Stack pressure, kPa	91		
Velocity at sampling plane, m/s	9.6		
Volumetric flow rate, actual, m ³ /s	350		
Volumetric flow rate (wet STP), m ³ /s	220		
Volumetric flow rate (dry STP), m ³ /s	210		
Mass flow rate (wet basis), kg/h	1000000		

Gas Analyser Results	Sampling time	Average 0745 - 0918			Minimum 0745 - 0918			Maximum 0745 - 0918		
		Corrected to			Corrected to			Corrected to		
		Concentration	7% O2	Mass Rate	Concentration	7% O2	Mass Rate	Concentration	7% O2	Mass Rate
		mg/m³	mg/m³	g/min	mg/m³	mg/m³	g/min	mg/m³	mg/m³	g/min
Combustion Gases										
Nitrogen oxides (as NO₂)		240	360	3000	230	350	2900	250	370	3100
Sulfur dioxide		790	1200	9900	630	960	8000	830	1300	10000
			Concentration		Concentration		Concentration		Concentration	
			%v/v		%v/v		%v/v		%v/v	
Carbon dioxide			8.7		7.7		9			
Oxygen			11.8		11.5		12.5			

Isokinetic Results	Sampling time	Results 0745-0918		
		Corrected to		
		Concentration mg/m ³	7% O ₂ mg/m ³	Mass Rate g/min
Chlorine		<0.02	<0.03	<0.2
Total fluoride (as HF)		4.1	6.3	52
Hydrogen chloride		0.69	1.1	8.7
Isokinetic Sampling Parameters				
Sampling time, min			84	
Isokinetic rate, %			100	

Total VOCs (as n-Propane)	Sampling time	Results 0754-0912		
		Corrected to		
		Concentration mg/m ³	7% O ₂ mg/m ³	Mass Rate g/min
Total		<0.05	<0.07	<0.6

VOC (speciated)	Sampling time	Results 0754-0912		
		Corrected to		
		Concentration mg/m ³	7% O ₂ mg/m ³	Mass Rate g/min
Detection limit ⁽¹⁾		<0.05	<0.07	<0.6

(1) Unless otherwise reported, the following target compounds were found to be below detection:

Ethanol, Acetone, Isopropanol, Pentane, 1,1-Dichloroethene, Acrylonitrile, Dichloromethane, trans-12-Dichloroethene, Methyl ethyl ketone, n-Hexane, cis-12-Dichloroethene, Ethyl acetate, Chloroform, 1,1,1-Trichloroethane, 1,2-Dichloroethane, Cyclohexane, Benzene, Carbon tetrachloride, Butanol, Isopropyl acetate, 2-Methylhexane, 2,3-Dimethylpentane, 1-Methoxy-2-propanol, 3-Methylhexane, Heptane, Trichloroethylene, Ethyl acrylate, Methyl methacrylate, Propyl acetate, Methylcyclohexane, Methyl Isobutyl Ketone, Toluene, 1,1,2-Trichloroethane, 2-Hexanone, Octane, Tetrachloroethene, Butyl acetate, Chlorobenzene, Ethylbenzene, m + p-Xylene, 1-Methoxy-2-propyl acetate, Styrene, o-Xylene, Butyl acrylate, Nonane, 2-Butoxyethanol, Cellosolve acetate, 1,1,2,2-Tetrachloroethane, Isopropylbenzene, alpha-Pinene, Propylbenzene, 1,3,5-Trimethylbenzene, beta-Pinene, tert-Butylbenzene, 1,2,4-Trimethylbenzene, Decane, 3-Carene, 1,2,3-Trimethylbenzene, D-Limonene, Undecane, Dodecane, Tridecane, Tetradecane, Residuals as Toluene

2.4 EPA 7 - Unit 2, Duct B

Date	22/04/2026	Client	EnergyAustralia
Report	R020240	Stack ID	Mt Piper Power Station - EPA 7 Unit 2 Duct B (Upper)
Licence No.	13007	Location	Portland
Ektimo Staff	Ahmad Ramiz/Mohamed Trabelsi	State	NSW
Process Conditions	Load stabilised at 220 MW		

260310

Stack Parameters			
Moisture content, %v/v	4.5		
Gas molecular weight, g/g mole	29.4 (wet)	29.9 (dry)	
Gas density at STP, kg/m ³	1.31 (wet)	1.34 (dry)	
Gas density at discharge conditions, kg/m ³	0.84		
% Oxygen correction & Factor	7 %	1.65	
Gas Flow Parameters			
Temperature, °C	111		
Temperature, K	385		
Ambient pressure, kPa	92		
Stack pressure, kPa	91		
Velocity at sampling plane, m/s	9.8		
Volumetric flow rate, actual, m ³ /s	350		
Volumetric flow rate (wet STP), m ³ /s	230		
Volumetric flow rate (dry STP), m ³ /s	220		
Mass flow rate (wet basis), kg/h	1100000		

Gas Analyser Results		Average	Minimum	Maximum
	Sampling time	1145 - 1315	1145 - 1315	1145 - 1315
		Concentration	Concentration	Concentration
		%v/v	%v/v	%v/v
Carbon dioxide		8.1	7.8	8.4
Oxygen		12.5	12.1	12.7

Isokinetic Results		Results		
	Sampling time	1145-1315		
		Corrected to		
		Concentration	7% O ₂	Mass Rate
		mg/m ³	mg/m ³	g/min
Solid Particles		<2	<3	<30
Isokinetic Sampling Parameters				
Sampling time, min			84	
Isokinetic rate, %			100	
Gravimetric analysis date (total particulate)			28-04-2026	

3 Sample Plane Compliance

3.1 EPA 4 & 5 - Unit 1, Duct A & B

Sampling Plane Details	
Source tested	Power plant - coal-fired
Pollution control equipment	Filter baghouse
Sampling plane dimensions	5460 x 6600 mm
Sampling plane area	36 m ²
Sampling port size, number	6" Flange (x6)
Duct orientation & shape	Horizontal Rectangular
Downstream disturbance	Junction 0.5 D
Upstream disturbance	Damper 0.6 D
No. traverses & points sampled	6 42
Sample plane conformance to USEPA Method 1	Conforming (alternative procedure)

3.2 EPA 6 & 7 - Unit 2, Duct A & B

Sampling Plane Details	
Source tested	Power plant - coal-fired
Pollution control equipment	Filter baghouse
Sampling plane dimensions	5460 x 6600 mm
Sampling plane area	36 m ²
Sampling port size, number	6" Flange (x6)
Duct orientation & shape	Horizontal Rectangular
Downstream disturbance	Junction 0.5 D
Upstream disturbance	Damper 0.6 D
No. traverses & points sampled	6 42
Sample plane conformance to USEPA Method 1	Conforming (alternative procedure)

4 Plant Operating Conditions

The below plant operating conditions have been supplied by EnergyAustralia NSW Pty Ltd personnel.

Based on information received from EnergyAustralia NSW Pty Ltd personnel, it is our understanding that samples were collected during typical plant operations.

Location	Test Date	Boiler Load
EPA 4 - Unit 1, Duct B (Lower)	21 April 2026	Stable at 220 MW
EPA 5 - Unit 1, Duct A (Upper)		
EPA 6 - Unit 2, Duct A (Lower)	22 April 2026	
EPA 7 - Unit 2, Duct B (Upper)		

5 Test Methods

All sampling and analysis were 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	NSW EPA TM-1 (USEPA Method 1)	NA	NA	✓	NA
Flow rate, temperature & velocity	NSW EPA TM-2 (USEPA Method 2)	NSW EPA TM-2 (USEPA Method 2)	8%, 2%, 7%	NA	✓
Moisture content	NSW EPA TM-22 (USEPA Method 4)	NSW EPA TM-22 (USEPA Method 4)	8%	✓	✓
Molecular weight	NA	NSW EPA TM-23 (USEPA Method 3)	not specified	NA	✓
Dry gas density	NA	NSW EPA TM-23 (USEPA Method 3)	not specified	NA	✓
Combination of air impurities from two or more sources	NA	NSW EPA TM-38	not specified	NA	✓
Carbon dioxide	NSW EPA TM-24 (USEPA Method 3A)	NSW EPA TM-24 (USEPA Method 3A)	13%	✓	✓
Nitrogen oxides	NSW EPA TM-11 (USEPA Method 7E)	NSW EPA TM-11 (USEPA Method 7E)	12%	✓	✓
Oxygen	NSW EPA TM-25 (USEPA Method 3A)	NSW EPA TM-25 (USEPA Method 3A)	13%	✓	✓
Sulfur dioxide	NSW EPA TM-4 (USEPA Method 6C)	NSW EPA TM-4 (USEPA Method 6C)	12%	✓	✓
Hydrogen halides & halogens [∞]	USEPA Method 26A	Ektimo 235	14%	✓	✓ [†]
Hydrogen halides (including soluble fluoride) ²	NSW EPA TM-8 (USEPA Method 26A)	Ektimo 235	not specified	✓	✓ ^{†i}
Speciated volatile organic compounds (VOCs)	NSW EPA TM-34 ^d (USEPA Method 18)	Ektimo 344	19%	✓	✓ [†]
Solid particles (total)	NSW EPA TM-15 (USEPA Method 17)	NSW EPA TM-15 (USEPA Method 17)	3%	✓	✓ ^{††}
Hydrogen chloride	NSW EPA TM-8 (USEPA Method 26A)	Ektimo 235	14%	✓	✓ ^{†i}
Chlorine	NSW EPA TM-7 (USEPA Method 26A)	Ektimo 235	14%	✓	✓ ^{†i}
Sulfuric acid mist and/or sulfur trioxide	NSW EPA TM-3 (USEPA Method 8)	Ektimo 235	16%	✓	✓ ^{†m}

240326

* 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:

- 5 May 2026 in report LV-008789.
- 8 May 2026 in report LV-008806.
- 12 May 2026 in report LV-008826.

†† Gravimetric analysis conducted at the Ektimo NSW laboratory.

² Sampling follows USEPA Method 26A and analysis follows Ektimo 235 (ion chromatography) which uses the same principle as USEPA Method 26A. Includes sampling & analysis of soluble fluoride.

[∞] Sampling follows USEPA Method 26A and analysis follows Ektimo 235 (ion chromatography) which uses the same principle as USEPA Method 26A and USEPA SW-846 Method 9056A (which is the NSW EPA approved alternative analysis method to USEPA Method 13B). Includes sampling & analysis of particulate fluoride.

^d Excludes recovery study as specified in section 8.4.3 of USEPA Test Method 18.

ⁱ Includes analysis of chlorine/chloride by Ektimo 235 which uses the same principle as USEPA Method 26/26A.

^m Includes analysis of SO₂/H₂SO₄ by Ektimo 235 which uses the same principle as USEPA SW-846 Method 9056A which is an approved alternative to the analytical procedure of USEPA Method 8.

6 Deviations to Test Methods

NSW EPA TM-9 FLUORINE

Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (NSW EPA) (2022) specifies TM-9 (USEPA 13B) for measurement of total fluoride emissions.

As per site-specific agreement between EnergyAustralia NSW and NSW EPA, Ektimo conducts sampling for particulate fluoride according to USEPA Method 26A (hydrogen halides and halogens) and analysis according to Ektimo Method 235 (ion chromatography). Ektimo Method 235 uses the same principle as USEPA SW-846 Method 9056A (which is the NSW EPA approved alternative analysis method to USEPA Method 13B).

Ektimo conducts sampling for soluble fluoride according to USEPA Method 26A (hydrogen halides and halogens) and analysis according to Ektimo Method 235 (ion chromatography) which uses the same principle as USEPA Method 26A.

NSW EPA TM-34 (USEPA 18)

Ektimo notes that the sampling and analysis of Volatile Organic Compounds (VOCs), per USEPA 18 has excluded the recovery study as specified in Section 8.4.3. Performing the recovery study described in Section 8.4.3 of USEPA Method 18 for analytes present at low levels is problematic. Given this, Ektimo applies a threshold of 50µg as a lower-bound mass, below which the 'spiking' of specific volatile organic compounds is not performed. For the purposes of this round of monitoring, no VOCs were detected above 50µg. Therefore, recovery studies were not deemed necessary for this sampling round.

7 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.

Unless specifically noted, all samples were collected and handled in accordance with Ektimo's QA/QC standards.

8 Definitions

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

% v/v	Volume to volume ratio, dry basis (except moisture)
~	Approximately
<	Less than
>	Greater than
≥	Greater than or equal to
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 odorant(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

9 Appendices

Appendix A: Chain of Custody



Checked at Ektimo Dispatch by Yifan Fu 23-4-2026
Sign/Date

Please send all results and queries to laboratory@ektimo.com.au
Samples received in good order YMa 24/4
Sign/Date

Sample ID	Job No.	Analysis Required	Units Required	Analytical Lab	Purchase Order No.	Ektimo Contact	Notes	TAT Required (days)
N 26527	/020240	Total F	ug/sample	Ektimo		Ahmad Ramiz	AI, Blank fiber -	
N 26528	/020240	Total F +HCl	ug/fibre	Ektimo		Ahmad Ramiz	AI, Blank A+B -	
N 26529	/020240	C2	ug/fibre	Ektimo		Ahmad Ramiz	AI, Blank C+D -	
N 26530	/020240	VOCa	ug/sample	Ektimo		Ahmad Ramiz	AI, Blank tube -	
N 26531	/020240	Total F	ug/sample	Ektimo		Ahmad Ramiz	EPAA U18, Filter A -	
N 26532	/020240	Total F +HCl	ug/fibre	Ektimo		Ahmad Ramiz	EPAA U18, Imp A+B -	
N 26533	/020240	C2	ug/fibre	Ektimo		Ahmad Ramiz	EPAA U18, Imp C+D -	
N 26534	/020240	VOCa	ug/sample	Ektimo		Ahmad Ramiz	EPAA U18, Tube A -	
N 26535	/020240	SO3	ug/fibre	Ektimo		Ahmad Ramiz	AI, Blank SO3 -	
N 26536	/020240	SO3	ug/fibre	Ektimo		Ahmad Ramiz	EPAA U18, Imp A+B SO3 -	
N 26537	/020240	Total F	ug/sample	Ektimo		Ahmad Ramiz	EPAA U2A, Filter A -	
N 26538	/020240	F, HCl	ug/fibre	Ektimo		Ahmad Ramiz	EPAA U2A, Imp A+B -	
N 26539	/020240	C2	ug/fibre	Ektimo		Ahmad Ramiz	EPAA U2A, Imp C+D -	
N 26540	/020240	VOCa	ug/sample	Ektimo		Ahmad Ramiz	EPAA U2A, Tube A -	
N 26541	/020240	SO3	ug/fibre	Ektimo		Ahmad Ramiz	EPAA U2A, Imp A SO3 -	

Appendix B: Laboratory Results



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info@ektimo.com.au
ektimo.com.au
ABN 86 600 381 413

CERTIFICATE OF ANALYSIS

Testing Laboratory: Ektimo
26 Redland Drive
Mitcham, VIC 3132

Report Number: LV-008789
Job Number: R020240
Date of Issue: 5/05/2026

Attention: EnergyAustralia NSW Pty Ltd
Address: Mt Piper Power Station, Locked Mail Bag 1
Portland NSW 2847

Date samples received: 24/04/2026
Number of samples received: 9
Date samples analysed: 4/05/2026
No of samples analysed: 9

Test method(s) used: Ektimo 235

Comments

QC Acceptance Criteria:	Parameter	Criteria	Pass/Fail
	Standard Curve	$R^2 > 0.99$	Pass
	Range	All samples < 110% of highest standard	Pass
	Repeat samples	Between 80% - 120%	Pass
	Method Blanks	All method blanks < PQL	Pass
	QC sample	2 standard deviations of theoretical	Pass
	Chemical Expiry	All chemicals within expiry date	Pass

This report supersedes any previous report(s) with this reference. Sample(s) have been analysed as received.

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A formal Quality Control program is in place at Ektimo to monitor analyses performed in the laboratory and sampling conducted in the field. The program is designed to check where appropriate, the sampling reproducibility, analytical method, accuracy, precision and the performance of the analyst. The Laboratory Manager is responsible for the administration and maintenance of this program.

REPORT AUTHORISATION

Version: 291025



Annie Kolokithas
Laboratory Technician



Cappi Tuffery
Laboratory Chemist



NATA Accredited Laboratory 14601

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

Analytical Results

Report No. LV-008789

Job No. R020240

Client Name: Energy Australia Mt. Piper

Parameter	PQL	Units	N 26527 R020240	N 26528 R020240	N 26529 R020240	N 26531 R020240
Volume	1	mL		210	222	
Hydrogen chloride (HCl) as Cl	0.1	mg/L		<0.1		
Chlorine (Cl) as Cl	0.1	mg/L			0.16	
Hydrogen fluoride (HF) as F	0.1	mg/L		<0.1		
Hydrogen fluoride (HF) as F (Total)	4	µg	<4			280

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



NATA Accredited Laboratory 14601

Results page 2 of 4

Analytical Results

Report No. LV-008789

Job No. R020240

Client Name: Energy Australia Mt. Piper

Parameter	PQL	Units	N 26532 R020240	N 26533 R020240	N 26537 R020240	N 26538 R020240
Volume	1	mL	279	212		277
Hydrogen chloride (HCl) as Cl	0.1	mg/L	1.3			2.8
Chlorine (Cl) as Cl	0.1	mg/L		0.38		
Hydrogen fluoride (HF) as F	0.1	mg/L	6.6			16
Hydrogen fluoride (HF) as F (Total)	4	µg			100	

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



NATA Accredited Laboratory 14601

Results page 3 of 4

Analytical Results

Report No. LV-008789

Job No. R020240

Client Name: Energy Australia Mt. Piper

Parameter	PQL	Units	N 26539 R020240
Volume	1	mL	208
Hydrogen chloride (HCl) as Cl	0.1	mg/L	
Chlorine (Cl) as Cl	0.1	mg/L	0.26
Hydrogen fluoride (HF) as F	0.1	mg/L	
Hydrogen fluoride (HF) as F (Total)	4	µg	

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



NATA Accredited Laboratory 14601

Results page 4 of 4

CERTIFICATE OF ANALYSIS

Testing Laboratory: Ektimo
26 Redland Drive
Mitcham, VIC 3132

Report Number: LV-008806
Job Number: R020240
Date of Issue: 8/05/2026

Attention: EnergyAustralia NSW Pty Ltd
Address: Mt Piper Power Station, Locked Mail Bag 1
Portland NSW 2847

Date samples received: 24/04/2026
Number of samples received: 3
Date samples analysed: 7/05/2026
No of samples analysed: 3

Test method(s) used: Ektimo 235

Comments

QC Acceptance Criteria:	Parameter	Criteria	Pass/Fail
	Standard Curve	$R^2 > 0.99$	Pass
	Range	All samples <110% of highest standard	Pass
	Repeat samples	Between 80% - 120%	Pass
	Method Blanks	All method blanks < PQL	Pass
	QC sample	2 standard deviations of theoretical	Pass
	Chemical Expiry	All chemicals within expiry date	Pass

This report supersedes any previous report(s) with this reference. Sample(s) have been analysed as received.

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 (National Association of Testing Authorities) 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.

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A formal Quality Control program is in place at Ektimo to monitor analyses performed in the laboratory and sampling conducted in the field. The program is designed to check where appropriate; the sampling reproducibility, analytical method, accuracy, precision and the performance of the analyst. The Laboratory Manager is responsible for the administration and maintenance of this program.

REPORT AUTHORISATION

Version: 291025

Annie Kolokithas
Laboratory TechnicianCappi Tuffery
Laboratory Chemist

NATA Accredited Laboratory 14601

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Analytical Results

Report No. LV-008806

Job No. R020240

Client Name: Energy Australia Mt. Piper

Parameter	PQL	Units	N 26535 R020240	N 26536 R020240	N 26541 R020240
Volume	1	mL	220	106	104
Sulfur trioxide (SO ₃) as SO ₂	0.2	mg/L	<0.2	16	22

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



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Results page 2 of 2

CERTIFICATE OF ANALYSIS

Testing Laboratory: Ektimo
26 Redland Drive
Mitcham, VIC 3132

Report Number: LV-008826
Job Number: R020240
Date of Issue: 12/05/2026

Attention: EnergyAustralia NSW Pty Ltd
Address: Mt Piper Power Station, Locked Mail Bag 1
Portland NSW 2847

Date samples received: 24/04/2026
Number of samples received: 3
Date samples analysed: 28/04/2026
No of samples analysed: 3

Test method(s) used: Ektimo 344

Comments

QC Acceptance Criteria:	Parameter	Criteria	Pass/Fail
	Standard Curve	$R^2 > 0.99$	Pass
	Range	All samples <110% of highest standard	Pass
	Repeat samples	Between 80% - 120%	Pass
	Method Blanks	All method blanks < PQL	Pass
	QC sample	2 standard deviations of theoretical	Pass
	Chemical Expiry	All chemicals within expiry date	Pass

This report supersedes any previous report(s) with this reference. Sample(s) have been analysed as received.

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 (National Association of Testing Authorities) 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.

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REPORT AUTHORISATION

Version: 291025



Matthew Cook
Laboratory Manager



Daniel Balaam
Senior Laboratory Chemist



NATA Accredited Laboratory 14601

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Analytical Results

Report No. LV-008826

Job No. R020240

Client Name: Energy Australia Mt. Piper

Parameter	Units	N26530 R020240	N26534 R020240	N26540 R020240
	PQL	1	1	1
Ethanol	µg	<1	<1	<1
Acetone	µg	<1	<1	<1
Isopropanol	µg	<1	<1	<1
Pentane	µg	<1	<1	<1
1,1-Dichloroethene	µg	<1	<1	<1
Acrylonitrile	µg	<1	<1	<1
Dichloromethane	µg	<1	<1	<1
trans-1,2-Dichloroethene	µg	<1	<1	<1
Methyl ethyl ketone	µg	<1	<1	<1
n-Hexane	µg	<1	<1	<1
cis-1,2-Dichloroethene	µg	<1	<1	<1
Ethyl acetate	µg	<1	<1	<1
Chloroform	µg	<1	<1	<1
1,1,1-Trichloroethane	µg	<1	<1	<1
1,2-Dichloroethane	µg	<1	<1	<1
Cyclohexane	µg	<1	<1	<1
Benzene	µg	<1	<1	<1
Carbon tetrachloride	µg	<1	<1	<1
Butanol	µg	<1	<1	<1
Isopropyl acetate	µg	<1	<1	<1
2-Methylhexane	µg	<1	<1	<1
2,3-Dimethylpentane	µg	<1	<1	<1
1-Methoxy-2-propanol	µg	<1	<1	<1
3-Methylhexane	µg	<1	<1	<1
Heptane	µg	<1	<1	<1
Trichloroethylene	µg	<1	<1	<1
Ethyl acrylate	µg	<1	<1	<1
Methyl methacrylate	µg	<1	<1	<1
Propyl acetate	µg	<1	<1	<1
Methylcyclohexane	µg	<1	<1	<1
Methyl Isobutyl Ketone	µg	<1	<1	<1
Toluene	µg	<1	<1	<1
1,1,2-Trichloroethane	µg	<1	<1	<1
2-Hexanone	µg	<1	<1	<1
Octane	µg	<1	<1	<1
Tetrachloroethene	µg	<1	<1	<1
Butyl acetate	µg	<1	<1	<1
Chlorobenzene	µg	<1	<1	<1
Ethylbenzene	µg	<1	<1	<1
m + p-Xylene	µg	<1	<1	<1
1-Methoxy-2-propyl acetate	µg	<1	<1	<1
Styrene	µg	<1	<1	<1
o-Xylene	µg	<1	<1	<1
Butyl acrylate	µg	<1	<1	<1
Nonane	µg	<1	<1	<1

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



NATA Accredited Laboratory 14601

Results page 2 of 3

Analytical Results

Report No. LV-008826

Job No. R020240

Client Name: Energy Australia Mt. Piper

Parameter	Units	N26530 R020240	N26534 R020240	N26540 R020240
	PQL	1	1	1
2-Butoxyethanol	µg	<1	<1	<1
Cellosolve acetate	µg	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg	<1	<1	<1
Isopropylbenzene	µg	<1	<1	<1
alpha-Pinene	µg	<1	<1	<1
Propylbenzene	µg	<1	<1	<1
1,3,5-Trimethylbenzene	µg	<1	<1	<1
beta-Pinene	µg	<1	<1	<1
tert-Butylbenzene	µg	<1	<1	<1
1,2,4-Trimethylbenzene	µg	<1	<1	<1
Decane	µg	<1	<1	<1
3-Carene	µg	<1	<1	<1
1,2,3-Trimethylbenzene	µg	<1	<1	<1
D-Limonene	µg	<1	<1	<1
Undecane	µg	<1	<1	<1
Dodecane	µg	<1	<1	<1
Tridecane	µg	<1	<1	<1
Tetradecane	µg	<1	<1	<1
Residuals as Toluene	µg	<1	<1	<1

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.



NATA Accredited Laboratory 14601

Results page 3 of 3



Experts in air quality, odour and emission monitoring.

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Canada	Portugal
China	Puerto Rico
Colombia	Romania
France	Senegal
Germany	Singapore
Ghana	South Africa
Guyana	South Korea
Hong Kong	Spain
India	Switzerland
Indonesia	Taiwan
Ireland	Tanzania
Italy	Thailand
Japan	UAE
Kazakhstan	UK
Kenya	US
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Mexico	
Mozambique	

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