Ektimo

Experts in air quality, odour and emission monitoring.

2025-26 Financial Year Emission Testing Report

Report: R020309

Vertrex Pty Ltd, Oaklands

ilac-MRA NATA

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Document Information

Client Name:	Vertrex Pty Ltd
Report Number:	R020309
Date of Issue:	13 August 2026
Attention:	Kelly Clarkson
Address:	Answerth Drive Oaklands NSW 2646
Testing Laboratory:	Ektimo Pty Ltd, ABN 86 600 381 413

Report Authorisation

Glenn Easterby
Field Operations Manager

NATA Accredited Laboratory
No. 14601

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 is engaged by Vertrex Pty Ltd on an annual basis to perform emission testing at their Oaklands facility. Testing was carried out in accordance with the publication: Approved Methods for the Sampling and Analysis of Air Pollutants in NSW for regulatory purposes, unless otherwise specified.

1.2 Project Objective & Overview

The objective of the project was to conduct a monitoring programme to quantify emissions from six (6) discharge points to determine compliance with Vertrex Pty Ltd's Environment Protection Licence.

Monitoring was performed as follows:

Location	Test Date	Test Parameters*
DP2 – Propellant Furnace	16 June 2026	Total solid particles Hydrogen chloride Metals – Type 1 & 2 Substances (Including As, Be, Cd, Cr, Co, Hg, Mn, Ni, Pb, Sb, Se, Sn, V), Zn Dioxins & Furans (PCDD/DF) Nitrogen oxides (as NO_2) Carbon dioxide, oxygen
DP2 – Batch Furnace	16 June 2026	Total solid particles Hydrogen chloride Dioxins & Furans (PCDD/DF) Nitrogen oxides (as NO_2) Carbon dioxide, oxygen
MP3 – Afterburner of Propellant Furnace	16 June 2026	Flow rate, velocity, temperature, moisture
DP4 – Wet Scrubber	17 June 2026	Total solid particles Hydrogen chloride Metals – Type 1 & 2 Substances (Including As, Be, Cd, Cr, Co, Hg, Mn, Ni, Pb, Sb, Se, Sn, V), Zn
DP5 – Nitrocellulose Furnace	15 June 2026	Total solid particles Hydrogen chloride Metals – Type 1 & 2 Substances (Including As, Be, Cd, Cr, Co, Hg, Mn, Ni, Pb, Sb, Se, Sn, V), Zn Nitrogen oxides (as NO_2) Carbon dioxide, oxygen

Location	Test Date	Test Parameters*
DP 6 – EBF Baghouse	17 June 2026	Total solid particles Hydrogen chloride Metals – Type 1 & 2 Substances (Including As, Be, Cd, Cr, Co, Hg, Mn, Ni, Pb, Sb, Se, Sn, V), Zn Dioxins & Furans (PCDD/DF)
DP7 – DynaSafe	18 June 2026	Total solid particles Hydrogen chloride Metals – Type 1 & 2 Substances (Including As, Be, Cd, Cr, Co, Hg, Mn, Ni, Pb, Sb, Se, Sn, V), Zn Dioxins & Furans (PCDD/DF) Nitrogen oxides (as NO_2) Carbon dioxide, oxygen

* 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 Licence Comparison

The following table provides a summary of the emission monitoring programme. Results have been compared with Vertrex Pty Ltd's Environment Protection Licence 11947 (last amended on 10 June 2026), as set by the NSW EPA. Analytes highlighted in orange are outside the licence limits.

EPA	Location Description	Parameter	Units	Licence Limit	Detected Values
Point 2	Propellant Furnace	Dioxins & Furans (NSW EPA 2022-TEQ upper bound)	ng/m^3	0.1	**0.0031**
		Hydrogen chloride	mg/m^3 at STP dry	100	**0.016**
		Nitrogen oxides (as NO_2)	mg/m^3 at STP dry	350	**160**
		Solid particles	mg/m^3 at STP dry	50	**19**
		Type 1 & 2 substances in aggregate	mg/m^3 at STP dry	1	**≤1.1**
		Zinc	mg/m^3 at STP dry	0.5	**0.14**
Point 2	Batch Furnace	Dioxins & Furans (NSW EPA 2022-TEQ upper bound)	ng/m^3	0.1	**0.12**
		Hydrogen chloride	mg/m^3 at STP dry	100	**0.26**
		Nitrogen oxides (as NO_2)	mg/m^3 at STP dry	350	**21**
		Solid particles	mg/m^3 at STP dry	50	**<3**
Point 4	Wet Scrubber	Hydrogen chloride	mg/m^3 at STP dry	100	**0.36**
		Solid particles	mg/m^3 at STP dry	50	**92**
		Type 1 & 2 substances in aggregate	mg/m^3 at STP dry	1	**≤0.063**
		Zinc	mg/m^3 at STP dry	10	**0.63**
Point 5	Nitrocellulose Furnace	Hydrogen chloride	mg/m^3 at STP dry	100	**1.1**
		Nitrogen oxides (as NO_2)	mg/m^3 at STP dry	350	**20**
		Solid particles	mg/m^3 at STP dry	50	**12**
		Type 1 & 2 substances in aggregate	mg/m^3 at STP dry	1	**≤0.023**
		Zinc	mg/m^3 at STP dry	0.5	**0.016**
Point 6	EBF Baghouse	Dioxins & Furans (NSW EPA 2022-TEQ upper bound)	ng/m^3	0.1	**0.0075**
		Hydrogen chloride	mg/m^3 at STP dry	100	**<0.04**
		Solid particles	mg/m^3 at STP dry	50	**<4**
		Type 1 & 2 substances in aggregate	mg/m^3 at STP dry	1	**≤0.28**
		Zinc	mg/m^3 at STP dry	10	**0.018**
Point 7	DynaSafe	Dioxins & Furans (NSW EPA 2022-TEQ upper bound)	ng/m^3	0.1	**0.007**
		Hydrogen chloride	mg/m^3 at STP dry	100	**<0.04**
		Nitrogen oxides (as NO_2)	mg/m^3 at STP dry	350	**460**
		Solid particles	mg/m^3 at STP dry	20	**<2**
		Type 1 & 2 substances in aggregate	mg/m^3 at STP dry	1	**≤0.21**
		Zinc	mg/m^3 at STP dry	0.5	**0.1**

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

2 Results

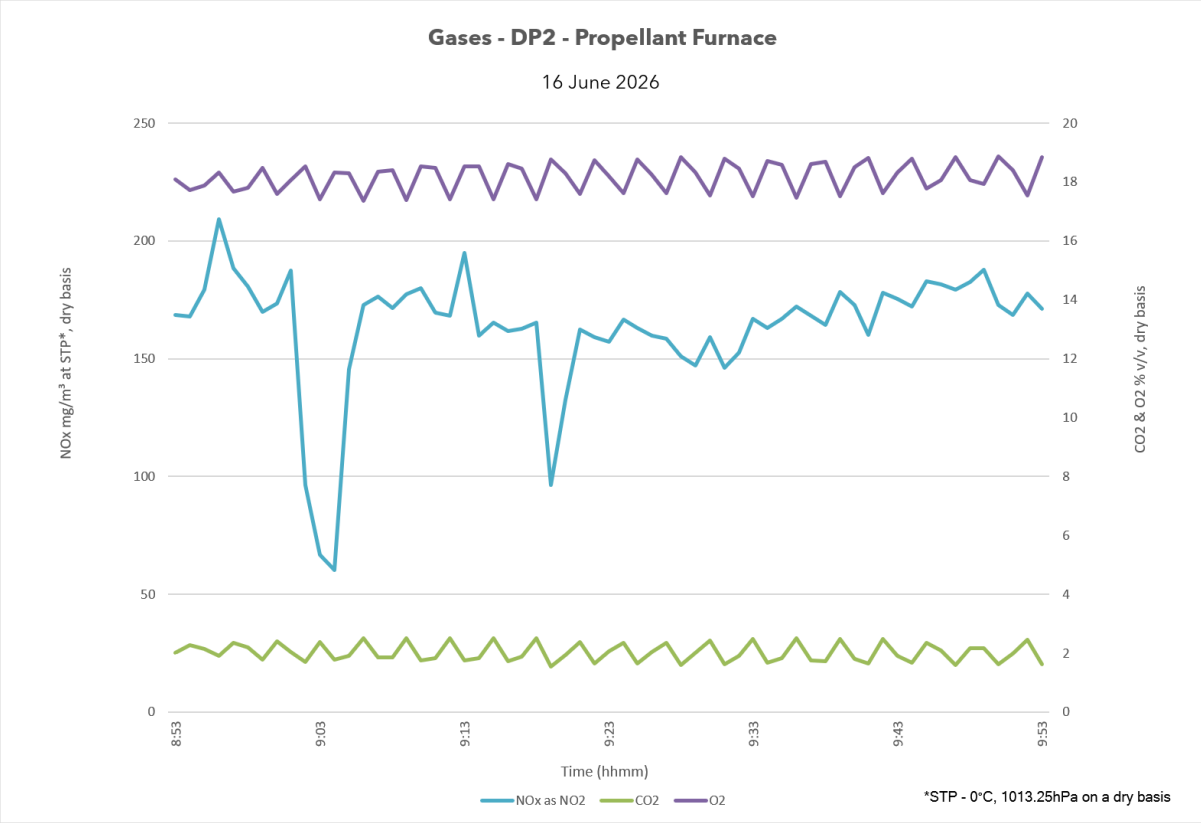
2.1 DP2 – Propellant Furnace

Date	16/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP2 - Propellant Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		260602

Stack Parameters		
Moisture content, %v/v	2.6	
Gas molecular weight, g/g mole	28.9 (wet)	29.2 (dry)
Gas density at STP, kg/m³	1.29 (wet)	1.30 (dry)
Gas density at discharge conditions, kg/m³	0.45	
Gas Flow Parameters		
Flow measurement time(s) (hhmm)	0810 & 1050	
Temperature, °C	510	
Temperature, K	784	
Ambient pressure, kPa	101	
Stack pressure, kPa	101	
Velocity at sampling plane, m/s	17	
Volumetric flow rate, actual, m³/s	4.9	
Volumetric flow rate (wet STP), m³/s	1.7	
Volumetric flow rate (dry STP), m³/s	1.7	
Mass flow rate (wet basis), kg/h	8000	

Date	16/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP2 - Propellant Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Gas Analyser Results	Average
Sampling time	0853 - 0953
	Concentration mg/m³ / Mass Rate g/min
Combustion Gases	
Nitrogen oxides (as NO_2)	160 / 16
	Concentration % v/v
Carbon dioxide	2
Oxygen	18.2



Date	16/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP2 - Propellant Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		260602

Dioxins & Furans	Results	
Sampling time	0840 - 1045	
	Concentration ng/m³	Mass Rate ng/min
Dioxins & Furans (PCDDs & PCDFs)		
OCDF	0.0029	0.29
OCDD	0.015	1.5
Total TCDF isomers	0.016	1.6
Total TCDD isomers	0.0051	0.51
Total PeCDF isomers	0.00069	0.069
Total PeCDD isomers	0.011	1.1
Total HxCDF isomers	0.0071	0.71
Total HxCDD isomers	0.0043	0.43
Total HpCDF isomers	0.0037	0.37
Total HpCDD isomers	0.0045	0.46
Total PCDDs + PCDFs	0.07	7

Specified Toxic Dioxins & Furans - TEQs‡		
2,3,7,8-TCDF	<0.0002	<0.02
2,3,7,8-TCDD	<0.0009	<0.09
1,2,3,7,8-PeCDF	<0.00005	<0.005
2,3,4,7,8-PeCDF	<0.0005	<0.05
1,2,3,7,8-PeCDD	<0.0009	<0.09
1,2,3,4,7,8-HxCDF	<0.00008	<0.008
1,2,3,6,7,8-HxCDF	0.000096	0.0096
2,3,4,6,7,8-HxCDF	<0.00004	<0.004
1,2,3,7,8,9-HxCDF	<0.00005	<0.005
1,2,3,4,7,8-HxCDD	<0.00008	<0.008
1,2,3,6,7,8-HxCDD	<0.00007	<0.007
1,2,3,7,8,9-HxCDD	<0.00007	<0.007
1,2,3,4,6,7,8-HpCDF	0.000033	0.0033
1,2,3,4,7,8,9-HpCDF	<0.000009	<0.0009
1,2,3,4,6,7,8-HpCDD	0.000022	0.0022
OCDF	0.00000087	0.000087
OCDD	0.0000045	0.00045
Total Specified Toxic Dioxins & Furans - TEQs‡		
Lower Bound	0.00016	0.016
Middle Bound	0.0016	0.16
Upper Bound	0.0031	0.31

Abbreviations and definitions

‡ NSW EPA 2022-TEQ: TEQs calculated using the NSW POEO (Clean Air) Regulation 2022 TEFs for specified toxic dioxins and furans.

TEQs (Toxic Equivalents)	Calculated by multiplying the quantified result for each toxic compound by its corresponding toxic equivalency factor (TEF).
Lower Bound	Defines values reported below detection as equal to zero.
Middle Bound	Defines values reported below detection are equal to half the detection limit.
Upper Bound	Defines values reported below detection are equal to the detection limit.

Isokinetic Sampling Parameters	Results
Dioxins & Furans	
Sampling time, min	120
Isokinetic rate, %	98

Date	16/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP2 - Propellant Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Stack Parameters		
Moisture content, %v/v	3.1	
Gas molecular weight, g/g mole	28.8 (wet)	29.2 (dry)
Gas density at STP, kg/m³	1.29 (wet)	1.30 (dry)
Gas density at discharge conditions, kg/m³	0.45	
Gas Flow Parameters		
Flow measurement time(s) (hhmm)	1050 & 1223	
Temperature, °C	508	
Temperature, K	781	
Ambient pressure, kPa	101	
Stack pressure, kPa	101	
Velocity at sampling plane, m/s	16	
Volumetric flow rate, actual, m³/s	4.5	
Volumetric flow rate (wet STP), m³/s	1.6	
Volumetric flow rate (dry STP), m³/s	1.5	
Mass flow rate (wet basis), kg/h	7200	

Isokinetic Results	Results	
Sampling time	1115-1220	
	Concentration mg/m³	Mass Rate g/min
Antimony	**0.019**	**0.0017**
Arsenic	**0.0065**	**0.00059**
Beryllium	<0.0001	<0.00001
Cadmium	**0.00063**	**0.000057**
Chromium	**0.22**	**0.02**
Cobalt	**0.00025**	**0.000023**
Lead	**0.64**	**0.058**
Manganese	**0.012**	**0.0011**
Mercury	<0.0002	<0.00002
Nickel	**0.0055**	**0.0005**
Selenium	**0.0023**	**0.00021**
Tin	**0.21**	**0.019**
Vanadium	<0.0006	<0.00006
Zinc	**0.14**	**0.013**
Type 1 & 2 Substances		
Upper Bound		
Total Type 1 Substances	≤0.67	≤0.061
Total Type 2 Substances	≤0.45	≤0.041
Total Type 1 & 2 Substances	≤1.1	≤0.1
Isokinetic Sampling Parameters		
Sampling time, min	60	
Isokinetic rate, %	100	

Date	16/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP2 - Propellant Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Isokinetic Results	Results	
Sampling time	1115-1220	
	Concentration mg/m³	Mass Rate g/min
Solid Particles	19	1.7
Hydrogen chloride	0.016	0.0015
Isokinetic Sampling Parameters		
Sampling time, min	60	
Isokinetic rate, %	100	
Gravimetric analysis date (total particulate)	10-07-2026	

2.2 DP2 – Batch Furnace

Date	16/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP2 - Batch Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		260602

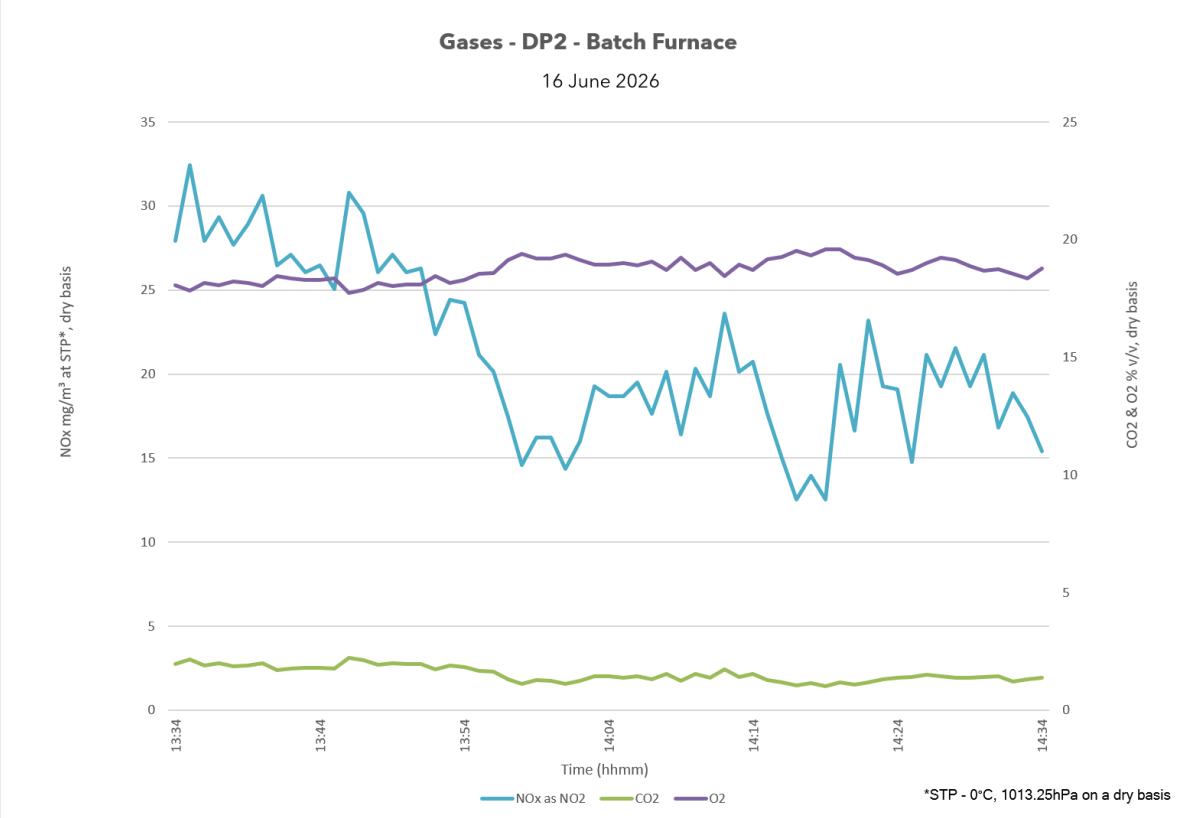
Comments
Batch cycle - 60 minute sampling times.

Stack Parameters		
Moisture content, %v/v	5.1	
Gas molecular weight, g/g mole	28.5 (wet)	29.1 (dry)
Gas density at STP, kg/m³	1.27 (wet)	1.30 (dry)
Gas density at discharge conditions, kg/m³	0.52	
Gas Flow Parameters		
Flow measurement time(s) (hhmm)	1320 & 1438	
Temperature, °C	390	
Temperature, K	663	
Ambient pressure, kPa	101	
Stack pressure, kPa	101	
Velocity at sampling plane, m/s	3.7	
Volumetric flow rate, actual, m³/s	0.59	
Volumetric flow rate (wet STP), m³/s	0.24	
Volumetric flow rate (dry STP), m³/s	0.23	
Mass flow rate (wet basis), kg/h	1100	

Isokinetic Results	Results	
Sampling time	1330-1435	
	Concentration mg/m³	Mass Rate g/min
Solid Particles	<3	<0.05
Hydrogen chloride	0.26	0.0036
Isokinetic Sampling Parameters		
Sampling time, min	60	
Isokinetic rate, %	102	
Gravimetric analysis date (total particulate)	02-07-2026	

Date	16/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP2 - Batch Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		260602

Gas Analyser Results	Average
Sampling time	1334 - 1434
	Concentration mg/m³ / Mass Rate g/min
Combustion Gases	
Nitrogen oxides (as NO_2)	21 / 0.29
	Concentration % v/v
Carbon dioxide	1.5
Oxygen	18.7



Date	16/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP2 - Batch Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Dioxins & Furans	Results	
Sampling time	1330 - 1435	
	Concentration	Mass Rate
Dioxins & Furans (PCDDs & PCDFs)	ng/m³	ng/min
OCDF	0.058	0.8
OCDD	0.18	2.4
Total TCDF isomers	4.3	60
Total TCDD isomers	0.42	5.8
Total PeCDF isomers	1.8	25
Total PeCDD isomers	0.5	6.9
Total HxCDF isomers	0.89	12
Total HxCDD isomers	0.5	6.9
Total HpCDF isomers	0.42	5.8
Total HpCDD isomers	0.29	4
Total PCDDs + PCDFs	9.4	130

Specified Toxic Dioxins & Furans - TEQs‡		
2,3,7,8-TCDF	0.01	0.14
2,3,7,8-TCDD	<0.006	<0.09
1,2,3,7,8-PeCDF	0.0022	0.03
2,3,4,7,8-PeCDF	0.048	0.66
1,2,3,7,8-PeCDD	0.014	0.19
1,2,3,4,7,8-HxCDF	0.0082	0.11
1,2,3,6,7,8-HxCDF	0.0086	0.12
2,3,4,6,7,8-HxCDF	0.013	0.18
1,2,3,7,8,9-HxCDF	0.00034	0.0047
1,2,3,4,7,8-HxCDD	0.00095	0.013
1,2,3,6,7,8-HxCDD	0.0023	0.031
1,2,3,7,8,9-HxCDD	0.0019	0.027
1,2,3,4,6,7,8-HpCDF	0.0029	0.04
1,2,3,4,7,8,9-HpCDF	0.00026	0.0036
1,2,3,4,6,7,8-HpCDD	0.0011	0.015
OCDF	0.000017	0.00024
OCDD	0.000053	0.00073
Total Specified Toxic Dioxins & Furans - TEQs‡		
Lower Bound	0.11	1.6
Middle Bound	0.12	1.6
Upper Bound	0.12	1.7

Abbreviations and definitions

‡ NSW EPA 2022-TEQ: TEQs calculated using the NSW POEO (Clean Air) Regulation 2022 TEFs for specified toxic dioxins and furans.

TEQs (Toxic Equivalents)	Calculated by multiplying the quantified result for each toxic compound by its corresponding toxic equivalency factor (TEF).
Lower Bound	Defines values reported below detection as equal to zero.
Middle Bound	Defines values reported below detection are equal to half the detection limit.
Upper Bound	Defines values reported below detection are equal to the detection limit.

Isokinetic Sampling Parameters	Results
Dioxins & Furans	
Sampling time, min	60
Isokinetic rate, %	101

2.3 MP3 – Afterburner of Propellant Furnace

Date	16/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	MP3 - Afterburner of Propellant Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Stack Parameters		
Moisture content, %v/v	3.1	
Gas molecular weight, g/g mole	28.8 (wet)	29.2 (dry)
Gas density at STP, kg/m³	1.29 (wet)	1.30 (dry)
Gas density at discharge conditions, kg/m³	0.45	
Gas Flow Parameters		
Flow measurement time(s) (hhmm)	1050 & 1223	
Temperature, °C	508	
Temperature, K	781	
Ambient pressure, kPa	101	
Stack pressure, kPa	101	
Velocity at sampling plane, m/s	16	
Volumetric flow rate, actual, m³/s	4.5	
Volumetric flow rate (wet STP), m³/s	1.6	
Volumetric flow rate (dry STP), m³/s	1.5	
Mass flow rate (wet basis), kg/h	7200	

2.4 DP4 – Wet Scrubber

Date	17/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP4 - Wet Scrubber
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Comments
The discharge is assumed to be composed of dry air and moisture

Stack Parameters		
Moisture content, %v/v	1.8	
Gas molecular weight, g/g mole	28.8 (wet)	29.0 (dry)
Gas density at STP, kg/m³	1.28 (wet)	1.29 (dry)
Gas density at discharge conditions, kg/m³	1.16	
Gas Flow Parameters		
Flow measurement time(s) (hhmm)	0850 & 1030	
Temperature, °C	29	
Temperature, K	302	
Ambient pressure, kPa	101	
Stack pressure, kPa	101	
Velocity at sampling plane, m/s	5.7	
Volumetric flow rate, actual, m³/s	0.83	
Volumetric flow rate (wet STP), m³/s	0.75	
Volumetric flow rate (dry STP), m³/s	0.74	
Mass flow rate (wet basis), kg/h	3500	

Isokinetic Results	Results	
Sampling time	0922-1025	
	Concentration mg/m³	Mass Rate g/min
Solid Particles	92	4
Hydrogen chloride	0.36	0.016
Isokinetic Sampling Parameters		
Sampling time, min	60	
Isokinetic rate, %	92	
Gravimetric analysis date (total particulate)	02-07-2026	

Date	17/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP4 - Wet Scrubber
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Isokinetic Results	Results	
Sampling time	0922-1025	
	Concentration mg/m³	Mass Rate g/min
Antimony	**0.0062**	**0.00027**
Arsenic	<0.001	<0.00005
Beryllium	<0.0001	<0.000005
Cadmium	<0.0001	<0.000005
Chromium	**0.0042**	**0.00019**
Cobalt	<0.0001	<0.000006
Lead	**0.0023**	**0.0001**
Manganese	**0.034**	**0.0015**
Mercury	<0.0002	<0.000008
Nickel	**0.011**	**0.00049**
Selenium	**0.00021**	**0.0000094**
Tin	**0.0022**	**0.000097**
Vanadium	<0.0006	<0.00003
Zinc	**0.63**	**0.028**
Type 1 & 2 Substances		
Upper Bound		
Total Type 1 Substances	≤0.01	≤0.00044
Total Type 2 Substances	≤0.053	≤0.0023
Total Type 1 & 2 Substances	≤0.063	≤0.0028
Isokinetic Sampling Parameters		
Sampling time, min	60	
Isokinetic rate, %	91	

2.5 DP5 – Nitrocellulose Furnace

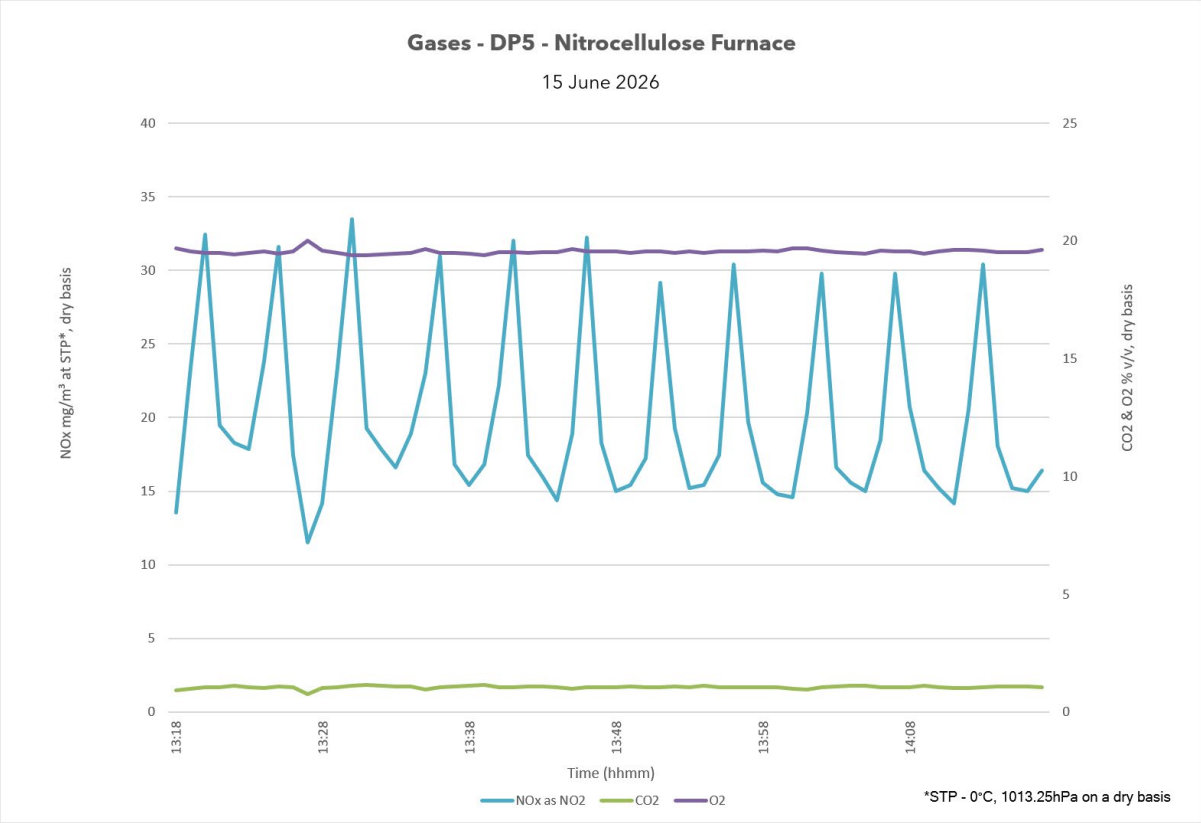
Date	15/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP5 - Nitrocellulose Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		260602

Stack Parameters		
Moisture content, %v/v	2.9	
Gas molecular weight, g/g mole	28.8 (wet)	29.1 (dry)
Gas density at STP, kg/m³	1.28 (wet)	1.30 (dry)
Gas density at discharge conditions, kg/m³	0.72	
Gas Flow Parameters		
Flow measurement time(s) (hhmm)	1240 & 1425	
Temperature, °C	214	
Temperature, K	487	
Ambient pressure, kPa	101	
Stack pressure, kPa	101	
Velocity at sampling plane, m/s	7.4	
Volumetric flow rate, actual, m³/s	1.5	
Volumetric flow rate (wet STP), m³/s	0.82	
Volumetric flow rate (dry STP), m³/s	0.79	
Mass flow rate (wet basis), kg/h	3800	

Isokinetic Results	Results	
Sampling time	1317-1419	
	Concentration mg/m³	Mass Rate g/min
Solid Particles	12	0.59
Hydrogen chloride	1.1	0.05
Isokinetic Sampling Parameters		
Sampling time, min	60	
Isokinetic rate, %	102	
Gravimetric analysis date (total particulate)	02-07-2026	

Date	15/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP5 - Nitrocellulose Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Gas Analyser Results	Average
Sampling time	1318 - 1417
	Concentration mg/m³ / Mass Rate g/min
Combustion Gases	
Nitrogen oxides (as NO_2)	20 / 0.95
	Concentration % v/v
Carbon dioxide	1.1
Oxygen	19.5



Date	15/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP5 - Nitrocellulose Furnace
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Isokinetic Results	Results	
Sampling time	1317-1419	
	Concentration mg/m³	Mass Rate g/min
Antimony	**0.0011**	**0.000054**
Arsenic	<0.0007	<0.00003
Beryllium	<0.00007	<0.000003
Cadmium	**0.000081**	**0.0000039**
Chromium	**0.003**	**0.00014**
Cobalt	**0.000069**	**0.0000033**
Lead	**0.0081**	**0.00039**
Manganese	**0.0048**	**0.00023**
Mercury	<0.0001	<0.000005
Nickel	**0.0033**	**0.00016**
Selenium	**0.00011**	**0.000005**
Tin	**0.0014**	**0.000069**
Vanadium	<0.0003	<0.00002
Zinc	**0.016**	**0.00078**
Type 1 & 2 Substances		
Upper Bound		
Total Type 1 Substances	≤0.01	≤0.00048
Total Type 2 Substances	≤0.013	≤0.00063
Total Type 1 & 2 Substances	≤0.023	≤0.0011
Isokinetic Sampling Parameters		
Sampling time, min	60	
Isokinetic rate, %	101	

2.6 DP6 – EBF Baghouse

Date	17/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP6 - EBF Baghouse Stack
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Comments
The discharge is assumed to be composed of dry air and moisture

Stack Parameters		
Moisture content, %v/v	1.8	
Gas molecular weight, g/g mole	28.8 (wet)	29.0 (dry)
Gas density at STP, kg/m³	1.28 (wet)	1.29 (dry)
Gas density at discharge conditions, kg/m³	1.17	
Gas Flow Parameters		
Flow measurement time(s) (hhmm)	1100 & 1348	
Temperature, °C	27	
Temperature, K	300	
Ambient pressure, kPa	101	
Stack pressure, kPa	101	
Velocity at sampling plane, m/s	22	
Volumetric flow rate, actual, m³/s	3.5	
Volumetric flow rate (wet STP), m³/s	3.1	
Volumetric flow rate (dry STP), m³/s	3.1	
Mass flow rate (wet basis), kg/h	15000	

Date	17/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP6 - EBF Baghouse Stack
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		260602

Dioxins & Furans	Results	
Sampling time	1140 - 1342	
	Concentration ng/m³	Mass Rate ng/min
Dioxins & Furans (PCDDs & PCDFs)		
OCDF	0.013	2.3
OCDD	0.01	1.9
Total TCDF isomers	0.13	25
Total TCDD isomers	0.0076	1.4
Total PeCDF isomers	0.1	19
Total PeCDD isomers	0.005	0.93
Total HxCDF isomers	0.054	9.9
Total HxCDD isomers	0.012	2.2
Total HpCDF isomers	0.028	5.3
Total HpCDD isomers	0.01	1.9
Total PCDDs + PCDFs	0.37	69

Specified Toxic Dioxins & Furans - TEQs‡		
2,3,7,8-TCDF	0.00036	0.067
2,3,7,8-TCDD	<0.0008	<0.2
1,2,3,7,8-PeCDF	0.000098	0.018
2,3,4,7,8-PeCDF	0.002	0.37
1,2,3,7,8-PeCDD	<0.002	<0.3
1,2,3,4,7,8-HxCDF	0.00071	0.13
1,2,3,6,7,8-HxCDF	0.00067	0.12
2,3,4,6,7,8-HxCDF	0.00044	0.082
1,2,3,7,8,9-HxCDF	<0.0002	<0.03
1,2,3,4,7,8-HxCDD	<0.00008	<0.02
1,2,3,6,7,8-HxCDD	<0.00008	<0.02
1,2,3,7,8,9-HxCDD	<0.00008	<0.02
1,2,3,4,6,7,8-HpCDF	0.00019	0.036
1,2,3,4,7,8,9-HpCDF	0.000019	0.0036
1,2,3,4,6,7,8-HpCDD	0.000046	0.0085
OCDF	0.0000038	0.0007
OCDD	0.000003	0.00056
Total Specified Toxic Dioxins & Furans - TEQs‡		
Lower Bound	0.0046	0.84
Middle Bound	0.006	1.1
Upper Bound	0.0075	1.4

Abbreviations and definitions

‡ NSW EPA 2022-TEQ: TEQs calculated using the NSW POEO (Clean Air) Regulation 2022 TEFs for specified toxic dioxins and furans.

TEQs (Toxic Equivalents)	Calculated by multiplying the quantified result for each toxic compound by its corresponding toxic equivalency factor (TEF).
Lower Bound	Defines values reported below detection as equal to zero.
Middle Bound	Defines values reported below detection are equal to half the detection limit.
Upper Bound	Defines values reported below detection are equal to the detection limit.

Isokinetic Sampling Parameters	Results
Dioxins & Furans	
Sampling time, min	120
Isokinetic rate, %	100

Date	17/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP6 - EBF Baghouse Stack
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Comments
The discharge is assumed to be composed of dry air and moisture

Stack Parameters		
Moisture content, %v/v	1.6	
Gas molecular weight, g/g mole	28.8 (wet)	29.0 (dry)
Gas density at STP, kg/m³	1.28 (wet)	1.29 (dry)
Gas density at discharge conditions, kg/m³	1.16	
Gas Flow Parameters		
Flow measurement time(s) (hhmm)	1348 & 1525	
Temperature, °C	29	
Temperature, K	302	
Ambient pressure, kPa	101	
Stack pressure, kPa	101	
Velocity at sampling plane, m/s	21	
Volumetric flow rate, actual, m³/s	3.4	
Volumetric flow rate (wet STP), m³/s	3	
Volumetric flow rate (dry STP), m³/s	3	
Mass flow rate (wet basis), kg/h	14000	

Isokinetic Results	Results	
Sampling time	1420-1523	
	Concentration mg/m³	Mass Rate g/min
Solid Particles	<4	<0.7
Hydrogen chloride	<0.04	<0.008
Isokinetic Sampling Parameters		
Sampling time, min	60	
Isokinetic rate, %	100	
Gravimetric analysis date (total particulate)	02-07-2026	

Date	17/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP6 - EBF Baghouse Stack
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		*260602*

Isokinetic Results	Results	
Sampling time	1420-1523	
	Concentration mg/m³	Mass Rate g/min
Antimony	<0.0008	<0.0001
Arsenic	<0.0008	<0.0001
Beryllium	<0.00008	<0.00001
Cadmium	<0.00008	<0.00001
Chromium	**0.00051**	**0.000092**
Cobalt	<0.00008	<0.00001
Lead	<0.0009	<0.0002
Manganese	**0.27**	**0.049**
Mercury	<0.0001	<0.00002
Nickel	**0.0029**	**0.00052**
Selenium	<0.00008	<0.00001
Tin	<0.0009	<0.0002
Vanadium	<0.0004	<0.00007
Zinc	**0.018**	**0.0032**
Type 1 & 2 Substances		
Upper Bound		
Total Type 1 Substances	<0.003	<0.0005
Total Type 2 Substances	≤0.28	≤0.05
Total Type 1 & 2 Substances	≤0.28	≤0.05
Isokinetic Sampling Parameters		
Sampling time, min	60	
Isokinetic rate, %	100	

2.7 DP7 – DynaSafe

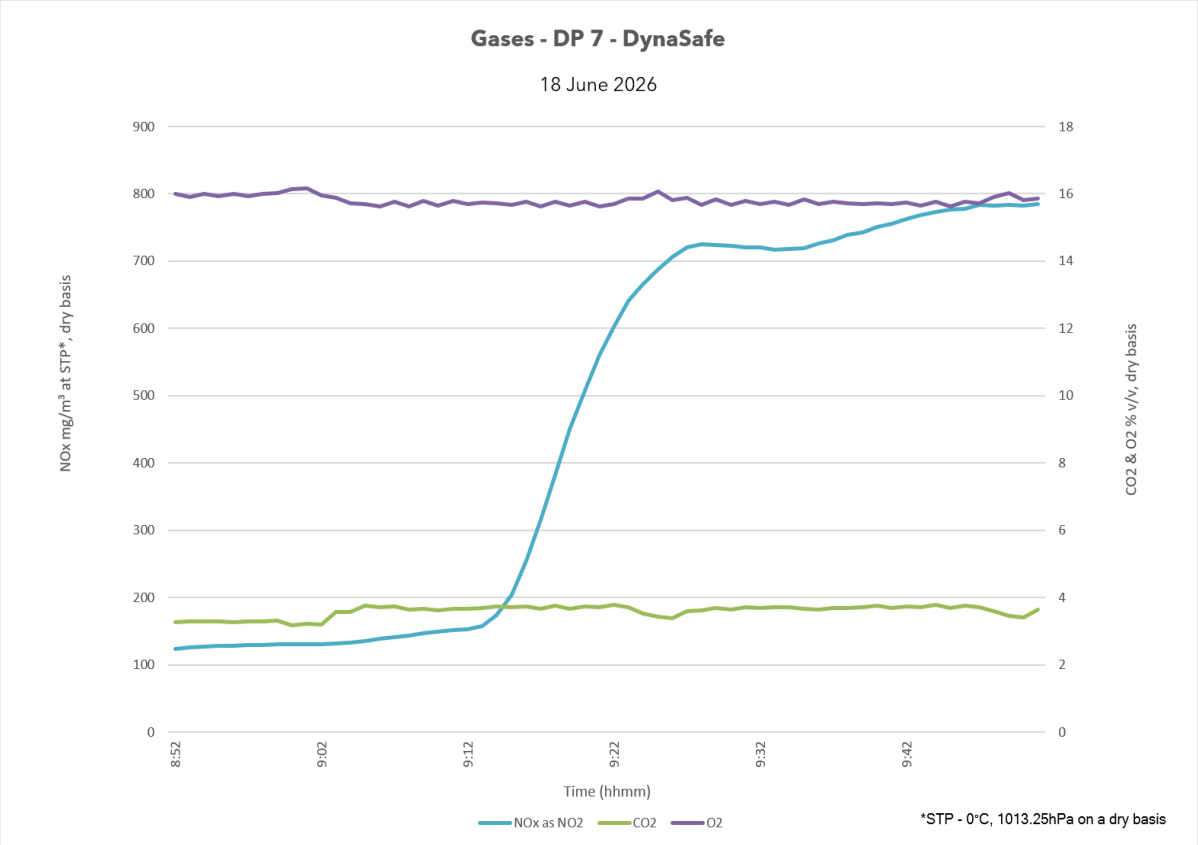
Date	18/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP 7 - DynaSafe
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		260602

Stack Parameters		
Moisture content, %v/v	5.4	
Gas molecular weight, g/g mole	28.7 (wet)	29.3 (dry)
Gas density at STP, kg/m³	1.28 (wet)	1.31 (dry)
Gas density at discharge conditions, kg/m³	1.00	
Gas Flow Parameters		
Flow measurement time(s) (hhmm)	0830, 1053 & 1210	
Temperature, °C	72	
Temperature, K	345	
Ambient pressure, kPa	100	
Stack pressure, kPa	100	
Velocity at sampling plane, m/s	7.7	
Volumetric flow rate, actual, m³/s	0.16	
Volumetric flow rate (wet STP), m³/s	0.12	
Volumetric flow rate (dry STP), m³/s	0.11	
Mass flow rate (wet basis), kg/h	560	

Non-isokinetics	Results	
Sampling time	0909-1009	
	Concentration mg/m³	Mass Rate g/min
Hydrogen chloride	<0.04	<0.0003

Date	18/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP 7 - DynaSafe
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		260602

Gas Analyser Results	Average
Sampling time	0852 - 0951
	Concentration mg/m³ / Mass Rate g/min
Combustion Gases	
Nitrogen oxides (as NO_2)	460 / 3.2
	Concentration % v/v
Carbon dioxide	3.6
Oxygen	15.8



Date	18/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP 7 - DynaSafe
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		

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Isokinetic Results	Results	
Sampling time	1105-1205	
	Concentration mg/m³	Mass Rate g/min
Solid Particles	<2	<0.01
Antimony	<0.0007	<0.000005
Arsenic	**0.0018**	**0.000012**
Beryllium	<0.00007	<0.0000005
Cadmium	**0.00067**	**0.0000047**
Chromium	**0.018**	**0.00012**
Cobalt	**0.00092**	**0.0000064**
Lead	**0.0078**	**0.000055**
Manganese	**0.12**	**0.00082**
Mercury	**0.00013**	**0.00000088**
Nickel	**0.063**	**0.00044**
Selenium	**0.0013**	**0.000009**
Tin	**0.00068**	**0.0000048**
Vanadium	**0.00021**	**0.0000015**
Zinc	**0.06**	**0.00042**
Type 1 & 2 Substances		
Upper Bound		
Total Type 1 Substances	≤0.011	≤0.000078
Total Type 2 Substances	≤0.2	≤0.0014
Total Type 1 & 2 Substances	≤0.21	≤0.0015
Isokinetic Sampling Parameters		
Sampling time, min	60	
Gravimetric analysis date (total particulate)	02-07-2026	

Refer to 'Deviations to Test Methods' on page 32.

Date	18/06/2026	**Client**	Vertrex Pty Ltd
Report	R020309	**Stack ID**	DP 7 - DynaSafe
Licence No.	11947	**Location**	Oaklands
Ektimo Staff	Nick Heatley, Tony Bakas	**State**	NSW
Process Conditions	Please refer to client records.		260602

Dioxins & Furans	Results	
Sampling time	0850 - 1050	
	Concentration ng/m³	Mass Rate ng/min
Dioxins & Furans (PCDDs & PCDFs)		
OCDF	0.0038	0.026
OCDD	0.0096	0.065
Total TCDF isomers	0.11	0.78
Total TCDD isomers	0.012	0.081
Total PeCDF isomers	0.073	0.5
Total PeCDD isomers	0.021	0.14
Total HxCDF isomers	0.045	0.3
Total HxCDD isomers	0.025	0.17
Total HpCDF isomers	0.017	0.12
Total HpCDD isomers	0.012	0.084
Total PCDDs + PCDFs	0.33	2.3

Specified Toxic Dioxins & Furans - TEQs‡		
2,3,7,8-TCDF	0.0005	0.0034
2,3,7,8-TCDD	<0.0009	<0.006
1,2,3,7,8-PeCDF	0.000095	0.00064
2,3,4,7,8-PeCDF	0.0022	0.015
1,2,3,7,8-PeCDD	0.0011	0.0072
1,2,3,4,7,8-HxCDF	0.0005	0.0034
1,2,3,6,7,8-HxCDF	0.0005	0.0034
2,3,4,6,7,8-HxCDF	0.00064	0.0044
1,2,3,7,8,9-HxCDF	<0.00005	<0.0003
1,2,3,4,7,8-HxCDD	<0.00009	<0.0006
1,2,3,6,7,8-HxCDD	0.00011	0.00078
1,2,3,7,8,9-HxCDD	<0.00009	<0.0006
1,2,3,4,6,7,8-HpCDF	0.00014	0.00093
1,2,3,4,7,8,9-HpCDF	<0.000009	<0.00006
1,2,3,4,6,7,8-HpCDD	0.000055	0.00037
OCDF	0.0000011	0.0000077
OCDD	0.0000029	0.00002
Total Specified Toxic Dioxins & Furans - TEQs‡		
Lower Bound	0.0058	0.039
Middle Bound	0.0064	0.043
Upper Bound	0.007	0.047

Abbreviations and definitions

‡ NSW EPA 2022-TEQ: TEQs calculated using the NSW POEO (Clean Air) Regulation 2022 TEFs for specified toxic dioxins and furans.

TEQs (Toxic Equivalents)	Calculated by multiplying the quantified result for each toxic compound by its corresponding toxic equivalency factor (TEF).
Lower Bound	Defines values reported below detection as equal to zero.
Middle Bound	Defines values reported below detection are equal to half the detection limit.
Upper Bound	Defines values reported below detection are equal to the detection limit.

Isokinetic Sampling Parameters	
Dioxins & Furans	
Sampling time, min	120

Refer to 'Deviations to Test Methods' on page 32.

3 Sample Plane Compliance

3.1 DP2 – Propellant Furnace

Sampling Plane Details	
Source tested	Furnace
Sampling plane dimensions	600 mm
Sampling plane area	0.283 m²
Sampling port size, number & depth	4" Flange (x2), 100 mm
Duct orientation & shape	Vertical Circular
Downstream disturbance	Junction 3 D
Upstream disturbance	Junction 4 D
No. traverses & points sampled	2 12
Sample plane conformance to AS 4323.1	Conforming but non-ideal

The sampling plane is deemed to be non-ideal due to the following reasons:
The sampling plane is too near to the upstream disturbance but is greater than or equal to 2D

3.2 DP2 – Batch Furnace

Sampling Plane Details	
Source tested	Furnace
Sampling plane dimensions	450 mm
Sampling plane area	0.159 m²
Sampling port size, number & depth	4" Flange (x2), 80 mm
Duct orientation & shape	Vertical Circular
Downstream disturbance	Bend 5 D
Upstream disturbance	Connection 4 D
No. traverses & points sampled	2 12
Sample plane conformance to AS 4323.1	Non-conforming

The sampling plane is deemed to be non-conforming due to the following reasons:
The differential pressure at one or more sampling points is less than 5 Pa
The temperature difference between adjacent points along each sampling traverse is greater than or equal to 10% of absolute temperature (Kelvin) or the temperature at any individual point is greater than or equal to 10% from the mean
The sampling plane is too near to the upstream disturbance but is greater than or equal to 2D

3.3 MP3 – Afterburner of Propellant Furnace

Sampling Plane Details	
Source tested	Furnace
Sampling plane dimensions	600 mm
Sampling plane area	0.283 m²
Sampling port size, number & depth	4" Flange (x2), 100 mm
Duct orientation & shape	Vertical Circular
Downstream disturbance	Junction 3 D
Upstream disturbance	Junction 4 D
No. traverses & points sampled	2 12
Sample plane conformance to AS 4323.1	Conforming but non-ideal

The sampling plane is deemed to be non-ideal due to the following reasons:
The sampling plane is too near to the upstream disturbance but is greater than or equal to 2D

3.4 DP4 – Wet Scrubber

Sampling Plane Details	
Pollution control equipment	Wet scrubber
Sampling plane dimensions	430 mm
Sampling plane area	0.145 m²
Sampling port size, number & depth	4" Flange (x2), 100 mm
Duct orientation & shape	Vertical Circular
Downstream disturbance	Exit >2 D
Upstream disturbance	Centrifugal fan 3.5 D
No. traverses & points sampled	2 12
Sample plane conformance to AS 4323.1	Conforming but non-ideal

The sampling plane is deemed to be non-ideal due to the following reasons:
The sampling plane is too near to the upstream disturbance but is greater than or equal to 2D

3.5 DP5 – Nitrocellulose Furnace

Sampling Plane Details	
Source tested	Furnace
Sampling plane dimensions	500 mm
Sampling plane area	0.196 m²
Sampling port size, number & depth	4" Flange (x2), 100 mm
Duct orientation & shape	Vertical Circular
Downstream disturbance	Exit 5 D
Upstream disturbance	Junction 4 D
No. traverses & points sampled	2 12
Sample plane conformance to AS 4323.1	Conforming but non-ideal

The sampling plane is deemed to be non-ideal due to the following reasons:
The sampling plane is too near to the upstream disturbance but is greater than or equal to 2D

3.6 DP6 – EBF Baghouse

Sampling Plane Details	
Pollution control equipment	Filter baghouse
Sampling plane dimensions	450 mm
Sampling plane area	0.159 m²
Sampling port size, number & depth	4" Flange (x2), 125 mm
Duct orientation & shape	Horizontal Circular
Downstream disturbance	Bend 4 D
Upstream disturbance	Bend 6 D
No. traverses & points sampled	2 8
Sample plane conformance to AS 4323.1	Ideal sampling plane

3.7 DP7 – DynaSafe

Sampling Plane Details	
Sampling plane dimensions	160 mm
Sampling plane area	0.0201 m²
Sampling port size, number & depth	25 mm Hole (x1), 160 mm
Duct orientation & shape	Vertical Circular
Downstream disturbance	Cowl >2 D
Upstream disturbance	Connection 6 D
No. traverses & points sampled	1 1
Sample plane conformance to AS 4323.1	Ideal sampling plane

4 Plant Operating Conditions

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

Location	Test Date	Stock for processing
DP2 – Propellant Afterburner	16 June 2026	Single type of SAA propellant Bag size for propellant type 20sec delay set
DP2 – Batch Furnace	16 June 2026	Spent OC/CS canisters with no plastic
MP3 – Afterburner of Propellant Furnace	16 June 2026	Temp only, no product required
DP4 – Wet Scrubber	17 June 2026	Hand flares of a single type/manufacturer (Survitec). Can be red or white) QTY 150 to be available
DP5 – Nitrocellulose Furnace	15 June 2026	Orange smoke pots. 1 minute delay between end of burn and next initiation
DP6 – EBF Baghouse	17 June 2026	Para flares from a single type/manufacturer (Survitec) Qty 300 to be available
DP7 – DynaSafe	18 June 2026	400 x 5.56mm blank, 35 x 50cal primed cases per feed

See Vertrex Pty Ltd records for complete process conditions.

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	NATA accredited Analysis
Sampling points - Selection	NSW EPA TM-1 (AS 4323.1)	NA	NA	✓	NA
Flow rate & velocity	AS 4323.1	AS 4323.1	8%, 7%	✓	✓
Moisture (stacks <60°C)	Ektimo 050	Ektimo 050	not specified	✓	✓[j]
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	✓
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%	✓	✓
Hydrogen halides & halogens	USEPA Method 26	Ektimo 235	14%	✓	✓[†]
Hydrogen halides (including soluble fluoride)[2]	NSW EPA TM-8 (USEPA Method 26A)	Ektimo 235	not specified	✓	✓[†i]
Solid particles (total)	NSW EPA TM-15 (AS 4323.2)	NSW EPA TM-15 (AS 4323.2)	3%	✓	✓[††]
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	✓	✓[†]
Dioxins & furans (PCDDs & PCDFs)	NSW EPA TM-18 (USEPA Method 23)	NMI in-house method AUTL_MET_02	16%	✓	✓[¶]

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 Australian Government National Measurement Institute, NATA accreditation number 198. Results were reported to Ektimo on 20 July 2026 in report RN1501274.

[†] Analysis performed by Ektimo. Results were reported on:

- 24 June 2026 in report LV-009061 (Halides).
- 8 July 2026 in report LV-009146 (Metals).

[††] Gravimetric analysis conducted at the Ektimo VIC laboratory.

[2] Sampling follows USEPA Method 26A and analysis follows Ektimo 235 (ion chromatography) which uses the same principle as USEPA Method 26A.

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

[j] Includes analysis of moisture content by Ektimo 050 which uses the same principle as ASTM E337.

6 Deviations to Test Methods

6.1 DP7 – DynaSafe

The discharge point consisted of a small vertical duct with an internal diameter of 160 mm. The duct was accompanied by a single access port with an internal diameter of 25 mm. Given the size limitations with this arrangement, it was not feasible to perform isokinetic testing for solid particles (TM-15), Type 1 & 2 Substances (TM-12, 13), and Dioxins & Furans (TM-18).

To provide indicative results, the sample gas was extracted non-isokinetically from a central point within the duct. The volume of sample gas was predetermined to achieve the desired limits of detection over standard sampling durations.

6.2 NSW TM-12, 13 - Type 1 & 2 Substances

Zinc has been sampled according to USEPA Method 29. Although not a listed analyte under the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (NSW EPA) (2022) TM-12 (Type 1 Substances) or TM-13 (Type 2 Substances) it is an approved analyte listed as part USEPA Method 29.

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: Site Images

Image 1. DP2 – Propellant Furnace (L) & Batch Furnace (R)

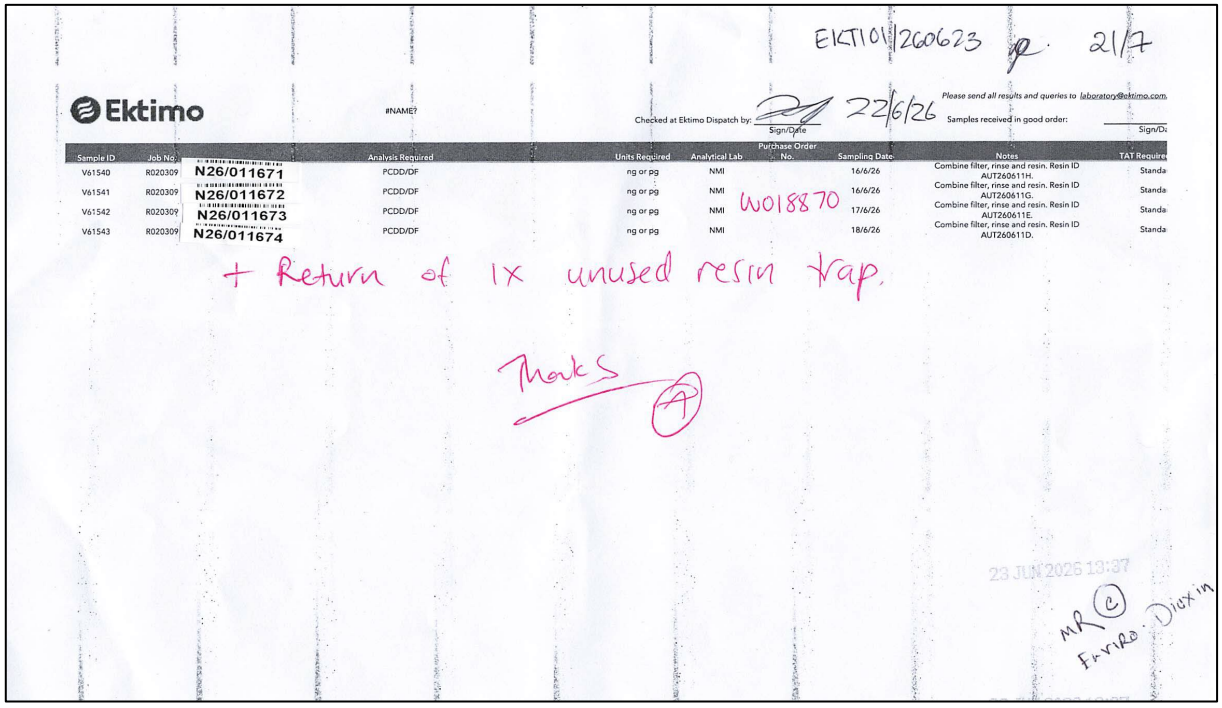
Image 2. MP3 – Afterburner of Propellant Furnace

Image 3. DP4 – Wet Scrubber

Image 4. DP5 – Nitrocellulose Furnace

Image 5. DP6 – EBF Baghouse

Appendix B: Chain of Custody



EKTI01260623 p. 21/7

Ektimo

#NAME?

Checked at Ektimo Dispatch by: Sign/Date 22/6/26

Please send all results and queries to laboratory@ektimo.com

Samples received in good order: Sign/Date

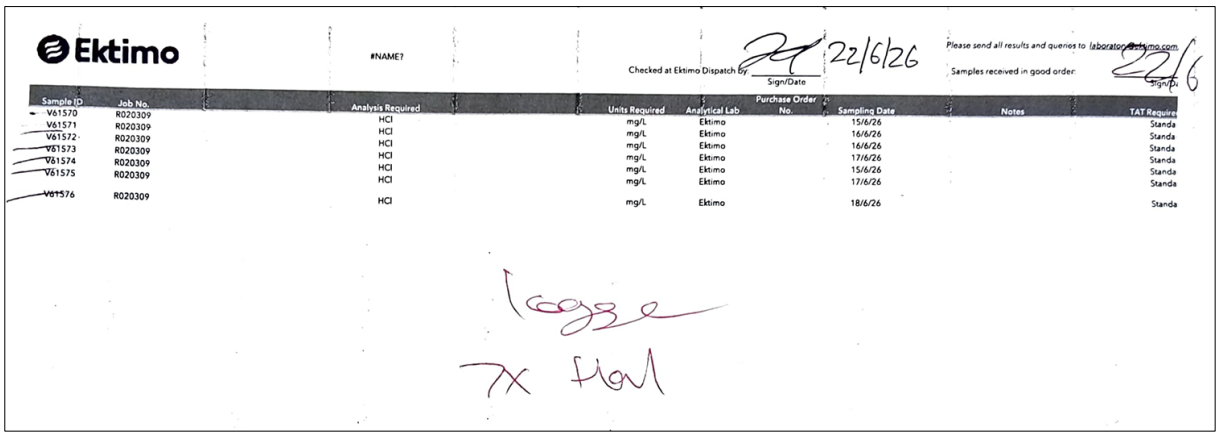
Sample ID	Job No.		Analysis Required	Units Required	Analytical Lab	Purchase Order No.	Sampling Date	Notes	TAT Require
V61540	R020309	N26/011671	PCDD/DF	ng or pg	NMI		16/6/26	Combine filter, rinse and resin. Resin ID AUT260611H.	Standa
V61541	R020309	N26/011672	PCDD/DF	ng or pg	NMI		16/6/26	Combine filter, rinse and resin. Resin ID AUT260611G.	Standa
V61542	R020309	N26/011673	PCDD/DF	ng or pg	NMI	W018870	17/6/26	Combine filter, rinse and resin. Resin ID AUT260611E.	Standa
V61543	R020309	N26/011674	PCDD/DF	ng or pg	NMI		18/6/26	Combine filter, rinse and resin. Resin ID AUT260611D.	Standa

+ Return of 1x unused resin trap.

Marks (A)

23 JUN 2026 13:37

MR (C) Enviro Dioxin



Ektimo

#NAME?

Checked at Ektimo Dispatch by: Sign/Date 22/6/26

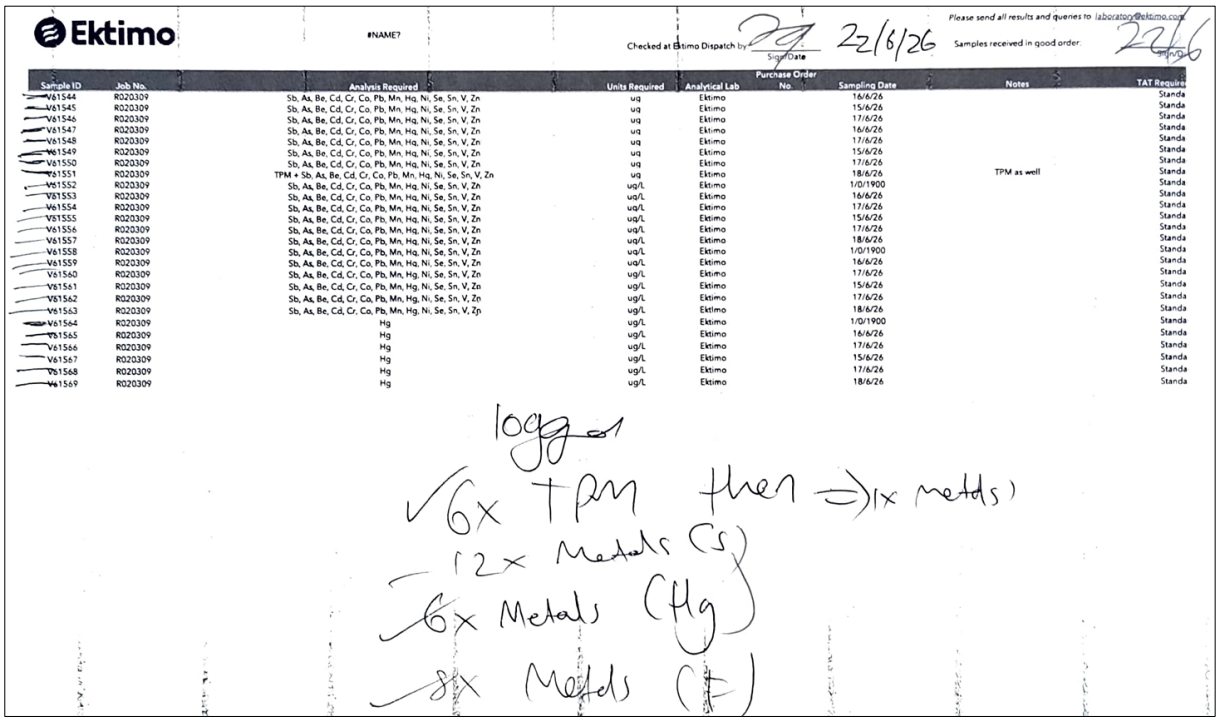
Please send all results and queries to laboratory@ektimo.com

Samples received in good order: 22/6 Sign/Date

Sample ID	Job No.	Analysis Required	Units Required	Analytical Lab	Purchase Order No.	Sampling Date	Notes	TAT Require
V61570	R020309	HCl	mg/L	Ektimo		15/6/26		Standa
V61571	R020309	HCl	mg/L	Ektimo		16/6/26		Standa
V61572	R020309	HCl	mg/L	Ektimo		16/6/26		Standa
V61573	R020309	HCl	mg/L	Ektimo		17/6/26		Standa
V61574	R020309	HCl	mg/L	Ektimo		15/6/26		Standa
V61575	R020309	HCl	mg/L	Ektimo		17/6/26		Standa
V61576	R020309	HCl	mg/L	Ektimo		18/6/26		Standa

Logge

7x Hcl



Ektimo #NAME?

Checked at Ektimo Dispatch by: Sign/Date 22/6/26

Please send all results and queries to laboratory@ektimo.com

Samples received in good order. 22/6/26

Sample ID	Job No.	Analysis Required	Units Required	Analytical Lab	Purchase Order No.	Sampling Date	Notes	TAT Required
V61544	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug	Ektimo		16/6/26		Standa
V61545	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug	Ektimo		15/6/26		Standa
V61546	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug	Ektimo		17/6/26		Standa
V61547	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug	Ektimo		16/6/26		Standa
V61548	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug	Ektimo		17/6/26		Standa
V61549	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug	Ektimo		15/6/26		Standa
V61550	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug	Ektimo		17/6/26		Standa
V61551	R020309	TPM + Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug	Ektimo		18/6/26	TPM as well	Standa
V61552	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		1/0/1900		Standa
V61553	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		16/6/26		Standa
V61554	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		17/6/26		Standa
V61555	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		15/6/26		Standa
V61556	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		17/6/26		Standa
V61557	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		18/6/26		Standa
V61558	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		1/0/1900		Standa
V61559	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		16/6/26		Standa
V61560	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		17/6/26		Standa
V61561	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		15/6/26		Standa
V61562	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		17/6/26		Standa
V61563	R020309	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn, V, Zn	ug/L	Ektimo		18/6/26		Standa
V61564	R020309	Hg	ug/L	Ektimo		1/0/1900		Standa
V61565	R020309	Hg	ug/L	Ektimo		16/6/26		Standa
V61566	R020309	Hg	ug/L	Ektimo		17/6/26		Standa
V61567	R020309	Hg	ug/L	Ektimo		15/6/26		Standa
V61568	R020309	Hg	ug/L	Ektimo		17/6/26		Standa
V61569	R020309	Hg	ug/L	Ektimo		18/6/26		Standa

10gg ok

✓6x TPM then ⇒ 1x metals

12x Metals (S)

6x Metals (Hg)

8x Metals (F)

Appendix C: 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-009146
Job Number:	R020309
Date of Issue:	8/07/2026
Attention:	Vertrex
Address:	Answerth Drive Oaklands NSW 2646
Date samples received:	22/06/2026
Number of samples received:	26
Date samples analysed:	6/07/2026
No of samples analysed:	26
Test method(s) used:	Ektimo 666

Comments
Vanadium (V) PQL increased from 0.1 µg/L to 0.5 µg/L due to interferences.

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.

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.
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

Cappi Tuffery
Laboratory Chemist

Daniel Balaam
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.

Ektimo

Analytical Results

Report No. LV-009146
Job No. R020309
Client Name: Vertrex

Parameter	PQL	Units	V61544 R020309	V61545 R020309	V61546 R020309	V61547 R020309
Volume	1	mL				
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				
Lead	1	µg/L				
Manganese	1	µg/L				
Mercury	0.1	µg/L				
Nickel	1	µg/L				
Selenium	0.1	µg/L				
Tin	1	µg/L				
Vanadium	0.5	µg/L				
Zinc	1	µg/L				
Antimony (Total)	0.031	µg	<0.31	<0.031	<0.31	7.4
Arsenic (Total)	0.031	µg	<0.31	<0.031	<0.31	1.6
Beryllium (Total)	0.0031	µg	<0.031	<0.0031	<0.031	<0.031
Cadmium (Total)	0.0031	µg	0.1	<0.0031	<0.031	0.37
Chromium (Total)	0.031	µg	0.61	0.12	0.33	75
Cobalt (Total)	0.0031	µg	<0.031	<0.0031	<0.031	0.084
Lead (Total)	0.031	µg	0.93	0.033	<0.31	220
Manganese (Total)	0.031	µg	2.3	0.066	<0.31	7.4
Mercury (Total)	0.0031	µg	<0.031	<0.0031	<0.031	<0.031
Nickel (Total)	0.031	µg	<0.31	0.073	<0.31	1.2
Selenium (Total)	0.0031	µg	<0.031	<0.0031	<0.031	<0.031
Tin (Total)	0.031	µg	<0.31	<0.031	<0.31	96
Vanadium (Total)	0.0155	µg	0.36	<0.016	<0.16	0.37
Zinc (Total)	0.031	µg	8.9	0.22	0.35	55

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

NATA Accredited Laboratory 14601

Ektimo

Analytical Results

Report No. LV-009146
Job No. R020309
Client Name: Vertrex

Parameter	PQL	Units	V61548 R020309	V61549 R020309	V61550 R020309	V61551 R020309
Volume	1	mL				
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				
Lead	1	µg/L				
Manganese	1	µg/L				
Mercury	0.1	µg/L				
Nickel	1	µg/L				
Selenium	0.1	µg/L				
Tin	1	µg/L				
Vanadium	0.5	µg/L				
Zinc	1	µg/L				
Antimony (Total)	0.031	µg	3.5	0.98	<0.31	<0.31
Arsenic (Total)	0.031	µg	<0.31	<0.31	<0.31	2
Beryllium (Total)	0.0031	µg	<0.031	<0.031	<0.031	<0.031
Cadmium (Total)	0.0031	µg	<0.031	0.065	<0.031	0.16
Chromium (Total)	0.031	µg	0.75	2.8	0.52	19
Cobalt (Total)	0.0031	µg	<0.031	0.04	<0.031	0.95
Lead (Total)	0.031	µg	0.96	7.8	<0.31	7.4
Manganese (Total)	0.031	µg	5.6	1.6	<0.31	11
Mercury (Total)	0.0031	µg	<0.031	<0.031	<0.031	<0.031
Nickel (Total)	0.031	µg	0.43	2.1	<0.31	65
Selenium (Total)	0.0031	µg	0.12	0.11	<0.031	1.2
Tin (Total)	0.031	µg	<0.31	0.56	<0.31	0.47
Vanadium (Total)	0.0155	µg	<0.16	<0.16	<0.16	0.24
Zinc (Total)	0.031	µg	340	8.7	0.97	11

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

NATA Accredited Laboratory 14601

Ektimo

Analytical Results

Report No. LV-009146
Job No. R020309
Client Name: Vertrex

Parameter	PQL	Units	V61552 R020309	V61553 R020309	V61554 R020309	V61555 R020309
Volume	1	mL	190	90	185	174
Antimony	1	µg/L	<1	25	<1	1.2
Arsenic	1	µg/L	<1	19	<1	<1
Beryllium	0.1	µg/L	<0.1	<0.1	<0.1	<0.1
Cadmium	0.1	µg/L	<0.1	0.57	<0.1	0.11
Chromium	1	µg/L	<1	440	8.6	1.5
Cobalt	0.1	µg/L	<0.1	0.5	0.13	0.18
Lead	1	µg/L	<1	1200	<1	3.9
Manganese	1	µg/L	3.7	9.1	9.6	21
Mercury	0.1	µg/L	<0.1	<0.1	<0.1	<0.1
Nickel	1	µg/L	<1	8.7	18	5.8
Selenium	0.1	µg/L	<0.1	12	<0.1	<0.1
Tin	1	µg/L	<1	96	5.6	2.8
Vanadium	0.5	µg/L	<0.5	1.8	<0.5	<0.5
Zinc	1	µg/L	1.2	200	41	37
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				
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)	0.0155	µg				
Zinc (Total)	0.031	µg				

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

NATA Accredited Laboratory 14601

Ektimo

Analytical Results

Report No. LV-009146
Job No. R020309
Client Name: Vertrex

Parameter	PQL	Units	V61556 R020309	V61557 R020309	V61558 R020309	V61559 R020309
Volume	1	mL	190	186	190	300
Antimony	1	µg/L	<1	<1	<1	<1
Arsenic	1	µg/L	<1	<1	<1	<1
Beryllium	0.1	µg/L	<0.1	<0.1	<0.1	<0.1
Cadmium	0.1	µg/L	<0.1	0.22	<0.1	<0.1
Chromium	1	µg/L	<1	<1	<1	1.5
Cobalt	0.1	µg/L	<0.1	<0.1	<0.1	<0.1
Lead	1	µg/L	1.6	1.4	<1	1.3
Manganese	1	µg/L	1000	330	1.2	3.9
Mercury	0.1	µg/L	<0.1	<0.1	<0.1	<0.1
Nickel	1	µg/L	8.6	7.1	<1	2.8
Selenium	0.1	µg/L	<0.1	<0.1	<0.1	0.36
Tin	1	µg/L	1.6	<1	1.6	1.7
Vanadium	0.5	µg/L	<0.5	<0.5	<0.5	<0.5
Zinc	1	µg/L	45	55	<1	32
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				
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)	0.0155	µg				
Zinc (Total)	0.031	µg				

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

NATA Accredited Laboratory 14601

Ektimo

Analytical Results

Report No. LV-009146
Job No. R020309
Client Name: Vertrex

Parameter	PQL	Units	V61560 R020309	V61561 R020309	V61562 R020309	V61563 R020309
Volume	1	mL	182	194	182	260
Antimony	1	µg/L	<1	<1	<1	<1
Arsenic	1	µg/L	<1	<1	<1	<1
Beryllium	0.1	µg/L	<0.1	<0.1	<0.1	<0.1
Cadmium	0.1	µg/L	<0.1	<0.1	<0.1	2.1
Chromium	1	µg/L	2	1.1	1.4	5.2
Cobalt	0.1	µg/L	<0.1	<0.1	<0.1	0.32
Lead	1	µg/L	2	<1	<1	4.4
Manganese	1	µg/L	71	3.8	260	230
Mercury	0.1	µg/L	<0.1	<0.1	<0.1	0.54
Nickel	1	µg/L	14	2.2	4.7	16
Selenium	0.1	µg/L	<0.1	<0.1	<0.1	0.95
Tin	1	µg/L	2.8	3.9	2.6	2.3
Vanadium	0.5	µg/L	<0.5	<0.5	<0.5	<0.5
Zinc	1	µg/L	53	12	35	180
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				
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)	0.0155	µg				
Zinc (Total)	0.031	µg				

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

ilac-MRA NATA

NATA Accredited Laboratory 14601

Ektimo

Analytical Results

Report No. LV-009146
Job No. R020309
Client Name: Vertrex

Parameter	PQL	Units	V61564 R020309	V61565 R020309	V61566 R020309	V61567 R020309
Volume	1	mL	375	385	370	350
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				
Lead	1	µg/L				
Manganese	1	µg/L				
Mercury	0.1	µg/L	<0.1	<0.1	<0.1	0.12
Nickel	1	µg/L				
Selenium	0.1	µg/L				
Tin	1	µg/L				
Vanadium	0.5	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				
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)	0.0155	µg				
Zinc (Total)	0.031	µg				

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

ilac-MRA NATA

NATA Accredited Laboratory 14601

Ektimo

Analytical Results

Report No. LV-009146
Job No. R020309
Client Name: Vertrex

Parameter	PQL	Units	V61568 R020309	V61569 R020309
Volume	1	mL	370	360
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		
Lead	1	µg/L		
Manganese	1	µg/L		
Mercury	0.1	µg/L	<0.1	<0.1
Nickel	1	µg/L		
Selenium	0.1	µg/L		
Tin	1	µg/L		
Vanadium	0.5	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		
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)	0.0155	µg		
Zinc (Total)	0.031	µg		

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

NATA Accredited Laboratory 14601

Results page 8 of 8

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CERTIFICATE OF ANALYSIS

Testing Laboratory:	Ektimo 26 Redland Drive Mitcham, VIC 3132
Report Number:	LV-009061
Job Number:	R020309
Date of Issue:	24/06/2026
Attention:	Vertrex
Address:	Answerth Drive Oaklands NSW 2646
Date samples received:	22/06/2026
Number of samples received:	7
Date samples analysed:	19/06/2026
No of samples analysed:	7
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.
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

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.

Ektimo

Analytical Results

Report No. LV-009061
Job No. R020309
Client Name: Vertrex

Parameter	PQL	Units	V61570 R020309	V61571 R020309	V61572 R020309	V61573 R020309
Volume	1	mL	206	309	222	195
Hydrogen chloride (HCl) as Cl	0.1	mg/L	0.19	0.68	0.22	1.2

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

NATA Accredited Laboratory 14601

Analytical Results

Report No. LV-009061
Job No. R020309
Client Name: Vertrex

Parameter	PQL	Units	V61574 R020309	V61575 R020309	V61576 R020309
Volume	1	mL	284	238	42
Hydrogen chloride (HCl) as Cl	0.1	mg/L	3.8	0.24	0.31

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

NATA Accredited Laboratory 14601

Ektimo

Australian Government
Department of Industry, Science and Resources

National Measurement Institute

NATA

REPORT OF ANALYSIS

Report No. RN1501274

Client	: EKTIMO PTY LTD	**Job No.**	: EKTI01/260623
	52 COOPER ROAD	**Quote No.**	: QT-02358
	COCKBURN CENTRAL WA 6164	**Order No.**	: W018870
		Date Sampled	: 16-JUN-2026
		Date Received	: 23-JUN-2026
Attention	: OPERATIONS MANAGER	**Sampled By**	: CLIENT
Project Name	:		
For Follow up enquiries	: ASB@measurement.gov.au	**Phone**	: 1300 722 845

Lab Reg No.	Sample Ref	Sample Description
N26/011671	V61540	FILTER / AUT260611H / RINSE 16/6/26
N26/011672	V61541	FILTER / AUT260611G / RINSE 16/6/26

Lab Reg No. / Sample Reference	Units	N26/011671 V61540	N26/011672 V61541	Method
Components				
Cartridge Preparation Charge		AUT260611H	AUT260611G	AUTL_MET_002
Dioxin/Furan International Toxic Equivalency (iTEQ)				
Lower bound iTEQDF	pg	87	0.19	AUTL_MET_002
Middle bound iTEQDF	pg	89	1.8	AUTL_MET_002
Upper bound iTEQDF	pg	91	3.5	AUTL_MET_002
Dioxin and Furan Toxic congeners				
2378-TCDF (51207-31-9)	pg	64	< 2	AUTL_MET_002
2378-TCDD (1746-01-6)	pg	< 4	< 1	AUTL_MET_002
12378-PeCDF (57117-41-6)	pg	45	< 2	AUTL_MET_002
23478-PeCDF (57117-31-4)	pg	99	< 2	AUTL_MET_002
12378-PeCDD (40321-76-4)	pg	8.7	< 1	AUTL_MET_002
123478-HxCDF (70648-26-9)	pg	51	< 0.9	AUTL_MET_002
123678-HxCDF (57117-44-9)	pg	53	1.1	AUTL_MET_002
234678-HxCDF (60851-34-5)	pg	79	< 0.5	AUTL_MET_002
123789-HxCDF (72918-21-9)	pg	2.1	< 0.6	AUTL_MET_002
123478-HxCDD (39227-28-6)	pg	5.9	< 0.9	AUTL_MET_002
123678-HxCDD (57653-85-7)	pg	14	< 0.8	AUTL_MET_002
123789-HxCDD (19408-74-3)	pg	12	< 0.8	AUTL_MET_002
1234678-HpCDF (67562-39-4)	pg	180	3.8	AUTL_MET_002
1234789-HpCDF (55673-89-7)	pg	16	< 1	AUTL_MET_002
1234678-HpCDD (35822-46-9)	pg	69	2.5	AUTL_MET_002
OCDF (39001-02-0)	pg	36	3.3	AUTL_MET_002
OCDD (3268-87-9)	pg	110	17	AUTL_MET_002
Total homologue groups				
Total TCDF isomers	pg	2680	18	AUTL_MET_002
Total TCDD isomers	pg	260	5.8	AUTL_MET_002
Total PeCDF isomers	pg	1130	0.79	AUTL_MET_002
Total PeCDD isomers	pg	310	13	AUTL_MET_002
Total HxCDF isomers	pg	550	8.1	AUTL_MET_002

REPORT OF ANALYSIS

Lab Reg No.		N26/011671	N26/011672	
Sample Reference	Units	V61540	V61541	Method
Total homologue groups				
Total HxCDD isomers	pg	310	4.9	AUTL_MET_002
Total HpCDF isomers	pg	260	4.2	AUTL_MET_002
Total HpCDD isomers	pg	180	5.2	AUTL_MET_002
Labelled Field Surrogate Recoveries				
23478-PeCDF (13C12) (116843-02-8)	%	105	101	AUTL_MET_002
123478-HxCDF (13C12) (114423-98-2)	%	105	99	AUTL_MET_002
123478-HxCDD (13C12) (109719-80-4)	%	104	104	AUTL_MET_002
1234789-HpCDF (13C12) (109719-94-0)	%	115	104	AUTL_MET_002
Labelled Internal Standard Recoveries				
2378-TCDF (13C12) (89059-46-1)	%	56	54	AUTL_MET_002
2378-TCDD (13C12) (76523-40-5)	%	62	60	AUTL_MET_002
12378-PeCDF (13C12) (109719-77-9)	%	58	56	AUTL_MET_002
12378-PeCDD (13C12) (109719-79-1)	%	64	64	AUTL_MET_002
123678-HxCDF (13C12) (116843-03-9)	%	68	64	AUTL_MET_002
123678-HxCDD (13C12) (109719-81-5)	%	74	70	AUTL_MET_002
1234678-HpCDF (13C12) (109719-84-8)	%	70	64	AUTL_MET_002
1234678-HpCDD (13C12) (109719-83-7)	%	80	72	AUTL_MET_002
OCDD (13C12) (114423-97-1)	%	86	78	AUTL_MET_002
Extraction				
Pressurised Solvent Extraction		06-JUL-2026	06-JUL-2026	AUTL_MET_001
Purification				
Automated column chromatography DF		08-JUL-2026	08-JUL-2026	AUTL_MET_001
Dioxin/Furan International Toxic Equivalency Factors (iTEF)				
iTEF 2378-TCDF		0.1	0.1	AUTL_MET_002
iTEF 2378-TCDD		1	1	AUTL_MET_002
iTEF 12378-PeCDF		0.05	0.05	AUTL_MET_002
iTEF 23478-PeCDF		0.5	0.5	AUTL_MET_002
iTEF 12378-PeCDD		0.5	0.5	AUTL_MET_002
iTEF 123478-HxCDF		0.1	0.1	AUTL_MET_002
iTEF 123678-HxCDF		0.1	0.1	AUTL_MET_002
iTEF 234678-HxCDF		0.1	0.1	AUTL_MET_002
iTEF 123789-HxCDF		0.1	0.1	AUTL_MET_002
iTEF 123478-HxCDD		0.1	0.1	AUTL_MET_002
iTEF 123678-HxCDD		0.1	0.1	AUTL_MET_002
iTEF 123789-HxCDD		0.1	0.1	AUTL_MET_002
iTEF 1234678-HpCDF		0.01	0.01	AUTL_MET_002
iTEF 1234789-HpCDF		0.01	0.01	AUTL_MET_002
iTEF 1234678-HpCDD		0.01	0.01	AUTL_MET_002
iTEF OCDF		0.001	0.001	AUTL_MET_002
iTEF OCDD		0.001	0.001	AUTL_MET_002
Analysis Dates				
Emission Sampled		16-JUL-2026	16-JUL-2026	AUTL_MET_002

REPORT OF ANALYSIS

Lab Reg No.	Units	N26/011671	N26/011672	Method
Sample Reference		V61540	V61541	
Analysis Dates				
Emission Extracted Dioxin		6-JUL-2026	6-JUL-2026	AUTL_MET_002
Emission HRMS Dioxin analysis		11-JUL-2026	11-JUL-2026	AUTL_MET_002
Emission Confirmation Dioxin analysis		12-JUL-2026	12-JUL-2026	AUTL_MET_002
Emission Holding times		Extract/Analyse Met	Extract/Analyse Met	AUTL_MET_002

All results are expressed on an as received weight basis. iTEF defined in USEPA publication EPA/625/3-89/016 (1989), WHO TEFs defined by Van den Berg et al., Toxicol. Sci. 93(2), pp. 223241 (2006).
Labelled surrogates acceptance criteria: 70-130% for field - 40-130% for Tetra/Penta/Hexa - 25-130% for Hepta/Octa - 40-120% for PCB congeners.

Robert Crough, Analyst
Australian Ultra Trace Laboratory
Accreditation No. 198

20-JUL-2026

REPORT OF ANALYSIS

Report No. RN1501274

Client	: EKTIMO PTY LTD	**Job No.**	: EKTI01/260623
	52 COOPER ROAD	**Quote No.**	: QT-02358
	COCKBURN CENTRAL WA 6164	**Order No.**	: W018870
		Date Sampled	: 17-JUN-2026
		Date Received	: 23-JUN-2026
Attention	: OPERATIONS MANAGER	**Sampled By**	: CLIENT
Project Name	:		
For Follow up enquiries	: ASB@measurement.gov.au	**Phone**	: 1300 722 845

Lab Reg No.	Sample Ref	Sample Description
N26/011673	V61542	FILTER / AUT260611E / RINSE 17/6/26
N26/011674	V61543	FILTER / AUT260611D / RINSE 18/6/26

Lab Reg No. / Sample Reference	Units	N26/011673 V61542	N26/011674 V61543	Method
Components				
Cartridge Preparation Charge		AUT260611E	AUT260611D	AUTL_MET_002
Dioxin/Furan International Toxic Equivalency (iTEQ)				
Lower bound iTEQDF	pg	7.1	15	AUTL_MET_002
Middle bound iTEQDF	pg	8.4	16	AUTL_MET_002
Upper bound iTEQDF	pg	9.6	17	AUTL_MET_002
Dioxin and Furan Toxic congeners				
2378-TCDF (51207-31-9)	pg	4.3	11	AUTL_MET_002
2378-TCDD (1746-01-6)	pg	<1	<2	AUTL_MET_002
12378-PeCDF (57117-41-6)	pg	3.9	6.9	AUTL_MET_002
23478-PeCDF (57117-31-4)	pg	8.0	16	AUTL_MET_002
12378-PeCDD (40321-76-4)	pg	<2	2.3	AUTL_MET_002
123478-HxCDF (70648-26-9)	pg	8.5	11	AUTL_MET_002
123678-HxCDF (57117-44-9)	pg	8.0	11	AUTL_MET_002
234678-HxCDF (60851-34-5)	pg	5.3	14	AUTL_MET_002
123789-HxCDF (72918-21-9)	pg	<2	<1	AUTL_MET_002
123478-HxCDD (39227-28-6)	pg	<1	<2	AUTL_MET_002
123678-HxCDD (57653-85-7)	pg	<1	2.5	AUTL_MET_002
123789-HxCDD (19408-74-3)	pg	<1	<2	AUTL_MET_002
1234678-HpCDF (67562-39-4)	pg	23	30	AUTL_MET_002
1234789-HpCDF (55673-89-7)	pg	2.3	<2	AUTL_MET_002
1234678-HpCDD (35822-46-9)	pg	5.5	12	AUTL_MET_002
OCDF (39001-02-0)	pg	15	8.3	AUTL_MET_002
OCDD (3268-87-9)	pg	12	21	AUTL_MET_002
Total homologue groups				
Total TCDF isomers	pg	160	250	AUTL_MET_002
Total TCDD isomers	pg	9.1	26	AUTL_MET_002
Total PeCDF isomers	pg	120	160	AUTL_MET_002
Total PeCDD isomers	pg	6.0	46	AUTL_MET_002
Total HxCDF isomers	pg	64	98	AUTL_MET_002

REPORT OF ANALYSIS

Lab Reg No.		N26/011673	N26/011674	
Sample Reference	Units	V61542	V61543	Method
Total homologue groups				
Total HxCDD isomers	pg	14	54	AUTL_MET_002
Total HpCDF isomers	pg	34	37	AUTL_MET_002
Total HpCDD isomers	pg	12	27	AUTL_MET_002
Labelled Field Surrogate Recoveries				
23478-PeCDF (13C12) (116843-02-8)	%	95	102	AUTL_MET_002
123478-HxCDF (13C12) (114423-98-2)	%	94	100	AUTL_MET_002
123478-HxCDD (13C12) (109719-80-4)	%	99	101	AUTL_MET_002
1234789-HpCDF (13C12) (109719-94-0)	%	99	121	AUTL_MET_002
Labelled Internal Standard Recoveries				
2378-TCDF (13C12) (89059-46-1)	%	50	48	AUTL_MET_002
2378-TCDD (13C12) (76523-40-5)	%	56	54	AUTL_MET_002
12378-PeCDF (13C12) (109719-77-9)	%	52	50	AUTL_MET_002
12378-PeCDD (13C12) (109719-79-1)	%	60	56	AUTL_MET_002
123678-HxCDF (13C12) (116843-03-9)	%	58	54	AUTL_MET_002
123678-HxCDD (13C12) (109719-81-5)	%	64	56	AUTL_MET_002
1234678-HpCDF (13C12) (109719-84-8)	%	60	52	AUTL_MET_002
1234678-HpCDD (13C12) (109719-83-7)	%	68	62	AUTL_MET_002
OCDD (13C12) (114423-97-1)	%	76	66	AUTL_MET_002
Extraction				
Pressurised Solvent Extraction		06-JUL-2026	06-JUL-2026	AUTL_MET_001
Purification				
Automated column chromatography DF		08-JUL-2026	08-JUL-2026	AUTL_MET_001
Dioxin/Furan International Toxic Equivalency Factors (iTEF)				
iTEF 2378-TCDF		0.1	0.1	AUTL_MET_002
iTEF 2378-TCDD		1	1	AUTL_MET_002
iTEF 12378-PeCDF		0.05	0.05	AUTL_MET_002
iTEF 23478-PeCDF		0.5	0.5	AUTL_MET_002
iTEF 12378-PeCDD		0.5	0.5	AUTL_MET_002
iTEF 123478-HxCDF		0.1	0.1	AUTL_MET_002
iTEF 123678-HxCDF		0.1	0.1	AUTL_MET_002
iTEF 234678-HxCDF		0.1	0.1	AUTL_MET_002
iTEF 123789-HxCDF		0.1	0.1	AUTL_MET_002
iTEF 123478-HxCDD		0.1	0.1	AUTL_MET_002
iTEF 123678-HxCDD		0.1	0.1	AUTL_MET_002
iTEF 123789-HxCDD		0.1	0.1	AUTL_MET_002
iTEF 1234678-HpCDF		0.01	0.01	AUTL_MET_002
iTEF 1234789-HpCDF		0.01	0.01	AUTL_MET_002
iTEF 1234678-HpCDD		0.01	0.01	AUTL_MET_002
iTEF OCDF		0.001	0.001	AUTL_MET_002
iTEF OCDD		0.001	0.001	AUTL_MET_002
Analysis Dates				
Emission Sampled		17-JUL-2026	18-JUL-2026	AUTL_MET_002

REPORT OF ANALYSIS

Lab Reg No.	Units	N26/011673	N26/011674	Method
Sample Reference		V61542	V61543	
Analysis Dates				
Emission Extracted Dioxin		6-JUL-2026	6-JUL-2026	AUTL_MET_002
Emission HRMS Dioxin analysis		11-JUL-2026	11-JUL-2026	AUTL_MET_002
Emission Confirmation Dioxin analysis		12-JUL-2026	12-JUL-2026	AUTL_MET_002
Emission Holding times		Extract/Analyse Met	Extract/Analyse Met	AUTL_MET_002

All results are expressed on an as received weight basis. iTEF defined in USEPA publication EPA/625/3-89/016 (1989), WHO TEFs defined by Van den Berg et al., Toxicol. Sci. 93(2), pp. 223241 (2006).
Labelled surrogates acceptance criteria: 70-130% for field - 40-130% for Tetra/Penta/Hexa - 25-130% for Hepta/Octa - 40-120% for PCB congeners.

Robert Crough, Analyst
Australian Ultra Trace Laboratory
Accreditation No. 198

20-JUL-2026

REPORT OF ANALYSIS

Client	:	EKTIMO PTY LTD	**Job No.**	:	EKTI01/260623
		52 COOPER ROAD	**Quote No.**	:	QT-02358
		COCKBURN CENTRAL WA 6164	**Order No.**	:	W018870
			Date Sampled	:	
			Date Received	:	20-JUL-2026
Attention	:	OPERATIONS MANAGER	**Sampled By**	:	CLIENT
Project Name	:				
For Follow up enquiries	:	ASB@measurement.gov.au	**Phone**	:	1300 722 845

Lab Reg No.	Sample Ref	Sample Description
N26/012989	AUT260611F	RETURNED CARTRIDGE

Lab Reg No.		N26/012989		
Sample Reference	Units	AUT260611F		Method
Components				
Cartridge Preparation Charge		AUT260611F		AUTL_MET_002
Dioxin/Furan International Toxic Equivalency (iTEQ)				
Lower bound iTEQDF	pg	NA		AUTL_MET_002
Middle bound iTEQDF	pg	NA		AUTL_MET_002
Upper bound iTEQDF	pg	NA		AUTL_MET_002
Dioxin and Furan Toxic congeners				
2378-TCDF (51207-31-9)	pg	NA		AUTL_MET_002
2378-TCDD (1746-01-6)	pg	NA		AUTL_MET_002
12378-PeCDF (57117-41-6)	pg	NA		AUTL_MET_002
23478-PeCDF (57117-31-4)	pg	NA		AUTL_MET_002
12378-PeCDD (40321-76-4)	pg	NA		AUTL_MET_002
123478-HxCDF (70648-26-9)	pg	NA		AUTL_MET_002
123678-HxCDF (57117-44-9)	pg	NA		AUTL_MET_002
234678-HxCDF (60851-34-5)	pg	NA		AUTL_MET_002
123789-HxCDF (72918-21-9)	pg	NA		AUTL_MET_002
123478-HxCDD (39227-28-6)	pg	NA		AUTL_MET_002
123678-HxCDD (57653-85-7)	pg	NA		AUTL_MET_002
123789-HxCDD (19408-74-3)	pg	NA		AUTL_MET_002
1234678-HpCDF (67562-39-4)	pg	NA		AUTL_MET_002
1234789-HpCDF (55673-89-7)	pg	NA		AUTL_MET_002
1234678-HpCDD (35822-46-9)	pg	NA		AUTL_MET_002
OCDF (39001-02-0)	pg	NA		AUTL_MET_002
OCDD (3268-87-9)	pg	NA		AUTL_MET_002
Total homologue groups				
Total TCDF isomers	pg	NA		AUTL_MET_002
Total TCDD isomers	pg	NA		AUTL_MET_002
Total PeCDF isomers	pg	NA		AUTL_MET_002
Total PeCDD isomers	pg	NA		AUTL_MET_002
Total HxCDF isomers	pg	NA		AUTL_MET_002
Total HxCDD isomers	pg	NA		AUTL_MET_002

REPORT OF ANALYSIS

Lab Reg No.		N26/012989		
Sample Reference	Units	AUT260611F		Method
Total homologue groups				
Total HpCDF isomers	pg	NA		AUTL_MET_002
Total HpCDD isomers	pg	NA		AUTL_MET_002
Labelled Field Surrogate Recoveries				
23478-PeCDF (13C12) (116843-02-8)	%	NA		AUTL_MET_002
123478-HxCDF (13C12) (114423-98-2)	%	NA		AUTL_MET_002
123478-HxCDD (13C12) (109719-80-4)	%	NA		AUTL_MET_002
1234789-HpCDF (13C12) (109719-94-0)	%	NA		AUTL_MET_002
Labelled Internal Standard Recoveries				
2378-TCDF (13C12) (89059-46-1)	%	NA		AUTL_MET_002
2378-TCDD (13C12) (76523-40-5)	%	NA		AUTL_MET_002
12378-PeCDF (13C12) (109719-77-9)	%	NA		AUTL_MET_002
12378-PeCDD (13C12) (109719-79-1)	%	NA		AUTL_MET_002
123678-HxCDF (13C12) (116843-03-9)	%	NA		AUTL_MET_002
123678-HxCDD (13C12) (109719-81-5)	%	NA		AUTL_MET_002
1234678-HpCDF (13C12) (109719-84-8)	%	NA		AUTL_MET_002
1234678-HpCDD (13C12) (109719-83-7)	%	NA		AUTL_MET_002
OCDD (13C12) (114423-97-1)	%	NA		AUTL_MET_002
Extraction				
Pressurised Solvent Extraction		NA		AUTL_MET_001
Purification				
Automated column chromatography DF		NA		AUTL_MET_001
Dioxin/Furan International Toxic Equivalency Factors (iTEF)				
iTEF 2378-TCDF		NA		AUTL_MET_002
iTEF 2378-TCDD		NA		AUTL_MET_002
iTEF 12378-PeCDF		NA		AUTL_MET_002
iTEF 23478-PeCDF		NA		AUTL_MET_002
iTEF 12378-PeCDD		NA		AUTL_MET_002
iTEF 123478-HxCDF		NA		AUTL_MET_002
iTEF 123678-HxCDF		NA		AUTL_MET_002
iTEF 234678-HxCDF		NA		AUTL_MET_002
iTEF 123789-HxCDF		NA		AUTL_MET_002
iTEF 123478-HxCDD		NA		AUTL_MET_002
iTEF 123678-HxCDD		NA		AUTL_MET_002
iTEF 123789-HxCDD		NA		AUTL_MET_002
iTEF 1234678-HpCDF		NA		AUTL_MET_002
iTEF 1234789-HpCDF		NA		AUTL_MET_002
iTEF 1234678-HpCDD		NA		AUTL_MET_002
iTEF OCDF		NA		AUTL_MET_002
iTEF OCDD		NA		AUTL_MET_002
Analysis Dates				
Emission Sampled		NA		AUTL_MET_002
Emission Extracted Dioxin		NA		AUTL_MET_002

REPORT OF ANALYSIS

Lab Reg No.		N26/012989		
Sample Reference	Units	AUT260611F		Method
Analysis Dates				
Emission HRMS Dioxin analysis		NA		AUTL_MET_002
Emission Confirmation Dioxin analysis		NA		AUTL_MET_002
Emission Holding times		NA		AUTL_MET_002

All results are expressed on an as received weight basis. iTEF defined in USEPA publication EPA/625/3-89/016 (1989), WHO TEFs defined by Van den Berg et al., Toxicol. Sci. 93(2), pp. 223241 (2006).
Labelled surrogates acceptance criteria: 70-130% for field - 40-130% for Tetra/Penta/Hexa - 25-130% for Hepta/Octa - 40-120% for PCB congeners.

Robert Crough, Analyst
Australian Ultra Trace Laboratory
Accreditation No. 198

20-JUL-2026

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

NA - Test Not Required

* Denotes the analyte or test method is not within our ISO/IEC 17025 scope of accreditation.

Measurement Uncertainty is available upon request.

Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
Unless otherwise stated, all biota/food results are reported on a wet weight basis.

REPORT OF ANALYSIS

The testing was undertaken at: 105 Delhi Road, North Ryde, NSW, 2113

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