Permit Number: LP3030XA	**Operator:** Viridor
Facility: Trident Park ERF	**Form Number:** Air 9 / 27/11/2023

Reporting of periodically monitored emissions to air for the period from **1st July 2024** to **31st December 2024**

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Hydrogen fluoride	1 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	0.070 (mg/m3)	CEN TS 17340	26 September 2024 08:31 - 10:31 10:36 - 12:36 12:40 - 14:40	0.05
A1	Cadmium & thallium and their compounds (total)	0.02 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	0.0009 (mg/m3)	BS EN 14385	13 September 2024 07:48 - 08:51 09:05 - 10:09 10:18 - 11:21	0.0017
A1	Mercury and its compounds	0.02 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	0.0147 (mg/m3)	BS EN 13211	11 September 2024 11:26 - 12:30 12:45 - 13:48 13:56 - 14:59	0.0018
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.3 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	0.019 (mg/m3)	BS EN 14385	13 September 2024 07:48 - 08:51 09:05 - 10:09 10:18 - 11:21	0.006
A1	Dioxins / Furans (I-TEQ)	0.06 ng/m^3	periodic over minimum 6 hours, maximum 8 hour period	0.0151 (ng/m3)	BS EN 1948 Parts 1, 2 and 3	17 September 2024 08:29 - 14:36	0.0023

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period value over sampling period of 2 to 4 weeks for long term sampling	0.0013 (ng/m3)	EN 1948 Parts 1, 2 and 4 CEN TS 1948-5	17 September 2024 08:29 - 14:36	0.0001
A1	Dioxin-like PCBs (WHO-TEQ Fish)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period value over sampling period of 2 to 4 weeks for long term sampling	0.0001 (ng/m3)	EN 1948 Parts 1, 2 and 4 CEN TS 1948-5	17 September 2024 08:29 - 14:36	0.00001
A1	Dioxin-like PCBs (WHO-TEQ Birds)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period value over sampling period of 2 to 4 weeks for long term sampling	0.0038 (ng/m3)	EN 1948 Parts 1, 2 and 4 CEN TS 1948-5	17 September 2024 08:29 - 14:36	0.0002
A1	Dioxins / furans (WHO-TEQ Humans / Mammals)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.0137 (ng/m3)	BS EN 1948 Parts 1, 2 and 3	17 September 2024 08:29 - 14:36	0.0021

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxins / furans (WHO-TEQ Fish)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.0156 (ng/m3)	BS EN 1948 Parts 1, 2 and 3	17 September 2024 08:29 - 14:36	0.0024

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Dioxins / furans (WHO-TEQ Birds)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.0268 (ng/m3)	BS EN 1948 Parts 1, 2 and 3	17 September 2024 08:29 - 14:36	0.0041
A1	Polybrominated dibenzo-dioxins and furans	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.0017 (ng/m3)	Method based on procedural requirements of EN 1948	17 September 2024 08:29 - 14:36	0.0029
	Poly-cyclic aromatic hydrocarbons (PAHs)			**Results (ug/m3)**			
A1	Total	No limit applies	**Also reported in H1** **(added for completeness)** periodic over minimum 6 hours, maximum 8 hour period	0.29 (ug/m3)	BS ISO 11338-1 and BS ISO 1138-2	16 September 2024 08:55 - 15:03	0.015
A1	Anthanthrene	No limit applies		<0.0012		16 September 2024 08:55 - 15:03	206.0%
A1	Benzo{a}anthracene	No limit applies		<0.001		16 September 2024 08:55 - 15:03	93.1%
A1	Benzo[b]fluoranthene	No limit applies		<0.001		16 September 2024 08:55 - 15:03	75.4%
A1	Benzo[k]fluoranthene	No limit applies		<0.001		16 September 2024 08:55 - 15:03	153.0%
A1	Benzo[b]naph(2,1-d}thiophene	No limit applies		<0.0012		16 September 2024 08:55 - 15:03	206.0%
A1	Benzo[c]phenanthrene	No limit applies		<0.0012		16 September 2024 08:55 - 15:03	206.0%

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A1	Benzo[ghi]perylene	No limit applies		<0.001		16 September 2024 08:55 - 15:03	104.5%
A1	Benzo[a]pyrene	No limit applies		<0.0012		16 September 2024 08:55 - 15:03	206.0%
A1	Cholanthrene	No limit applies		<0.0012		16 September 2024 08:55 - 15:03	206.0%
A1	Chrysene	No limit applies		0.01		16 September 2024 08:55 - 15:03	67.2%
A1	Cyclopenta(c,d)pyrene	No limit applies		<0.0012		16 September 2024 08:55 - 15:03	206.0%
A1	Dibenzo[ah]anthracene	No limit applies		<0.0012		16 September 2024 08:55 - 15:03	206.0%
A1	Dibenzo[a,i]pyrene	No limit applies		<0.0012		16 September 2024 08:55 - 15:03	206.0%
A1	Fluoranthene	No limit applies		0.03		16 September 2024 08:55 - 15:03	49.8%
A1	Indo[1,2,3-cd]pyrene	No limit applies		<0.01		16 September 2024 08:55 - 15:03	140.5%
A1	Naphthalene	No limit applies		0.24		16 September 2024 08:55 - 15:03	49.2%

[1} For dioxins and dioxin-like PCBs, the result are to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum

[2] The date and time of the sample that produced the result is given.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A2	Hydrogen fluoride	1 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	0.040 (mg/m3)	CEN TS 17340	30 September 2024 08:30 - 10:30 10:35 - 12:35 12:40 - 14:40	0.04
A2	Cadmium & thallium and their compounds (total)	0.02 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	0.0008 (mg/m3)	BS EN 14385	19 September 2024 08:27 - 09:30 09:42 - 10:45 11:02 - 12:05	0.02
A2	Mercury and its compounds	0.02 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	0.0028 (mg/m3)	BS EN 13211	12 September 2024 08:00 - 09:03 09:18 - 10:22 10:36 - 11:39	0.0007
A2	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.3 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	0.019 (mg/m3)	BS EN 14385	19 September 2024 08:27 - 09:30 09:42 - 10:45 11:02 - 12:05	0.005
A2	Dioxins / Furans (I-TEQ)	0.06 ng/m^3	periodic over minimum 6 hours, maximum 8 hour period	0.0183 (ng/m3)	BS EN 1948 Parts 1, 2 and 3	30 September 2024 08:37 - 14:41	0.0028
A2	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.0024 (ng/m3)	EN 1948 Parts 1, 2 and 4	30 September 2024 08:37 - 14:41	0.0001
A2	Dioxin-like PCBs (WHO-TEQ Fish)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.0001 (ng/m3)	EN 1948 Parts 1, 2 and 4	30 September 2024 08:37 - 14:41	0.00001

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A2	Dioxin-like PCBs (WHO-TEQ Birds)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.0062 (ng/m3)	EN 1948 Parts 1, 2 and 4	30 September 2024 08:37 - 14:41	0.0003
A2	Dioxins / furans (WHO-TEQ Humans / Mammals)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.0171 (ng/m3)	BS EN 1948 Parts 1, 2 and 3	30 September 2024 08:37 - 14:41	0.0026
A2	Dioxins / furans (WHO-TEQ Fish)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.0190 (ng/m3)	BS EN 1948 Parts 1, 2 and 3	30 September 2024 08:37 - 14:41	0.0029
A2	Dioxins / furans (WHO-TEQ Birds)	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.0287 (ng/m3)	BS EN 1948 Parts 1, 2 and 3	30 September 2024 08:37 - 14:41	0.0044
A2	Polybrominated dibenzo-dioxins and furans	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.0020 (ng/m3)	Method based on procedural requirements of EN 1948	30 September 2024 08:37 - 14:41	0.0046

	Poly-cyclic aromatic hydrocarbons (PAHs)			*Result (ug/m3)*			*Uncertainty*
A2	Total	No limit applies	periodic over minimum 6 hours, maximum 8 hour period	0.54	BS ISO 11338-1 and BS ISO 1138-2	18 September 2024 08:20 - 14:28	0.15
A2	Anthanthrene	No limit applies		<0.0011		18 September 2024 08:20 - 14:28	201.8%
A2	Benzo{a}anthracene	No limit applies		<0.01		18 September 2024 08:20 - 14:28	190.5%

A2	Benzo[b]fluoranthene	No limit applies		<0.0011		18 September 2024 08:20 - 14:28	201.8%
A2	Benzo[k]fluoranthene	No limit applies		<0.0011		18 September 2024 08:20 - 14:28	201.8%
A2	Benzo[b]naph(2,1-d}thiophene	No limit applies		<0.0011		18 September 2024 08:20 - 14:28	201.8%
A2	Benzo[c]phenanthrene	No limit applies		<0.0011		18 September 2024 08:20 - 14:28	201.8%
A2	Benzo[ghi]perylene	No limit applies		<0.01		18 September 2024 08:20 - 14:28	171.6%
A2	Benzo[a]pyrene	No limit applies		<0.0011		18 September 2024 08:20 - 14:28	201.8%
A2	Cholanthrene	No limit applies		<0.0011		18 September 2024 08:20 - 14:28	201.8%
A2	Chrysene	No limit applies		<0.01		18 September 2024 08:20 - 14:28	133.4%
A2	Cyclopenta(c,d)pyrene	No limit applies		<0.0011		18 September 2024 08:20 - 14:28	201.8%
A2	Dibenzo[ah]anthracene	No limit applies		<0.0011		18 September 2024 08:20 - 14:28	201.8%
A2	Dibenzo[a,i]pyrene	No limit applies		<0.0011		18 September 2024 08:20 - 14:28	201.8%
A2	Fluoranthene	No limit applies		0.03		18 September 2024 08:20 - 14:28	27.8%
A2	Indo[1,2,3-cd]pyrene	No limit applies		<0.0011		18 September 2024 08:20 - 14:28	201.8%

A2	Naphthalene	No limit applies		0.50		18 September 2024 08:20 - 14:28	26.6%

[1} For dioxins and dioxin-like PCBs, the result are to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum

[2] The date and time of the sample that produced the result is given.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Assessment against Mercury and Dioxin Protocols: Notes for completion

- **<u>ONLY</u> complete this table in full** if there have been any periodically-monitored values above the thresholds set out in the mercury and dioxins monitoring protocols in this 6-month reporting period. **Otherwise,** enter N/A in the first date box if there have been no values above the threshold.

- For mercury, the threshold value is 10 µg/m^3 (11% oxygen). For dioxins, the threshold value is the permit ELV.

- If there has been a value above the threshold within this 6-monthly reporting period but the results of both retests have not yet been obtained, and/or the measures to prevent recurrence not yet finalised, enter TBC into the "Retest 1 & 2" and/or "Measures put in place to prevent recurrence" boxes as necessary. Please then resubmit this information in the table for the next 6-monthly reporting period, with the previously TBC fields additionally completed.

Assessment against Mercury and Dioxin Protocols					
Date	**Line**	**Hg or dioxins**	**Values**		**Measures put in place to prevent recurrence**
N/A			Value		
			Retest 1		
			Retest 2		
			Value		
			Retest 3		
			Retest 4		
Note that the monitoring protocols require the operator to demonstrate consistent performance below threshold values such that continuous dioxins sampling or mercury monitoring is not required. The threshold value for dioxins is the same as the permit ELV, whereas the threshold for mercury is half of the ELV. Therefore, a value above the threshold value for mercury does not necessarily mean an exceedance of the permit ELV (see separate table above for compliance with the mercury ELV).					

<u>Annual surveillance tests for continuous emissions monitoring systems: Notes for completion:</u>

- Use this table to record the results of the annual surveillance tests (ASTs) that are carried out on the continuous emissions monitors (CEMS) if they have been carried within this 6-month reporting period.

- Where the CEM passes the AST, enter N/A under all the proceeding cells.

- Even if a new QAL2 is done as a precautionary measure, an AST must also be completed.

- Add additional table(s) if your plant has more than 3 lines, or delete table(s) if less than 3 lines.

- A number of parameters have the drafting note [as applicable] next to them. If not applicable, please delete these rows. Otherwise, retain the relevant rows and delete the drafting note.

- In the event that not all of the steps have been completed at the time of submission of this report, enter TBC into the relevant cells. Please then resubmit this information in the table for the next 6-monthly reporting period, with the previously TBC fields additionally completed.

Annual surveillance tests (ASTs) for continuous emissions monitoring systems (CEMS)
Environment Agency explanatory note: Note that, under the requirements of BS EN 14181 (the Quality Assurance of Automated Measuring systems), operators must carry out regular checks to assess for any drift in instrument calibration (referred to as QAL3 checks), as well as an annual calibration check known as an annual surveillance test (AST). Despite a QAL3 indicating that an instrument has not significantly drifted, the AST methodology includes additional checks of calibration variability and ongoing validity. If either the AST variability test or calibration validity test fail, the cause of must be identified (where possible) and rectified where appropriate, and a new QAL2 performed, reported and new calibration functions implemented in the CEMS software (the data acquisition and handling system – DAHS) within six months.

Line 1	**Annual surveillance tests (ASTs) for continuous emissions monitoring systems (CEMS)**							
Date of AST	**Monitor**	**Variability test passed? Y/N**	**Calibration validity test passed? Y/N**	**Brief description of actions to investigate AST failure prior to new QAL2 being undertaken** (as required by BS EN 14181:2014 Section 8.6)	**Date of QAL2**	**New calibration function from QAL2 (whereby y = bx + a)**		**Date new calibration function entered into DAHS**
						b value	**a value**	
23-25th September 2024	HCl	YES	YES					
	SO_2	YES	YES					
	NO_x	YES	YES					
	TOC	YES	YES					
	Particulate matter	YES	YES					
	CO	YES	YES					
	NH_3	YES	YES					
	CO_2	YES	YES					
	N_20	YES	NO	QAL2 performed during the AST campaign	23-25th September 2024	1.040	0.179	TBC
	O_2	YES	YES					
	Moisture	YES	YES					
	Velocity	YES	YES					

Line 2	Annual surveillance tests (ASTs) for continuous emissions monitoring systems (CEMS)							
Date of AST	**Monitor**	**Variability test passed? Y/N**	**Calibration validity test passed? Y/N**	**Brief description of actions to investigate AST failure prior to new QAL2 being undertaken** (as required by BS EN 14181:2014 Section 8.6)	**Date of QAL2**	**New calibration function from QAL2 (whereby y = bx + a)**		**Date new calibration function entered into DAHS**
						b value	**a value**	
	HCl	YES	YES					
	SO_2	YES	YES					
	NO_x	YES	NO	QAL2 performed during the AST campaign	26th Sept 2024	1.113	-0.255	TBC
	TOC	YES	YES					
	Particulate matter	YES	YES					
	CO	YES	YES					
	NH_3	YES	YES					
	CO_2	YES	YES					
	N_20	YES	YES					
	O_2	YES	YES					
	Moisture	YES	YES					
	Velocity	YES	YES					

Signed [redacted] …… Date…13/01/2025……

(authorised to sign as representative of Viridor)