

Reference Number: BU21101S

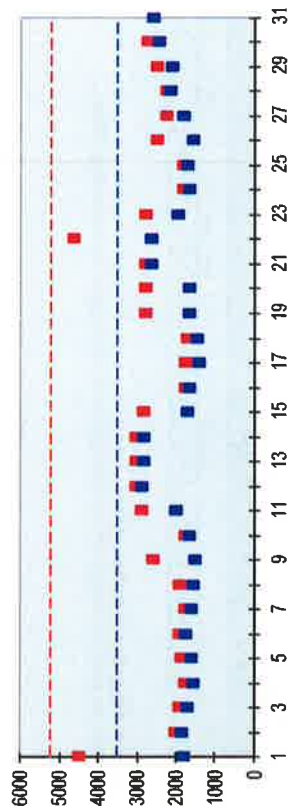
Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: A1 / Form Dated 1st February 2006

Reporting of Continuously Monitored Emissions to Air for Carbon Monoxide Emission Point A1 for the month of October 2018

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date																																		
Half-hourly average			Half-hour average ELV																																		
	Monthly maximum		5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	5230	
	Monthly mean		4525	2011	1920	1775	1838	1927	1739	1893	2591	1778	2889	3037	3046	3027	2839	1779	1738	1694	2776	2774	2776	4636	2792	1795	1802	2488	2240	2252	2304	2760	2760	3049			
	Monthly minimum																																				
	Total invalid results																																				
Daily average	Sum of exceedances		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	
	Monthly maximum																																				
	Monthly average		1789	1870	1722	1567	1631	1752	1603	1559	1488	1646	2010	2902	2831	2855	1700	1647	1428	1644	1662	2635	2659	1946	1678	1698	1564	1826	2102	2439	2574						
	Sum of exceedances Note 1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Value exceeds ELV (Y/N)																																		
			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	

Note 1: Not more than one calendar monthly average during any rolling twelve-month period shall exceed the limit value by more than 10%.

Note 2: Not more than one half hour period (commencing on the hour or half hour) during any 24-hour period shall exceed the daily average limit value of 3500mg/m³ by more than 50%.

Note 3: Max. Half hourly averages to be reported in the event of an exceedance of 3500mg/m³.

Note 4: All results corrected to 273K, 101.3kPa.

Note 5: Calibration spikes 1st and 22nd October, 30th Oct 17hrs downtime B Unit through DC feed lack of supply

Signed

(authorised to sign as representative of Operator)

Date: 30th January 2019

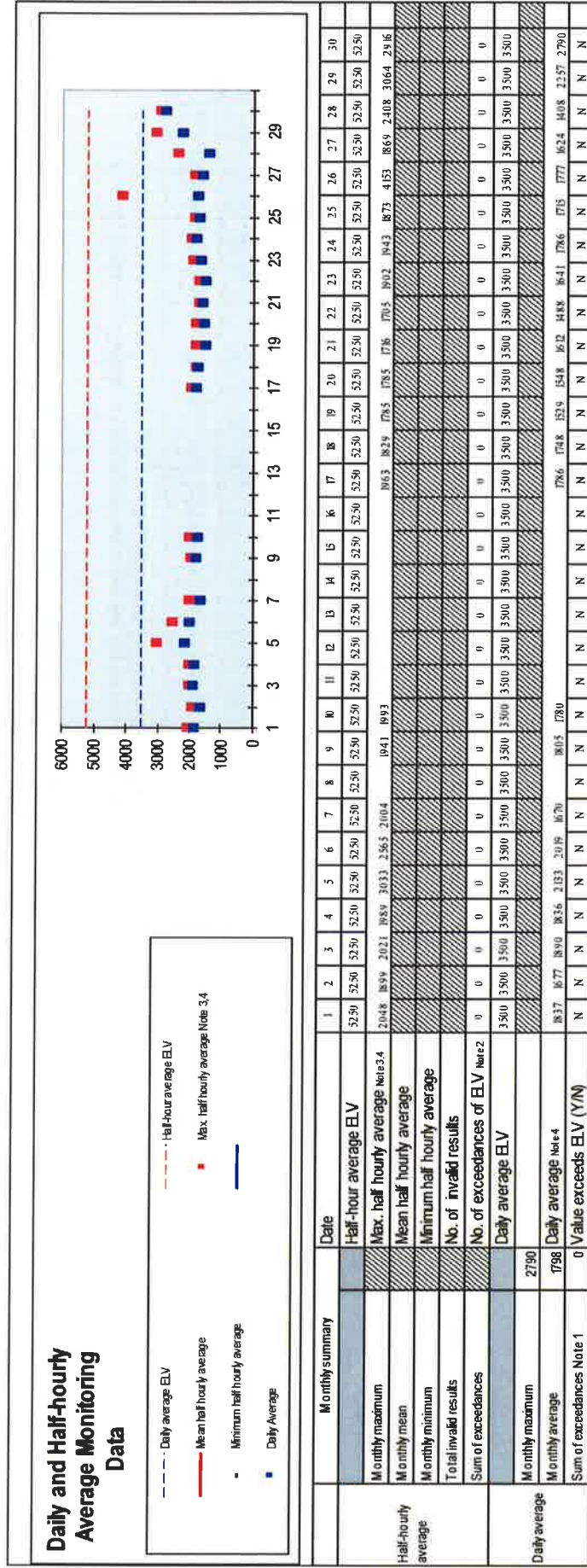
Reference Number: BU21101S

Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: A1 / Form Dated 1st February 2006

Reporting of Continuously Monitored Emissions to Air for Carbon Monoxide Emission Point A1 for the month of November 2018



Note 1: Not more than one calendar monthly average during any rolling twelve-month period shall exceed the limit value by more than 10%.
Note 2: Not more than one half hour period (commencing on the hour or half hour) during any 24-hour period shall exceed the daily average limit value of 3500mg/m³ by more than 50%.
Note 3: Max. Half hourly averages to be reported in the event of an exceedance of 3500mg/m³.
Note 4: All results corrected to 273K, 101.3kPa.
Note 5: 8th - 17th November both units down (lack of feedstock supply).

Signed

(authorised to sign as representative of Operator)

Date: 30th January 2019

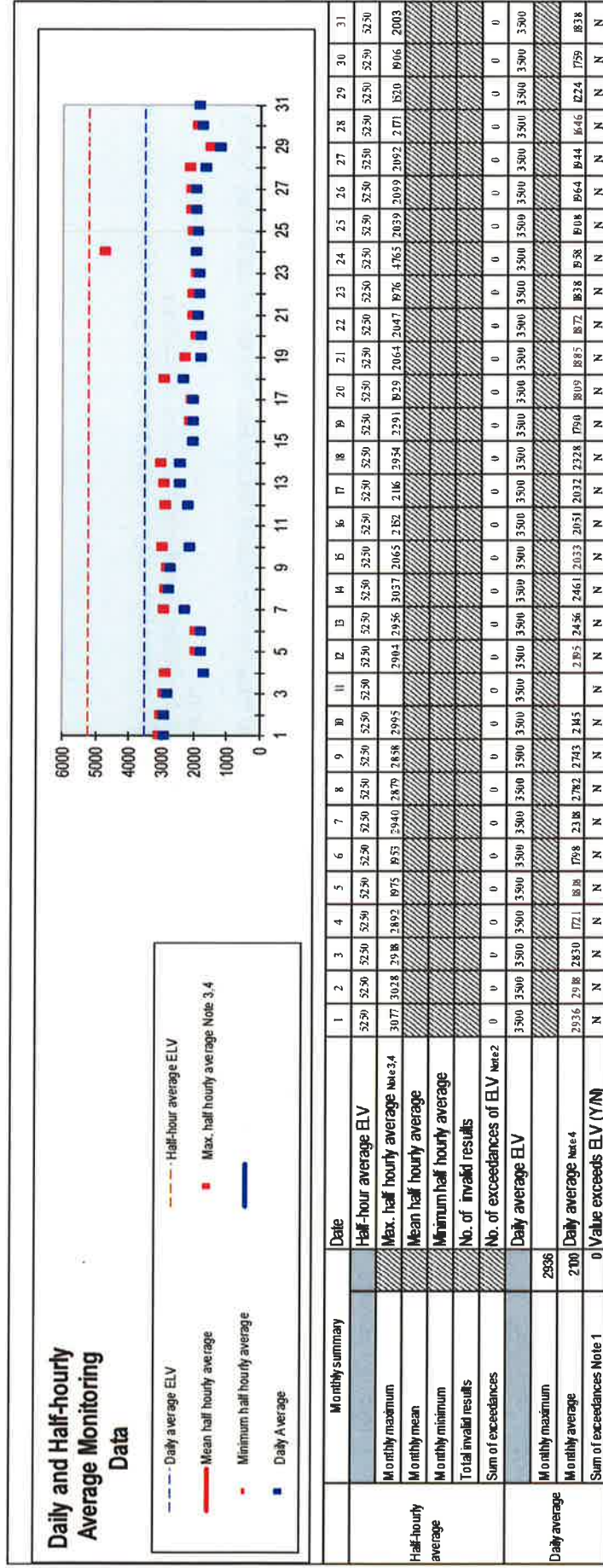
Reference Number: BU21101S

Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: A1 / Form Dated 1st February 2006

Reporting of Continuously Monitored Emissions to Air for Carbon Monoxide Emission Point A1 for the month of December 2018



Note 1: Not more than one calendar monthly average during any rolling twelve-month period shall exceed the limit value by more than 10%.

Note 2: Not more than one half hour period (commencing on the hour or half hour) during any 24-hour period shall exceed the daily average limit value of 3500mg/m³ by more than 50%.

Note 3: Max. Half hourly averages to be reported in the event of an exceedance of 3500mg/m³.

Note 4: All results corrected to 273K, 101.3kPa.

Note 5: Calibration spike 24th Dec 18

Signed

(authorised to sign as representative of Operator)

Date: 30th January 2019

Reference Number: BU2110IS

Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: A3 / Form Dated 1st February 2006

Reporting of Emissions to Air for the period 1 October 2018 to 31 December 2018

Emission Point	Substance / Parameter	Emission Limit Value ^[6]	Result ^[1] ^[8]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty +/- ^[5]
A1	Chlorine	10 mg/m ³	2.4 mg/m ³	US EPA Method 26A	13.12.18 0855-0925, 0940-1010, 1020-1050, 1105-1135, 1145-1215 hrs	MCERTS / UKAS	+/- 0.4 mg/m ³
A1	Chlorine	10mg/m ³	2.7 mg/ m ³	US EPA Method 26A	Annual average of CY18Q1(0.5) CY18Q2 (4.3) CY18Q3(3.5) CY18Q4 (2.4)	MCERTS / UKAS	+/- 0.3 mg/m ³
A1	Chloromethanes (as methyl chloride)	50mg/m ³	3.1 mg/m ³	BS EN 13649	13.12.18 0845-0945, 0947-1047, 1050-1150hrs	MCERTS / UKAS	+/- 0.6 mg/m ³
A1	Hydrogen chloride	10mg/m ³	1.6 mg/m ³	TGN M22 ^[2]	13.12.18 0845-0945, 0947-1047, 1050-1150hrs	MCERTS / UKAS	+/- 0.9 mg/m ³

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given.

[3] For non-continuous measurements the date and time of the sample that produced the result is given.

[4] The accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.

[5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated. The basis of any other uncertainty figure needs to be stated. Where no figure is available the Agency will need to agree an appropriate uncertainty value.

[6] Corrected to 273K, 101.3Kpa.

[7] Annual Average reported CY18 Q1-Q4 inclusive

Signed

(authorised to sign as representative of Operator)

Date: 30th January 2019

Permit Reference Number: BU21101S

Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: W1 / Form Dated 1st February 2006

Reporting of Emissions to Water (other than to Sewer) for the period from 1 October 2018 to 31 December 2018

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation / Certification ^[4]	Uncertainty ^[5]
W1	Oil and grease	5mg/l ^[6]	<0.6	IR Spectrometry - W-TEC-IR	28.11.18 1500hr	UKAS	+/- 20.0%
	BOD ₅	20mg/l ^[6]	<1	ISBN: 011 7522120	28.11.18 1500hr	UKAS	+/- 23.6%
	pH	>5, <9 ^[7]	7.1	ISBN: 011 7514284	28.11.18 1500hr	UKAS	+/- 20.3%
W2	Oil and grease	5mg/l ^[6]	<0.6	IR Spectrometry - W-TEC-IR	28.11.18 1500hr	UKAS	+/- 20.0%
	BOD ₅	20mg/l ^[6]	1	ISBN: 011 7522120	28.11.18 1500hr	UKAS	+/- 23.6%
	pH	>5, <9 ^[7]	7.5	ISBN: 011 7514284	28.11.18 1500hr	UKAS	+/- 20.3%
W3	Oil and grease	5mg/l ^[6]	<0.6	IR Spectrometry - W-TEC-IR	28.11.18 1500hr	UKAS	+/- 20.0%
	BOD ₅	20mg/l ^[6]	1	ISBN: 011 7522120	28.11.18 1500hr	UKAS	+/- 23.6%
	pH	>5, <9 ^[7]	7.8	ISBN: 011 7514284	28.11.18 1500hr	UKAS	+/- 20.3%

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum - maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given.

[3] For non-continuous measurements the date and time of the sample that produced the result is given.

[4] The accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.

[5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated. The basis of any other uncertainty figure needs to be stated. Where no figure is available the Agency will need to agree an appropriate uncertainty value.

[6] The emission limit value for Oil and grease, and BOD₅, is expressed as a maximum individual value.

[7] The emission limit values for pH are expressed as minimum and maximum individual values.

[8] ALS Environmental has obtained UKAS accreditation for all test method.

Signed

(authorised to sign as representative of Operator)

Date 30th January 2019

