

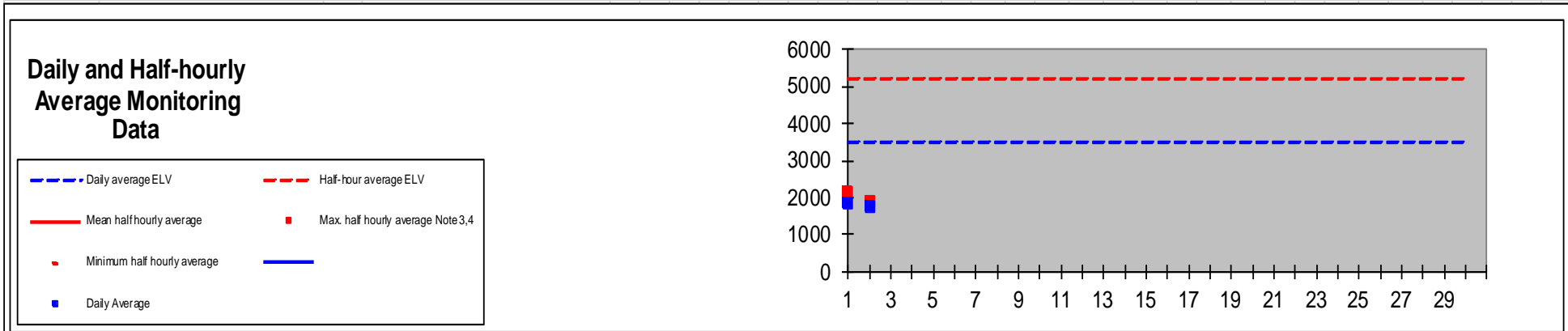
Reference Number: BU2110IS

Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: A1 / Form Dated 1<sup>st</sup> February 2006

**Reporting of Continuously Monitored Emissions to Air for Carbon Monoxide Emission Point A1 for the month of April 2019**



Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Half-hourly average	Half-hour average ELV		5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	
	Monthly maximum	Max. half hourly average <small>Note 3,4</small>	2149	1889																												
	Monthly mean	Mean half hourly average																														
	Monthly minimum	Minimum half hourly average																														
	Total invalid results	No. of invalid results																														
Sum of exceedances	No. of exceedances of ELV <small>Note 2</small>	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	
Daily average	Daily average ELV		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	1878																														
	Monthly average	1829	Daily average <small>Note 4</small>	1878	1779																											
Sum of exceedances <small>Note 1</small>	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		

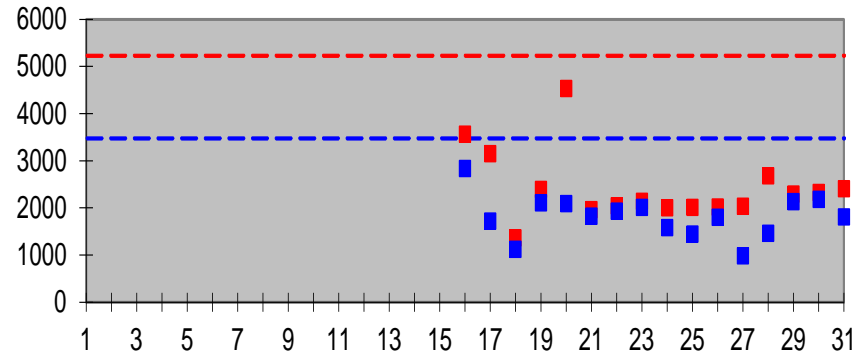
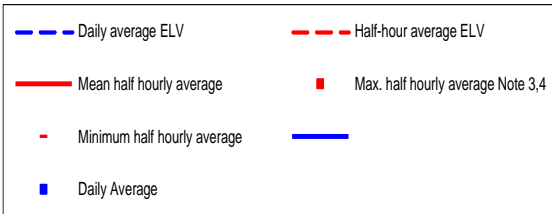
Note 1: Not more than one calendar monthly average during any rolling twelve month period shall exceed the limit value by more than 10%.  
 Note 2: Not more than one half hour period (commencing on the hour or half hour) during any 24 hour period shall exceed the daily average limit value of 3500mg/m<sup>3</sup> by more than 50%.  
 Note 3: Max. half hourly averages to be reported in the event of an exceedance of 3500mg/m<sup>3</sup>.  
 Note 4: All results corrected to 273K, 101.3kPa.  
 Note 5: Annual outage from April 2<sup>nd</sup> 2019 to 16<sup>th</sup> May 2019

Signed ..... *PS Lloyd* .....  
 (authorised to sign as representative of Operator)

Date: 23<sup>rd</sup> July 2019

**Reporting of Continuously Monitored Emissions to Air for Carbon Monoxide Emission Point A1 for the month of May 2019**

**Daily and Half-hourly Average Monitoring Data**



Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Half-hourly average	Half-hour average ELV		5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250		
	Monthly maximum	Max. half hourly average Note 3,4																3564	3149	1363	2390	4532	1961	2045	2138	2001	2008	2022	2032	2679	2292	2324	2408		
	Monthly mean	Mean half hourly average																																	
	Monthly minimum	Minimum half hourly average																																	
	Total invalid results	No. of invalid results																																	
Sum of exceedances	No. of exceedances of ELV Note 2		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	
Daily average	Daily average ELV		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	2837																																	
	Monthly average	1816	Daily average Note 4															2837	1719	1122	2113	2093	1825	1933	2015	1580	1448	1798	983	1459	2133	2184	1810		
	Sum of exceedances Note 1	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	

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/m<sup>3</sup> by more than 50%.  
 Note 3: Max. half hourly averages to be reported in the event of an exceedance of 3500mg/m<sup>3</sup>.  
 Note 4: All results corrected to 273K, 101.3kPa.  
 Note 5: annual outage until May 16<sup>th</sup> 2019

Signed ..... *PS Lloyd* .....  
 (authorised to sign as representative of Operator)

Date: 23<sup>rd</sup> July 2019

Reference Number: BU2110IS

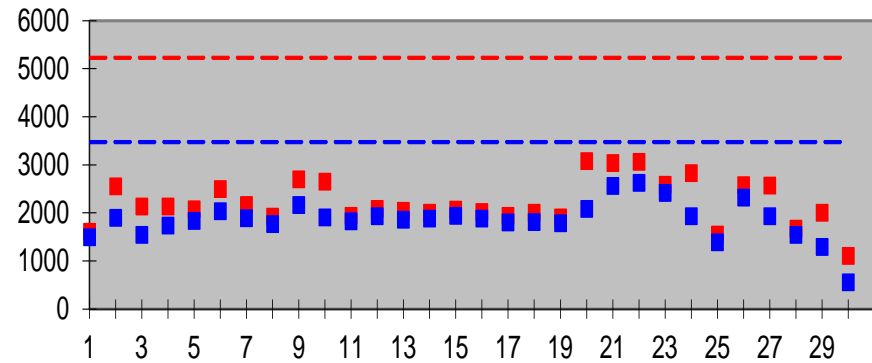
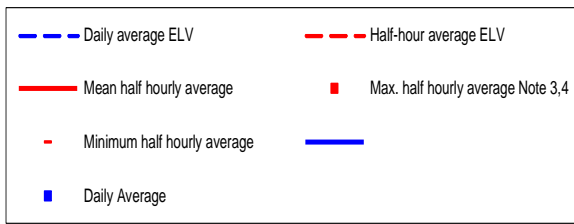
Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: A1 / Form Dated 1<sup>st</sup> February 2006

**Reporting of Continuously Monitored Emissions to Air for Carbon Monoxide Emission Point A1 for the month of June 2019**

**Daily and Half-hourly Average Monitoring Data**



Monthly summary		Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Half-hourly average		Half-hour average ELV	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	5250	
	Monthly maximum	Max. half hourly average Note 3,4	1604	2557	2134	2135	2078	2497	2169	1925	2697	2651	1938	2087	2044	2006	2066	2019	1942	2005	1905	3076	3042	3066	2584	2832	1555	2574	2566	1673	2001	1109	
	Monthly mean	Mean half hourly average																															
	Monthly minimum	Minimum half hourly average																															
	Total invalid results	No. of invalid results																															
	Sum of exceedances	No. of exceedances of ELV Note 2	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
Daily average		Daily average ELV	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	2687																															
	Monthly average	1855	Daily average Note 4	1498	1901	1546	1740	1836	2037	1888	1770	2163	1905	1830	1931	1855	1879	1939	1879	1805	1808	1789	2086	2560	2627	2418	1933	1393	2316	1935	1541	1291	556
	Sum of exceedances Note 1	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

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/m<sup>3</sup> by more than 50%.  
 Note 3: Max. half hourly averages to be reported in the event of an exceedance of 3500mg/m<sup>3</sup>.  
 Note 4: All results corrected to 273K, 101.3kPa.  
 Note 5: June 26<sup>th</sup>-30<sup>th</sup> curtailment/lower rates.

Signed ..... *PS Lord* .....  
 (authorised to sign as representative of Operator)

Date: 23<sup>rd</sup> July 2019

Reference Number: BU2110IS

Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: A3 / Form Dated 1<sup>st</sup> February 2006

**Reporting of Emissions to Air for the period 1 April 2019 to 30 June 2019**

Emission Point	Substance / Parameter	Emission Limit Value <sup>[6] [7]</sup>	Result <sup>[1]</sup> [Note A]	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation / Certification <sup>[4]</sup>	Uncertainty <sup>+/- [5]</sup>
A1	Chlorine	10mg/m <sup>3</sup>	2.0 mg/m <sup>3</sup>	US EPA Method 26A	05.06.19: 0900-0930,0955-1025,1043-1113,1125-1155,1216-1246hrs	MCERTS / UKAS	+/- 0.3 mg/m <sup>3</sup>
A1	Chloromethanes (as methyl chloride)	50mg/m <sup>3</sup>	2.5 mg/m <sup>3</sup>	BS EN 13649	05.06.19: 1004-1104,1107-1207,1210-1310hrs	MCERTS / UKAS	+/- 0.5 mg/m <sup>3</sup>
A1	Hydrogen chloride	10mg/m <sup>3</sup>	1.4 mg/m <sup>3</sup>	TGN M22	02.07.19 1100-1200,1200-1300, 1300-1400hrs	MCERTS / UKAS	+/- 0.2 mg/m <sup>3</sup>

[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. Note HCL measurement later date as agreed with NRW (Exova equipment issue on 05.06.19 requiring rescheduled test date)

[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] Results calculated as the average of 5 consecutive, 30-minute samples taken every quarter.

[Note A]: Results are given as averages being more representative, as agreed with NRW.



Signed .....

Date: 23<sup>rd</sup> July 2019

(authorised to sign as representative of the Operator)

Permit Reference Number: BU2110IS

Operator: Cabot Carbon Limited

Installation: Barry Silicon-Based Manufacturing Installation

Form Number: W1 / Form Dated 1<sup>st</sup> February 2006

**Reporting of Emissions to Water (other than to Sewer) for the period from 1 April 2019 to 30 June 2019**

Emission Point	Substance / Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
W1	Oil and grease	5mg/l <sup>[6]</sup>	<1	IR Spectrometry - EA Test 362 ISBN 0117517283	17.04.19 0700hrs	UKAS	+/- 20.0%
	BOD <sub>5</sub>	20mg/l <sup>[6]</sup>	4	ISBN 011 7522120	17.04.19 0700hrs	UKAS	+/- 23.6%
	pH	>5, <9 <sup>[7]</sup>	7.1	BS 6068-2.50:1995	17.04.19 0700hrs	UKAS	+/- 20.3%
W2	Oil and grease	5mg/l <sup>[6]</sup>	<0.6	IR Spectrometry - EA Test 362 ISBN 0117517283	05.06.19 0715hrs	UKAS	+/- 20.0%
	BOD <sub>5</sub>	20mg/l <sup>[6]</sup>	<1	ISBN 011 7522120	17.04.19 0710hrs	UKAS	+/- 23.6%
	pH	>5, <9 <sup>[7]</sup>	7.6	BS 6068-2.50:1995	17.04.19 0710hrs	UKAS	+/- 20.3%
W3	Oil and grease	5mg/l <sup>[6]</sup>	<0.6	IR Spectrometry - EA Test 362 ISBN 0117517283	17.04.19 0720hrs	UKAS	+/- 20.0%
	BOD <sub>5</sub>	20mg/l <sup>[6]</sup>	1	ISBN 011 7522120	17.04.19 0720hrs	UKAS	+/- 23.6%
	pH	>5, <9 <sup>[7]</sup>	7.7	BS 6068-2.50:1995	17.04.19 0720hrs	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] W2 Oil & Grease sample taken on separate day due to outlet low flow on 17.04.19- not enough sample could be taken after sampling for BOD and pH.
- [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 BOD<sub>5</sub>, is expressed as a maximum individual value.
- [7] The emission limit values for pH are expressed as minimum and maximum individual values.
- [8] The Environment Agency National Testing Laboratory at Shawcross in Exeter has obtained UKAS accreditation for the oil and grease test method.



Signed .....  
(authorised to sign as representative of the Operator)

Date: 23<sup>rd</sup> July 2019