

Reference Number: BU2110IS

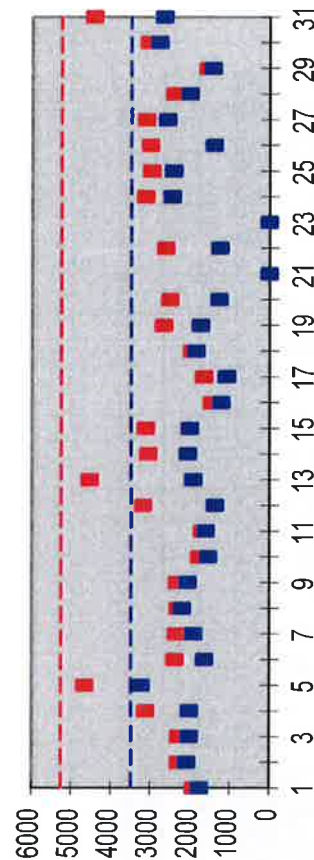
Operator: Cabot Carbon Limited

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 2016

Daily and Half-hourly Average Monitoring Data



Monthly summary		Date																															
Half-hourly average		Half-hour average ELV																															
	Monthly maximum	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	
	Max. half hourly average	1888	2272	2260	3100	4640	2363	2236	2279	2214	1754	1673	3163	4516	3043	3105	1437	1641	1936	2651	2501	0	2395	0	3110	2962	2998	3093	2385	1544	3029	4412	
	Monthly mean																																
	Monthly minimum																																
Daily average	Total invalid results																																
	Sum of exceedances	No. of invalid results																															
		No. of exceedances of ELV																															
		Daily average ELV																															
Daily average	Monthly maximum	3236																															
	Monthly average	1788																															
	Sum of exceedances	0																															

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: 20th-21.10.16 GB20 impeller repair B Unit down, 23.10.16 A Unit down TCS Bed trip change, 25.10.16 DC TCS fridge trip AHCL limitation (B Unit), 26.10.16 B4 burner blow back (B Unit)

Signed

(authorised to sign as representative of Operator)

Date: 26th January 2017

Reference Number: BU21101S

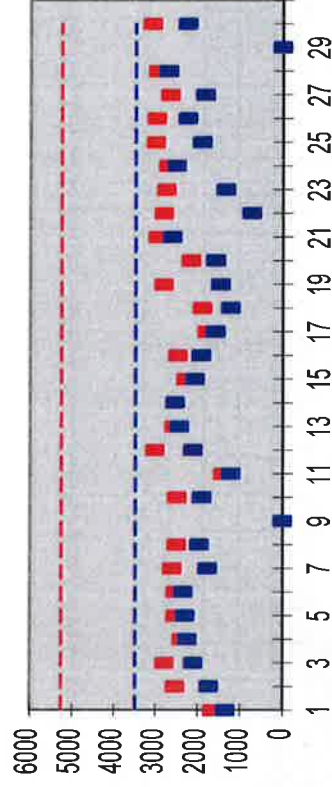
Operator: Cabot Carbon Limited

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 2016

Daily and Half-hourly Average Monitoring Data



	Monthly summary		Date																													
			Half-hour average ELV																													
Half-hourly average	Monthly maximum		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 mean		1627	2522	2779	2369	2511	2511	2601	2467	0	2468	1398	3008	2550	2540	2270	2469	1775	1891	2802	2156	2952	2800	2747	2705	3003	2976	2654	2952	0	3085
	Monthly minimum																															
	Total invalid results																															
	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
Daily average			Daily average ELV																													
	Monthly maximum		2701																													
	Monthly average		1800	Daily average ^{Note 4}																												
	Sum of exceedances ^{Note 1}		0	Value exceeds ELV (Y/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: 09.11.16 Plant down 11KV outage, 29.10.16 A-Reboiler HCL seal repair

Signed

(authorised to sign as representative of Operator)

Date 26th January 2017

Reference Number: BU21101S

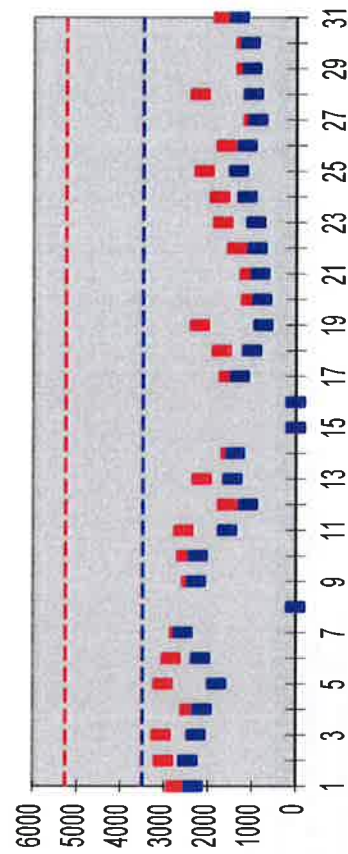
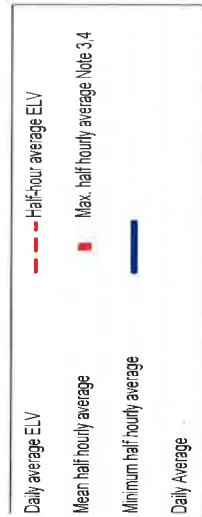
Operator: Cabot Carbon Limited

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 2016

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-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	2725	2999	3054	2395	3013	2635	0	2374	2490	2530	1536	2142	1486	0	0	1525	1689	2195	1025	1058	1546	1571	1745	2086	1394	979	2190	1148	1193	1664	
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	
	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
Monthly maximum	2574																															
Monthly average	Daily average Note 4	2332	2451	2261	2154	1796	2171	2574	0	2270	2232	1570	1091	1446	1388	0	0	1282	1002	745	775	823	885	916	1125	1311	1117	881	976	1019	1056	1394
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/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: 7th - 8th Dec TCS Trip HCL in N2 lines /AHCL Limitation plant down, 15th - 16th Dec AHCL limitation, maint A&B units.

Signed

(authorised to sign as representative of Operator)

Date 26th January 2017

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 2016 to 31 December 2016

Emission Point	Substance / Parameter	Emission Limit Value ^[6]	Result ^[1] [Note A]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty +/- ^[5]
A1	Chlorine	10 mg/m ³	2.7 mg/m ³	US EPA Method 26A	23.11.16 10:21-10:51, 10:56-11:26, 11:31-12:01, 12:06-12:36, 12:41-13:11 hrs	MCERTS / UKAS	+/- 0.3 mg/m ³
A1	Chloromethanes (as methyl chloride)	50mg/m ³	0.98 mg/m ³	BS EN 13649	23.11.16 10:21-10:26, 11:31-11:36, 12:41-12:46 hrs	MCERTS / UKAS	+/- 0.2 mg/m ³
A1	Hydrogen chloride	10mg/m ³	4.5 mg/m ³	TGN M22 ^[2]	23.11.16 09:55-10:55, 10:00-11:00, 11:05-12:05 hrs	MCERTS / UKAS	+/- 1.6 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. Please note TGN M22 method replacing ASTM D6348-03 in accordance with EA (NRW) Monitoring Standard.

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.

Signed

(authorised to sign as representative of Operator)

Date 26th January 2017

Permit Reference Number: BU2110IS

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 2016 to 31 December 2016

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]	No result ^[9]	IR Spectrometry - EA Test 362 ISBN 0117517283		UKAS	
	BOD ₅	20mg/l ^[6]	No result ^[9]	ISBN 011 7522120		UKAS	
	pH	>5, <9 ^[7]	No result ^[9]	BS 6068-2.50:1995		UKAS	
W2	Oil and grease	5mg/l ^[6]	No result ^[9]	IR Spectrometry - EA Test 362 ISBN 0117517283		UKAS	
	BOD ₅	20mg/l ^[6]	No result ^[9]	ISBN 011 7522120		UKAS	
	pH	>5, <9 ^[7]	No result ^[9]	BS 6068-2.50:1995		UKAS	
W3	Oil and grease	5mg/l ^[6]	No result ^[9]	IR Spectrometry - EA Test 362 ISBN 0117517283		UKAS	
	BOD ₅	20mg/l ^[6]	No result ^[9]	ISBN 011 7522120		UKAS	
	pH	>5, <9 ^[7]	No result ^[9]	BS 6068-2.50:1995		UKAS	

[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] The Environment Agency National Testing Laboratory at Shawcross in Exeter has obtained UKAS accreditation for the oil and grease test method.

[9] Despite several attempts, samples were not able to be taken due to either high tide or flood warnings. River levels were high and covered the outlet points.

PS Lloyd

Signed

(authorised to sign as representative of Operator)

Date 26th January 2017

