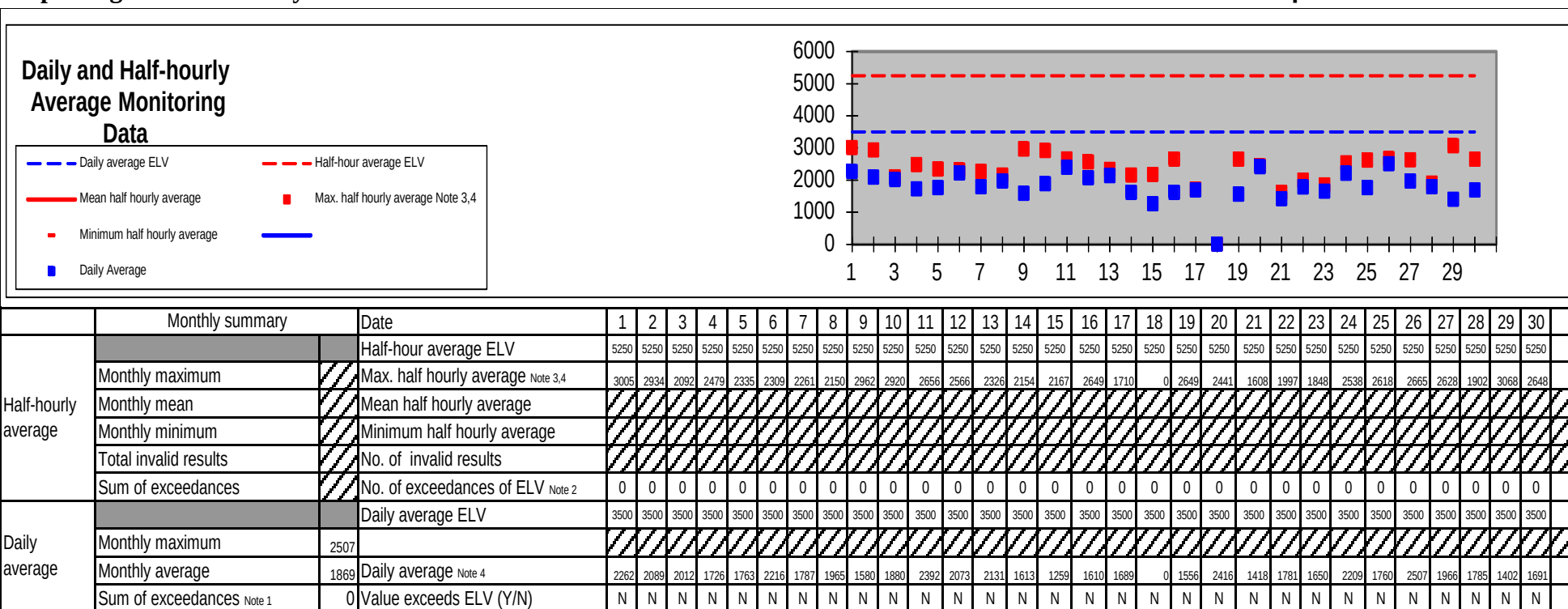


Reference Number: BU2110IS

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 April 2016**

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: 18-19th April plant down blower maint,

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

Date: 20th July 2016

Reference Number: BU2110IS

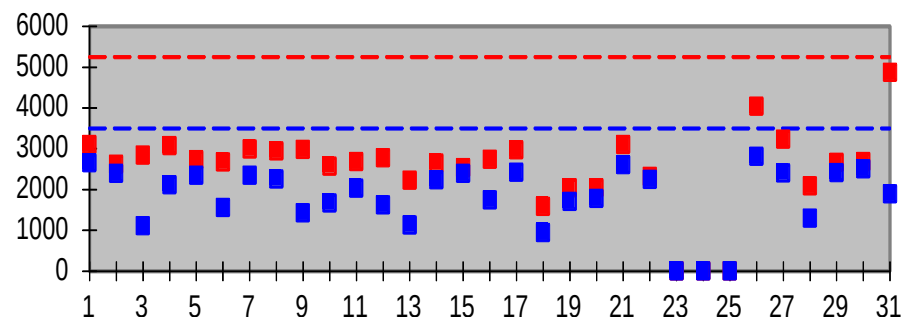
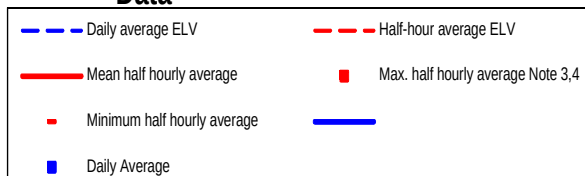
Operator: Cabot Carbon Limited

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 May 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-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	3103	2621	2841	3073	2726	2677	2987	2947	2976	2568	2687	2772	2228	2644	2536	2740	2969	1583	2041	2041	3100	2321	0	0	0	4038	3228	2091	2667	2680	4871
	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	3500
	Monthly maximum	2810		///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///
	Monthly average	2003	Daily average Note 4	2659	2397	1110	2115	2347	1559	2350	2252	1429	1670	2032	1622	1129	2239	2391	1746	2425	941	1709	1784	2611	2242	0	0	0	2810	2403	1297	2408	2505	1889
	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: plant down 22.05.16-26.05.16 T10 reboiler repair

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

Date: 20th July 2016

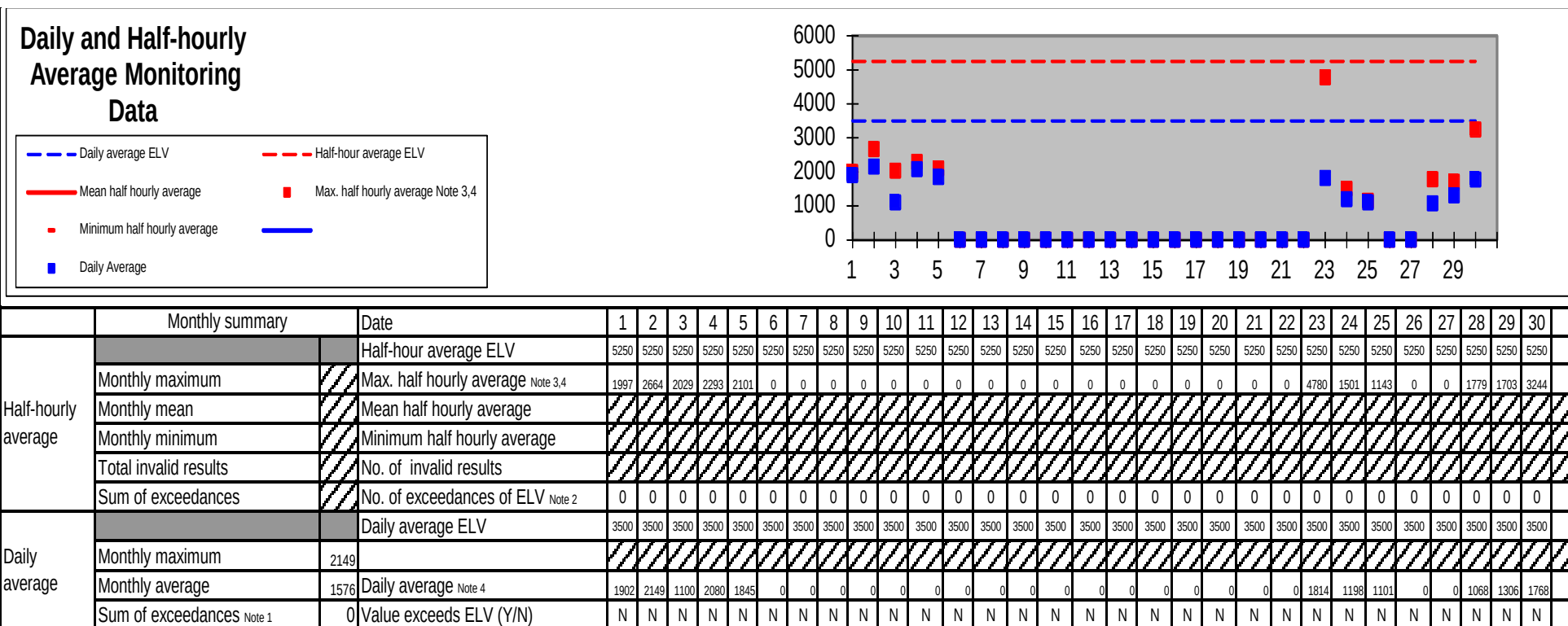
Reference Number: BU2110IS

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 June 2016



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: Planned annual SD from 05.06.2016-23.06.16 (A Unit on Heatload 23.06.16 B Unit shutdown), 26.06.16-27.06.16 Steam Header Repair

Signed *P S Lloyd*
(authorised to sign as representative of Operator)

Date: 20th July 2016

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 April 2016 to 30 June 2016

Emission Point	Substance / Parameter	Emission Limit Value ^{[6] [7]}	Result ^[1] [Note A]	Test Method ^[2]	Sample Date and Times ^{[3] [8]}	Accreditation/ Certification ^[4]	Uncertainty ^{+/- [5]}
A1	Chlorine	10mg/m ³	14.5 mg/m ³ 2.1 mg/m ³	US EPA Method 26A	Set 1: 19.05.2016 12:32, 13:07, 13:43,14:18, 14:54 Set 2: 30.06.2016 13:00,13:35,14:10,14:45,15:20	MCERTS / UKAS	+/- 1.9 mg/m3 +/- 0.3 mg/m3
A1	Chlorine	10mg/m ³	7.7 mg/m ³	US EPA Method 26A	Annual average of CY15Q3(5.4), CY15Q4(5.9), CY16Q1(5.1) CY16Q2*Set 1 data (14.5)	MCERTS / UKAS	+/- 1.0 mg/m3
A1	Chloromethanes (as methyl chloride)	50mg/m ³	4.8 mg/m ³	BS EN 13649	19.05.2016 12:32, 13:43, 14:54	MCERTS / UKAS	+/- 1.2 mg/m3
A1	Hydrogen chloride	10mg/m ³	5.4 mg/m ³	TGN M22	19.05.2016 12:32, 13:43, 14:54	MCERTS / UKAS	+/- 1.6 mg/m3

[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] *Reversion to 10mg/m3 chlorine emission limit as documented in EPR/BU2110IS/V007. Results calculated as the average of 5 consecutive, 30 minute samples taken every quarter.* Note higher results on Set 1 19.05.16- known event on plant at the time of test. Repeat test on 30.06.16 Set 2 well below ELV (mean 2.1mg/m3).

[8] Annual Average reported.

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

PS Lloyd

Signed

Date: 20th July 2016

(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 1st February 2006

Reporting of Emissions to Water (other than to Sewer) for the period from 1 April 2016 to 30 June 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]	<0.2	IR Spectrometry - EA Test 362 ISBN 0117517283	12/05/16@06:00	UKAS	±6.7%
	BOD ₅	20mg/l ^[6]	2.62	ISBN 011 7522120	12/05/16@06:00	UKAS	±8.9%
	pH	>5, <9 ^[7]	6.99	BS 6068-2.50:1995	12/05/16@06:00	UKAS	±1.1%
W2	Oil and grease	5mg/l ^[6]	<0.2	IR Spectrometry - EA Test 362 ISBN 0117517283	12/05/16@06:00	UKAS	±6.7%
	BOD ₅	20mg/l ^[6]	1.22	ISBN 011 7522120	12/05/16@06:00	UKAS	±8.9%
	pH	>5, <9 ^[7]	7.41	BS 6068-2.50:1995	12/05/16@06:00	UKAS	±1.1%
W3	Oil and grease	5mg/l ^[6]	<0.2	IR Spectrometry - EA Test 362 ISBN 0117517283	12/05/16@06:00	UKAS	±6.7%
	BOD ₅	20mg/l ^[6]	1.25	ISBN 011 7522120	12/05/16@06:00	UKAS	±8.9%
	pH	>5, <9 ^[7]	7.56	BS 6068-2.50:1995	12/05/16@06:00	UKAS	±1.1%

[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.

Signed 

(authorised to sign as representative of the Operator)

Date: 20th July 2016