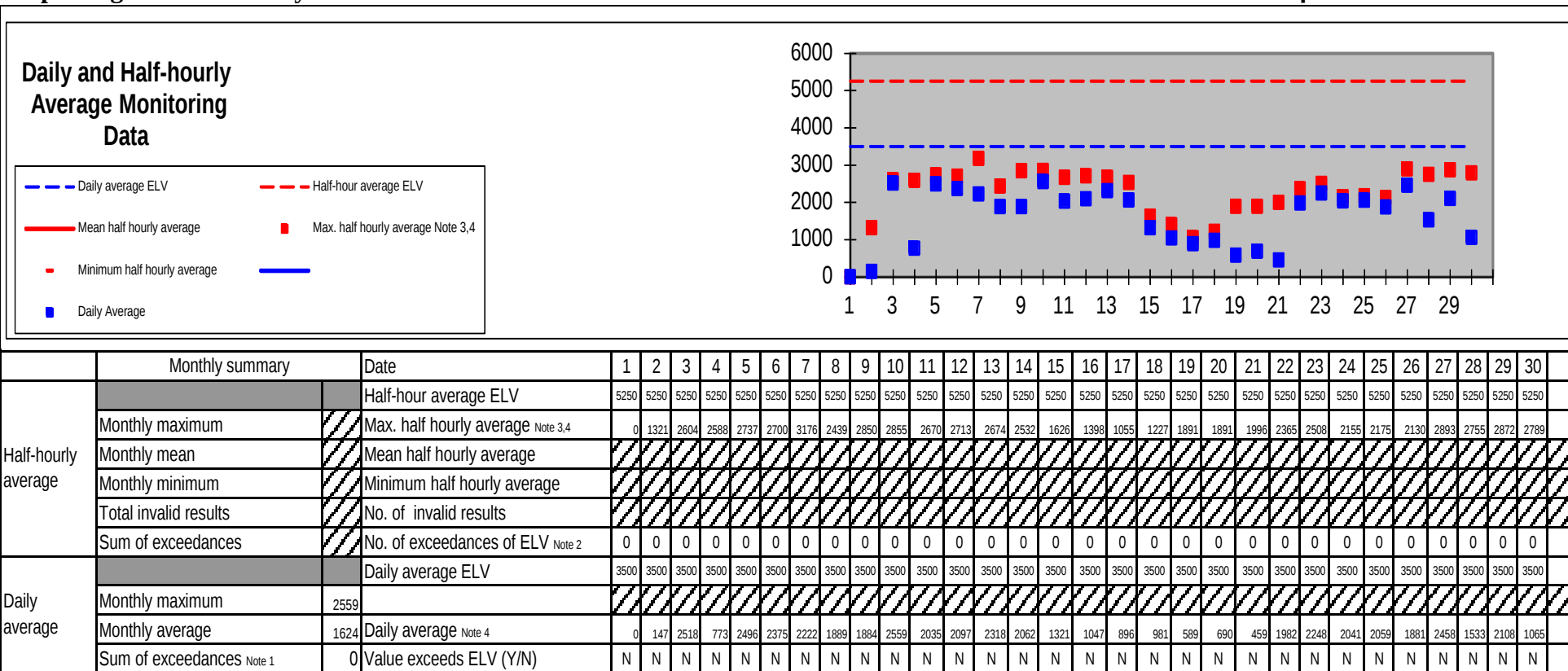


Reference Number: BU2110IS

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 2015**

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: 01/04/2015 A&B unit down (02/04/2015 A unit down only) DC limitation to take AHCL, 20/04/2015 A unit not producing: lack of silo space, 30/04/2015 A unit down 12 hr. motor failure

Signed *PS Lord*Date: 15th July 2015

(authorised to sign as representative of Operator)
Reference Number: BU2110IS

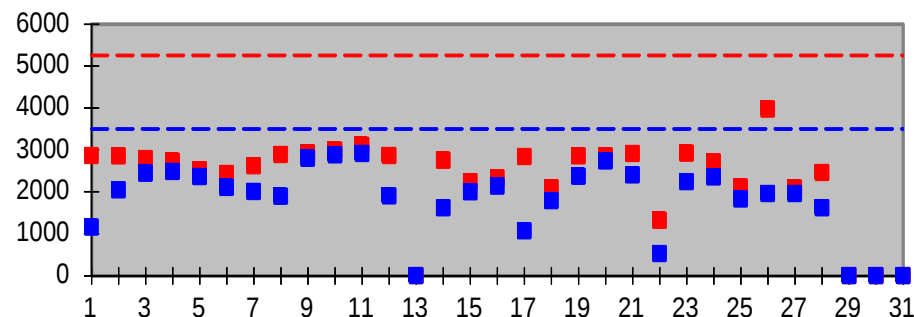
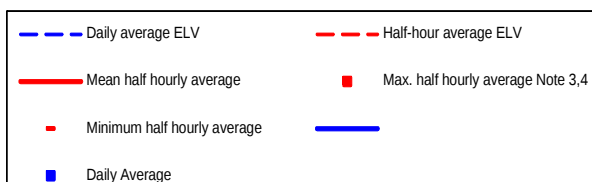
Operator: Cabot Carbon Limited

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 2015

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	2868	2860	2792	2728	2525	2434	2623	2891	2926	2992	3105	2861	0	2751	2241	2330	2839	2099	2856	2856	2912	1319	2921	2713	2113	3971	2087	2464	0	0	0
	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	2936																																
	Monthly average	1795	Daily average Note 4	1162	2047	2441	2483	2366	2107	2009	1894	2802	2884	2916	1901	0	1622	2000	2140	1068	1791	2373	2735	2401	528	2239	2359	1829	1958	1960	1623	0	0	0
	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: 01/05/2015 ~12hrs A unit down HCL blower motor failure, 12/05/2015 B unit down 13/05/2015 HCL blower discharge line maint., 22/05/2015 TCS reactor restriction work/AHCL limitation 29/05/2015-31/05/2015 TK11 GRP repairs

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

Date: 15th July 2015

Reference Number: BU2110IS

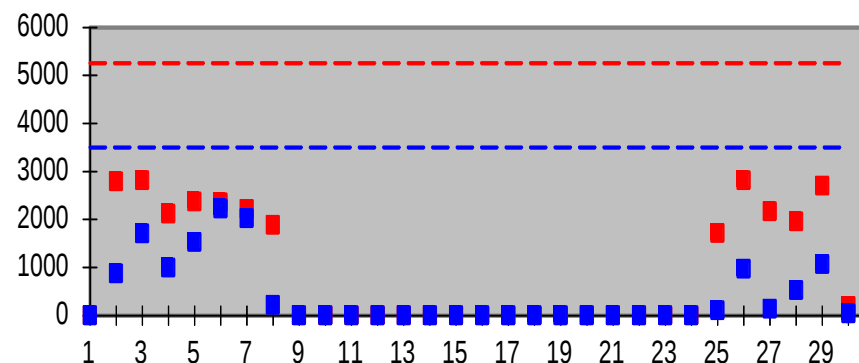
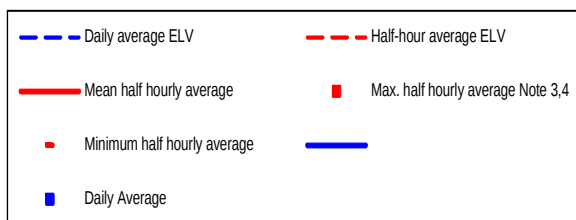
Operator: Cabot Carbon Limited

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 2015

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	0	2796	2815	2119	2369	2357	2217	1889	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1720	2814	2166	1961	2702	196	
	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	2223		⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡	⚡		
	Monthly average	415	Daily average Note 4	0	873	1706	1000	1534	2223	2026	223	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	971	144	532	1069	42	
	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: Planned annual SD from 08/06/2015 -24/06/2015. 25/06/2015 A&B Unit down 12hrs DC plant issue 27/06/2015 -28/06/2015 A-MUF filter bag drop in discharge line/ Fans down, 28/06/2015 & 30/06/2015 DC/TCS plant trip/issues & limitation to AHCL

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

Date: 15th July 2015

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 2015 to 30 June 2015

Emission Point	Substance / Parameter	Emission Limit Value ^[6]	Result ^[1] [Note A]	Test Method ^[2]	Sample Date and Times ^{[3] [7]}	Accreditation/Certification ^[4]	Uncertainty +/- ^[5]
A1	Chlorine	20mg/m ³ ^[8]	3.8 mg/m ³	US EPA Method 26A	12/05/2015 1143-1213, 1216-1246, 12:50-13:20, 13:24-13:54, 13:57-14:27	MCERTS / UKAS	+/- 0.5 mg/m3
A1	Chloromethanes (as methyl chloride)	50mg/m ³	11.6 mg/m ³	BS EN 13649	12/05/2015 11:43-11:48, 12:50-12:55, 13:57-14:02	MCERTS / UKAS	+/- 2.8 mg/m3
A1	Hydrogen chloride	10mg/m ³	4.3 mg/m ³	TGN M22	12/05/2015 1143-1243, 1250-1350,1357-1457	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. 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.

[7] The tests were carried out at scrubber pH (pH 8.8) to assist in maintaining the improvement in caustic scrubber efficiency to reduce chlorine emissions at A1 stack outlet.

[8] 20mg/m3 chlorine emission limit to be applied and revert to 10mg/m3 by an agreed date with the NRW

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



Signed
(authorised to sign as representative of the Operator)

Date: 15th July 2015

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 2015 to 30 June 2015

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	14/05/15@09:00	UKAS	±4.3%
	BOD ₅	20mg/l ^[6]	4.24	ISBN 011 7522120	14/05/15@09:00	UKAS	±19.1%
	pH	>5, <9 ^[7]	7.05	BS 6068-2.50:1995	14/05/15@09:00	UKAS	±0.86%
W2	Oil and grease	5mg/l ^[6]	<0.2	IR Spectrometry - EA Test 362 ISBN 0117517283	14/05/15@09:00	UKAS	±4.3%
	BOD ₅	20mg/l ^[6]	<1.00	ISBN 011 7522120	14/05/15@09:00	UKAS	±19.1%
	pH	>5, <9 ^[7]	7.45	BS 6068-2.50:1995	14/05/15@09:00	UKAS	±0.86%
W3	Oil and grease	5mg/l ^[6]	0.37	IR Spectrometry - EA Test 362 ISBN 0117517283	14/05/15@09:00	UKAS	±4.3%
	BOD ₅	20mg/l ^[6]	3.7	ISBN 011 7522120	14/05/15@09:00	UKAS	±19.1%
	pH	>5, <9 ^[7]	7.58	BS 6068-2.50:1995	14/05/15@09:00	UKAS	±0.86%

[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: 15th July 2015