

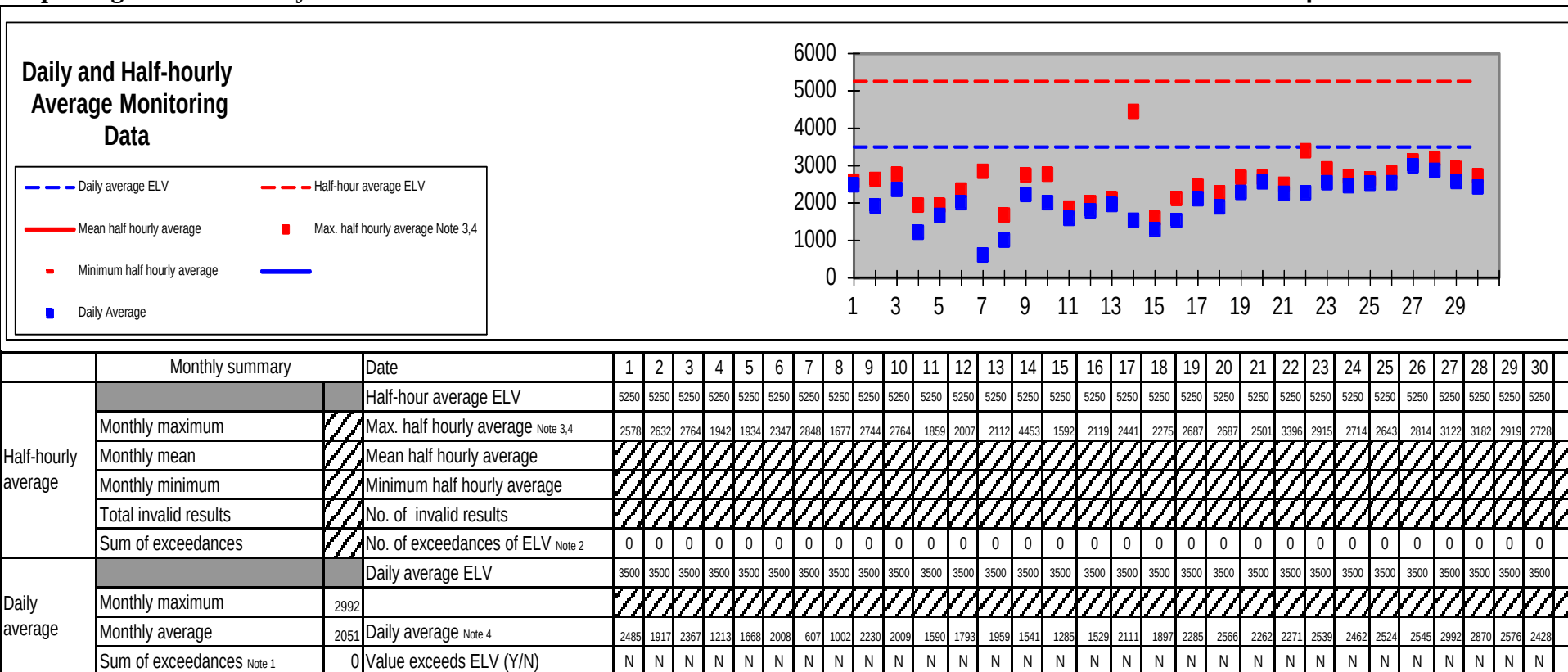
Reference Number: BU2110IS

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 2014



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: April 7th MUF door requiring maintenance, plant down 18 hrs., April 8th starting up.

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

Date: 30th July 2014

Reference Number: BU2110IS

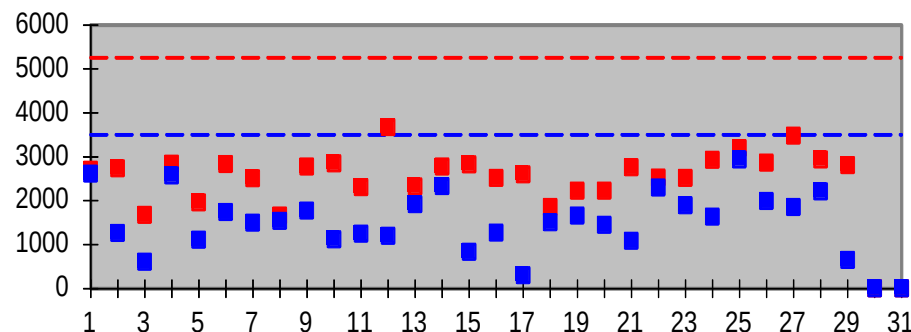
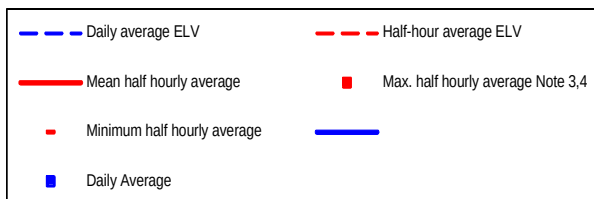
Operator: Cabot Carbon Limited

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 2014

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	2707	2738	1679	2842	1957	2832	2512	1658	2775	2848	2311	3671	2323	2778	2825	2521	2597	1851	2223	2223	2761	2524	2517	2929	3197	2867	3478	2935	2810	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	1590	Daily average Note 4	2616	1264	608	2576	1115	1743	1496	1541	1772	1117	1249	1196	1921	2330	834	1269	298	1508	1658	1448	1087	2298	1894	1632	2936	1992	1854	2213	647	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: May 3rd short power outage, 11th-12th May Feedstock feed line failure @ DC, 17th May, plant maint required, 29th May to 10th June Scheduled Plant Turnaround.

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

Date: 30th July 2014

Reference Number: BU2110IS

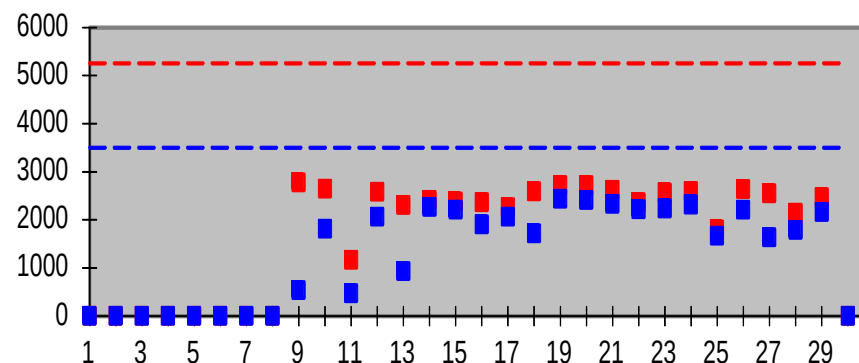
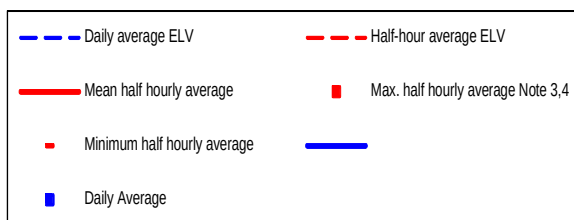
Operator: Cabot Carbon Limited

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 2014

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	0	0	0	0	0	0	0	0	2776	2647	1166	2582	2310	2414	2383	2365	2257	2594	2720	2720	2624	2365	2562	2594	1801	2642	2551	2149	2470	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	2436		///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///	///
	Monthly average	1357	Daily average Note 4	0	0	0	0	0	0	0	0	536	1816	471	2065	934	2269	2209	1901	2063	1716	2436	2415	2333	2219	2234	2312	1665	2211	1634	1786	2165	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: Planned SD to 9th June, 11th B Unit down line repair, operational issues at DC on 13th. June 30th – July 1st unplanned downtime, repair to condensate line.

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

Date: 30th July 2014

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 2014 to 30 June 2014

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]	4.7 mg/m ³	US EPA Method 26A	13/05/2014 1145 1245, 1250-1350,1355-1455	MCERTS / UKAS	+/- 0.6 mg/m3
A1	Chloromethanes (as methyl chloride)	50mg/m ³	10.3 mg/m ³	BS EN 13649	13/05/2014 11451245, 1250-1350,1355-1455	MCERTS / UKAS	+/- 2.1 mg/m3
A1	Hydrogen chloride	10mg/m ³	4.3 mg/m ³	TGN M22	13/05/2014 11451245, 1250-1350,1355-1455	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: 30th July 2014

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 2014 to 30 June 2014

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	12/05/14@08:45	UKAS	±3.6%
	BOD ₅	20mg/l ^[6]	1.32	ISBN 011 7522120	12/05/14@08:45	UKAS	±11.5%
	pH	>5, <9 ^[7]	7.22	BS 6068-2.50:1995	12/05/14@08:45	UKAS	±2.3%
W2	Oil and grease	5mg/l ^[6]	<0.2	IR Spectrometry - EA Test 362 ISBN 0117517283	12/05/14@08:45	UKAS	±3.6%
	BOD ₅	20mg/l ^[6]	<1.00	ISBN 011 7522120	12/05/14@08:45	UKAS	±11.5%
	pH	>5, <9 ^[7]	7.46	BS 6068-2.50:1995	12/05/14@08:45	UKAS	±2.3%
W3	Oil and grease	5mg/l ^[6]	<0.2	IR Spectrometry - EA Test 362 ISBN 0117517283	12/05/14@08:45	UKAS	±3.6%
	BOD ₅	20mg/l ^[6]	<1.00	ISBN 011 7522120	12/05/14@08:45	UKAS	±11.5%
	pH	>5, <9 ^[7]	7.7	BS 6068-2.50:1995	12/05/14@08:45	UKAS	±2.3%

[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] 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: 30th July 2014