

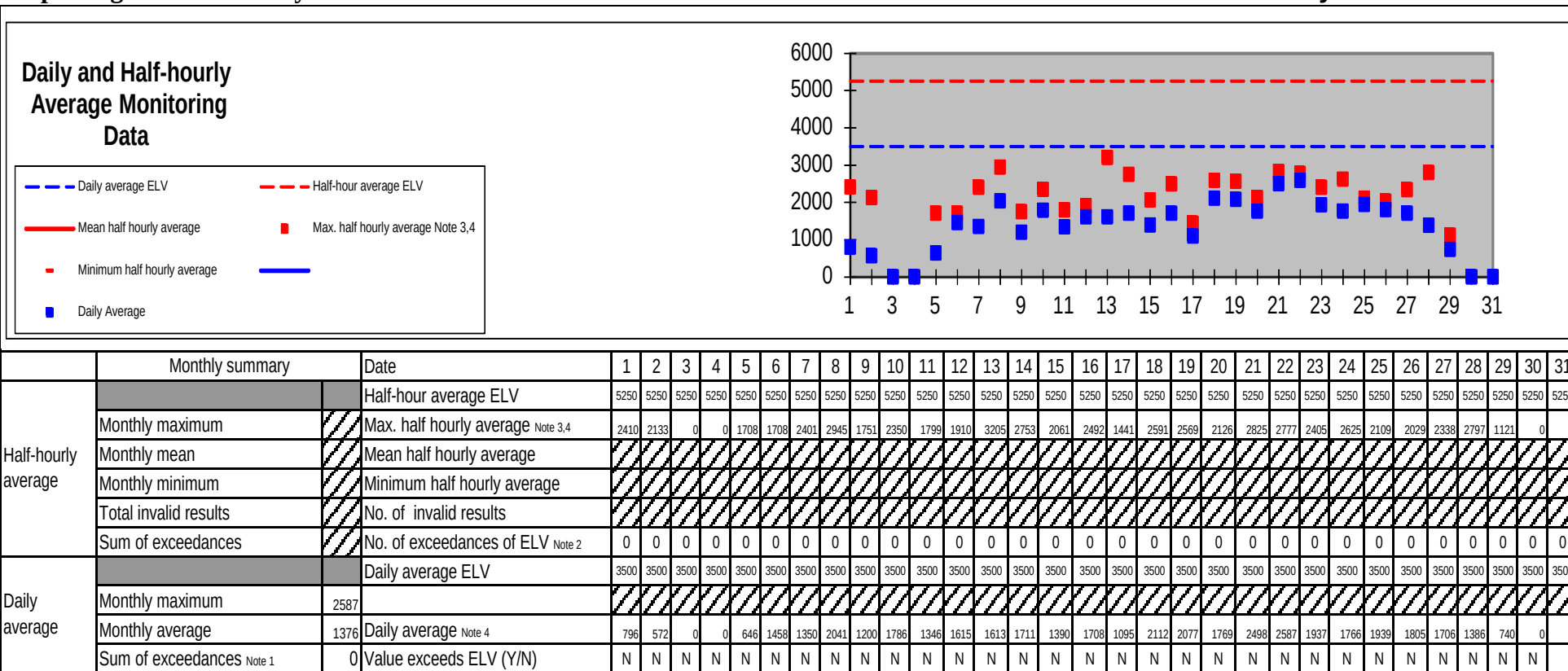
Reference Number: BU2110IS

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 July 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: July 1st-4th lack of feedstock supply, both units down. July 29-31st July plant equipment malfunction A&B units down.

Signed *PS Lord*

Date: 29th October 2015

(authorised to sign as representative of Operator)

Reference Number: BU2110IS

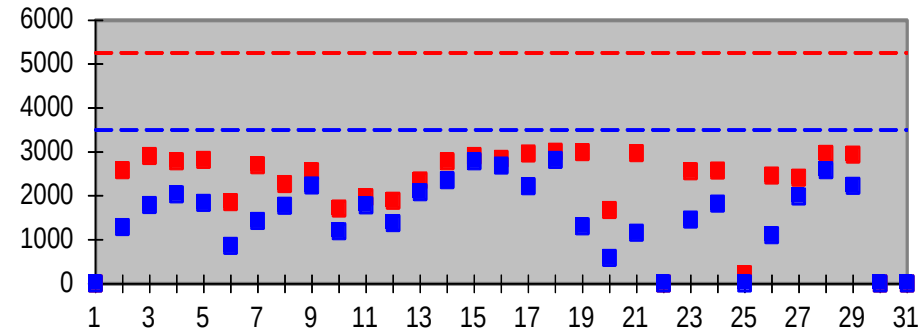
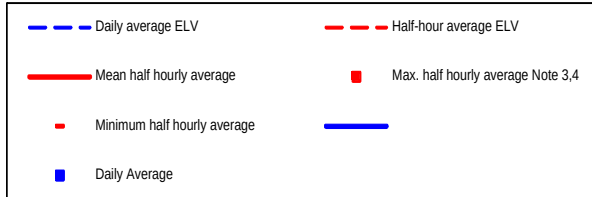
Operator: Cabot Carbon Limited

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 August 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	0	2585	2908	2781	2820	1851	2694	2267	2558	1710	1965	1889	2345	2785	2908	2844	2961	3002	2996	1673	2971	0	2557	2574	217	2463	2415	2957	2933	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	2816																																
	Monthly average	1508	Daily average Note 4	0	1289	1792	2034	1836	863	1422	1771	2231	1188	1779	1378	2077	2352	2782	2684	2216	2816	1306	584	1157	0	1459	1824	6	1105	1987	2585	2230	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: 1st-2nd A&B shutdown, continuation of equipment issue at end of July. 6th Aug A Unit down 12 hrs lack of feedstock. 22nd repair to GRP line, 25th N2 stripper throughput limitation, 30- 31st mechanical repair to calciner

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

Date: 29th October 2015

Reference Number: BU2110IS

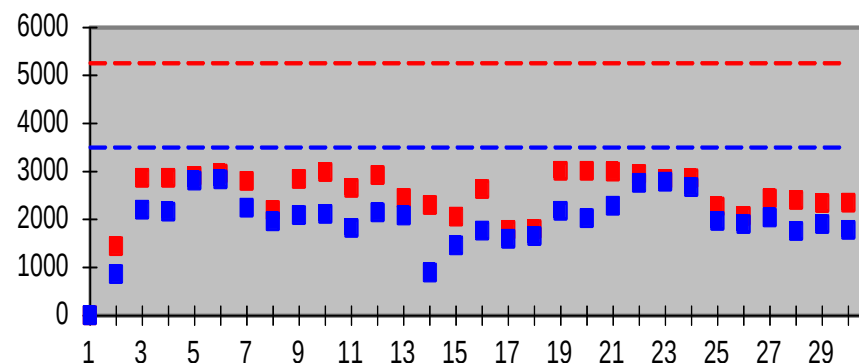
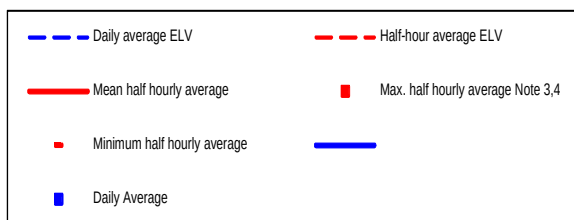
Operator: Cabot Carbon Limited

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 September 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		
	Monthly maximum		Max. half hourly average Note 3,4	0	1445	2863	2864	2908	2950	2802	2192	2838	2986	2655	2923	2441	2302	2054	2631	1784	1801	3012	3012	2991	2946	2840	2859	2266	2072	2433	2407	2338	2350	
	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	2831																																
	Monthly average	1957	Daily average Note 4	0	859	2205	2164	2806	2831	2240	1960	2088	2112	1821	2146	2081	889	1460	1768	1597	1648	2180	2027	2280	2756	2780	2670	1965	1899	2036	1760	1900	1781	
	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: Sept 1st A&B units shutdown- mechanical repair to Calciner.

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

Date: 29th October 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 July 2015 to 30 September 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	10mg/m ³ ^[8]	5.4 mg/m ³	US EPA Method 26A	12/08/2015 0955-1025, 1030-1100,1105-1135,1140- 1210, 1215-1245hrs	MCERTS / UKAS	+/- 0.7 mg/m3
A1	Chloromethanes (as methyl chloride)	50mg/m ³	5.9 mg/m ³	BS EN 13649	12/08/2015 0955- 1000,1105-1110,1215- 1220hrs	MCERTS / UKAS	+/- 1.4 mg/m3
A1	Hydrogen chloride	10mg/m ³	0.4 mg/m ³	TGN M22	07/08/2014 1015-1115, 1120-1220,1225-1325hrs	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] Reversion to 10mg/m3 chlorine emission limit as documented in EPR/BU2110IS/V007. Calculated as the average of 5 consecutive, 30 minute samples taken every quarter. Results above 14.6mg/m3 shall be removed from these calculations.

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



Signed

(authorised to sign as representative of the Operator)

Date: 29th October 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 July 2015 to 30 September 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]	<0.20 ^[9]	IR Spectrometry - EA Test 362 ISBN 0117517283	10/08/2015 @ 09:00	UKAS	±1.58%
	BOD ₅	20mg/l ^[6]	3.38 ^[9]	ISBN 011 7522120	10/08/2015 @ 09:00	UKAS	±11.4%
	pH	>5, <9 ^[7]	7.0 ^[9]	BS 6068-2.50:1995	10/08/2015 @ 09:00	UKAS	±0.77%
W2	Oil and grease	5mg/l ^[6]	<0.20 ^[9]	IR Spectrometry - EA Test 362 ISBN 0117517283	10/08/2015 @ 09:00	UKAS	±1.58%
	BOD ₅	20mg/l ^[6]	<1.00 ^[9]	ISBN 011 7522120	10/08/2015 @ 09:00	UKAS	±11.4%
	pH	>5, <9 ^[7]	7.48 ^[9]	BS 6068-2.50:1995	10/08/2015 @ 09:00	UKAS	±0.77%
W3	Oil and grease	5mg/l ^[6]	<0.20 ^[9]	IR Spectrometry - EA Test 362 ISBN 0117517283	10/08/2015 @ 09:00	UKAS	±1.58%
	BOD ₅	20mg/l ^[6]	<1.00 ^[9]	ISBN 011 7522120	10/08/2015 @ 09:00	UKAS	±11.4%
	pH	>5, <9 ^[7]	7.47 ^[9]	BS 6068-2.50:1995	10/08/2015 @ 09:00	UKAS	±0.77%

[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: 29th October 2015