

AIR QUALITY DATA FOR 2012 (Quarter 4 data for AURN pollutants yet to be ratified)

BRECKON HILL AURN MONITORING STATION

POLLUTANT	Health Standard (Source - Air Quality Regulations 2000)	Results Year 2010	Number of exceedances of the Health Standard	Comments
SULPHUR DIOXIDE	15 minute mean – 266 µg/m ³ not to be exceeded more than 35 times a year (99.9th %ile)	Max 15 min mean – 146 µg/m ³ Date – May 2012 99.9th %ile - 82 µg/m ³ (68 in 2011)	No exceedance	Health Standard met
	1 hour mean - 350 µg/m ³ not to be exceeded more than 24 times a year (99.7th %ile)	Max 1 hour mean - 106 µg/m ³ Date – May 2012 99.7th %ile – 58 µg/m ³ (44 in 2011)	No exceedances	Health Standard met
	24 hour mean – 125 µg/m ³ not to be exceeded more than 3 times a year (99.0th %ile)	Max 24 hour mean - 30 µg/m ³ Date – May 2012 99.0th %ile - 19 µg/m ³ (16 in 2011)	No exceedances	Health Standard met

OVERALL CONCLUSION: - Health standards met for Sulphur Dioxide.

POLLUTANT	Health Standard (Source - Air Quality Regulations 2000)	Results Year 2010	Number of exceedances of the Health Standard	Comments
NITROGEN DIOXIDE	1 hour mean – 200 µg/m ³ not to be exceeded more than 18 times a year (99.8th %ile)	Max 1 hour mean – 96 µg/m ³ Date – January 2012 99.8th %ile - 76µg/m ³ (84 in 2011)	No exceedances	Health Standard met
	Annual mean - 40 µg/m ³ no exceedances permitted	Annual mean - 18.4 µg/m ³ (18.3 in 2011)	No exceedances	Health Standard met

OVERALL CONCLUSION: - Health standards met for Nitrogen Dioxide.

POLLUTANT	Health Standard (Source - Air Quality Regulations 2000)	Results Year 2010	Number of exceedances of the Health Standard	Comments
PARTICULATE PM10	24 hour mean - 50 µg/m ³ (g) not to be exceeded more than 35 times a year (90.0th %ile)	Max 24 hour mean – 72 µg/m ³ (g) Date – March 2012 90.0th %ile - 30 µg/m ³ (g) (34 in 2011)	10 exceedances (gravimetric) (2011 - 11, 2010 - 0)	Health Standard met
	Annual mean - 40 µg/m ³ (g) No exceedances permitted	16.7 µg/m ³ (g) (19 in 2011)	No exceedances	Health Standard met

OVERALL CONCLUSION: - Health standards met for Particulate PM10.

POLLUTANT	Health Standard	Results Year 2010	Number of exceedances of the Health Standard	Comments
PARTICULATE PM2.5 Target only	Annual Mean $25\mu\text{g}/\text{m}^3$ (target to be achieved by 2020)	Annual average $10.1\mu\text{g}/\text{m}^3$ gravimetric (10.6 in 2011)	Not exceeded	Target met

OVERALL CONCLUSION: - Health target met for Particulate PM2.5.

POLLUTANT	Health Standard (Source - Air Quality Regulations 2000)	Results Year 2010	Number of exceedances of the Health Standard	Comments
CARBON MONOXIDE	8 hour running mean - 10 mg/m ³ no exceedances permitted	Max 8 hour RA – 1.2 µg/m ³ Date – May 2012 (2011 – 1.3 mg/m ³)	No exceedances	Health Standard met
BENZENE Based upon ratified data from 28/12/2011 to 2/10/2012)	Annual mean – 3.25 µg/m ³ no exceedances permitted	Annual mean – 1.22 µg/m ³ (annual mean 2011 – 0.90 µg/m ³)	No exceedances	Health Standard met
1,3-BUTADIENE 1 Jan 2007 to 19 Sept 2007 (Site closed September 2007)	Annual mean - 1 ppb no exceedances permitted	Annual mean – No data for 2008/09/10/11/12 (annual mean 2007 - 0.06 ppb)		
OZONE Target only	8 hour running mean -100 µg/m ³ maximum of 10 exceedances	Max 8 hour RA – 116 µg/m ³ Date – Sept 2012 (2011 – 112 µg/m ³)	4 exceedances exceedances for 2011 - 7	No exceedance of target

OVERALL CONCLUSION: - Health standards met for Carbon Monoxide, Benzene, 1,3-Butadiene. Health target met for Ozone

Polycyclic Aromatic Hydrocarbons (PAH)	Not included as part of regulations at present Proposed standard 0.25 ng/m ³ B _(a) P annual	Annual average for 2012 - 0.47 ng/m ³ (Quarter 1 and 2 data only. Quarter 3 and 4 data yet to be provided) (annual mean in 2011 was 0.35)	Not applicable	Proposed target exceeded
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mean

OVERALL CONCLUSION: - Proposed target exceeded

ELM STREET AIR MONITORING STATION 2011

NITROGEN DIOXIDE

HEALTH STANDARD FOR **NITROGEN DIOXIDE**

1 HOUR MEAN OF $200 \mu\text{g}/\text{m}^3$ NOT TO BE EXCEEDED MORE THAN 18 TIMES A YEAR. AND ANNUAL MEAN $40 \mu\text{g}/\text{m}^3$

NO₂ HIGHEST 1 HOUR AVERAGE $124 \mu\text{g}/\text{m}^3$ DURING JANUARY 2012

ANNUAL MEAN FOR 2011 – $25.1 \mu\text{g}/\text{m}^3$ (Annual mean for 2011 = $22.5 \mu\text{g}/\text{m}^3$, annual mean for 2010 = $28.1 \mu\text{g}/\text{m}^3$)

NO BREACHES OF THE HEALTH STANDARD

PARTICULATE MATTER

HEALTH STANDARD FOR **PARTICULATE MATTER**

24-HOUR MEAN $50 \mu\text{g}/\text{m}^3(\text{G})$ NOT TO BE EXCEEDED MORE THAN 35 TIMES A YEAR. ANNUAL MEAN $40 \mu\text{g}/\text{m}^3(\text{G})$

MAX 24 HOUR AVERAGE $69 \mu\text{g}/\text{m}^3(\text{G})$ DURING MAY 2012 (MAX 2011 – 82)

7 EXCEEDENCES ON GRAVIMETRIC SCALE IN 2012 (10 EXCEEDANCES IN 2011) Using Volatile Correction Model

ANNUAL MEAN $17 \mu\text{g}/\text{m}^3(\text{G})$ (2011 MEAN was $20.5 \mu\text{g}/\text{m}^3$)

NO BREACHES OF THE HEALTH STANDARD

MACMILLAN COLLEGE AIR MONITORING STATION 2011

NITROGEN DIOXIDE

HEALTH STANDARD FOR NITROGEN DIOXIDE

1 HOUR MEAN OF $200 \mu\text{g}/\text{m}^3$ NOT TO BE EXCEEDED MORE THAN 18 TIMES A YEAR. AND ANNUAL MEAN $40 \mu\text{g}/\text{m}^3$

NO₂ HIGHEST 1 HOUR AVERAGE $111 \mu\text{g}/\text{m}^3$ DURING JANUARY 2012

ANNUAL MEAN FOR 2012 – $19.8 \mu\text{g}/\text{m}^3$ (Annual mean for 2011 = $29.5 \mu\text{g}/\text{m}^3$, annual mean for 2010 = $28.5 \mu\text{g}/\text{m}^3$)

Comment:- Nitrogen dioxide data for 2012 would appear to be lower than expected from previous years data and other sites within Middlesbrough. This could have been due to meteorological effects or instrument error. NO₂ monitor serviced in November 2012

NO BREACHES OF THE HEALTH STANDARD

PARTICULATE MATTER

HEALTH STANDARD FOR PARTICULATE MATTER

24-HOUR MEAN $50 \mu\text{g}/\text{m}^3(\text{G})$ NOT TO BE EXCEEDED MORE THAN 35 TIMES A YEAR. ANNUAL MEAN $40 \mu\text{g}/\text{m}^3(\text{G})$

MAX 24 HOUR AVERAGE $68 \mu\text{g}/\text{m}^3(\text{G})$ DURING MARCH 2012 (MAX 2011 – $75 \mu\text{g}/\text{m}^3$)

8 EXCEEDENCES ON GRAVIMETRIC SCALE (8 EXCEEDANCES IN 2011) Using Volatile Correction Model

ANNUAL MEAN FOR 2012 – $17.1 \mu\text{g}/\text{m}^3(\text{G})$ (Annual for 2011 = $19.8 \mu\text{g}/\text{m}^3$)

NO BREACHES OF THE HEALTH STANDARD