

Growing Baldock

Environmental Statement Volume 2: Figures & Appendices

Chapter 6: Air Quality

Appendix 6.3 Diffusion Survey Data

APPENDIX 6.3: DIFFUSION TUBE MONITORING SURVEY RESULTS

1.1.1 The raw monitoring data from the average of the duplicate diffusion tubes (if available) for each location in the RPS monitoring scheme is presented below in Table 6.3.1. In several locations, the data is missing because the tubes were stolen during the exposure period. The monitoring locations are shown in Figure 6.1.1, Appendix 6.1.

Table 6.3.1 Raw Diffusion Tube Data

Monitoring Location	Monitored NO ₂ Concentration (µg/m ³)					
	December	January	February	March	April	May
1	15.15	23.50	21.55	-	-	-
2	15.96	23.33	19.54	18.20	15.63	16.64
3	16.74	22.17	11.76	16.90	13.91	15.46
4	9.46	14.72	17.52	-	-	6.22
5	13.60	18.02	11.63	14.80	10.45	14.22
6	9.68	14.14	14.77	10.22	7.09	-
7	14.68	18.12	11.57	13.07	8.16	7.59
8	10.34	14.65	12.28	11.04	7.39	7.11
9	10.92	14.38	21.74	10.93	7.29	6.97
10	24.26	25.71	21.55	23.68	15.93	14.09
11*	-	-	-	13.39	10.53	10.52
12*	12.62	17.55	-	-	-	17.56
13	-	19.68	18.30	15.17	12.86	14.29
14	15.06	20.31	16.47	-	-	-
15	11.73	17.52	14.12	11.21	-	9.92
16	12.10	18.10	14.11	-	-	7.12
17	18.75	-	-	16.26	-	-
18*	-	-	-	14.88	11.60	11.32

*Location 11 and 18 moved in March as tubes repeatedly stolen. Location 12 moved further along the road in April.

1.1.2 Figure 6.3.1 shows the raw data analytical reports from the Gradko laboratory. A minimum of three months' worth of data is required to perform an annualisation calculation.



(A division of Gradko International Ltd.)

St. Martins House, 77 Wales Street Winchester, Hampshire SO23 0RH
tel.: 01962 860331 fax: 01962 841339 e-mail:diffusion@gradko.co.uk



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LABORATORY ANALYSIS REPORT

NITROGEN DIOXIDE IN DIFFUSION TUBES BY U.V.SPECTROPHOTOMETRY

REPORT NUMBER S00886R
BOOKING IN REFERENCE S00886
DESPATCH NOTE 104364
CUSTOMER RPS (Brighton) Attn: Georgie Coppin
Planning, Transport & Enviro,
6-7 Lovers Walk
Preston Park
Brighton, Sussex
BN1 6AH
DATE SAMPLES RECEIVED 26/01/2024

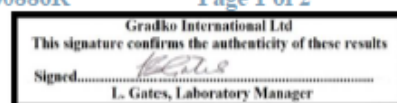
Location	Sample Number	Exposure Data		Time* (hr.)	µg/m³ *	ppb *	µg NO ₂ on tube
		Date On*	Date Off*				
1A	2350471	06/12/2023	04/01/2024	699.17	14.90	7.78	0.76
1B	2350472	06/12/2023	04/01/2024	699.17	15.41	8.04	0.78
2A	2350473	06/12/2023	04/01/2024	696.72	2.19	1.14	0.11
2B	2350474	06/12/2023	04/01/2024	696.72	15.96	8.33	0.81
3A	2350475	06/12/2023	04/01/2024	696.67	16.91	8.82	0.86
3B	2350476	06/12/2023	04/01/2024	696.67	16.57	8.65	0.84
4A	2350477	06/12/2023	04/01/2024	696.62	8.93	4.66	0.45
4B	2350478	06/12/2023	04/01/2024	696.62	9.99	5.22	0.51
5A	2350479	06/12/2023	04/01/2024	696.62	13.73	7.16	0.70
5B	2350480	06/12/2023	04/01/2024	696.62	13.47	7.03	0.68
6A	2350481	06/12/2023	04/01/2024	696.15	8.95	4.67	0.45
6B	2350482	06/12/2023	04/01/2024	696.15	10.42	5.44	0.53
7A	2350483	06/12/2023	04/01/2024	696.30	15.31	7.99	0.78
7B	2350484	06/12/2023	04/01/2024	696.30	14.05	7.33	0.71
8A	2350485	06/12/2023	04/01/2024	696.07	10.83	5.65	0.55
8B	2350486	06/12/2023	04/01/2024	696.07	9.84	5.14	0.50
9A	2350487	06/12/2023	04/01/2024	695.92	10.62	5.54	0.54
9B	2350488	06/12/2023	04/01/2024	695.92	11.23	5.86	0.57
10A	2350489	06/12/2023	04/01/2024	696.07	24.57	12.82	1.24
10B	2350490	06/12/2023	04/01/2024	696.07	23.96	12.50	1.21
12A	2350493	06/12/2023	04/01/2024	695.62	12.46	6.50	0.63
12B	2350494	06/12/2023	04/01/2024	695.62	12.78	6.67	0.65
14A	2350497	06/12/2023	04/01/2024	695.78	14.79	7.72	0.75
14B	2350498	06/12/2023	04/01/2024	695.78	15.33	8.00	0.78
15A	2350499	06/12/2023	04/01/2024	695.82	11.88	6.20	0.60
15B	2350500	06/12/2023	04/01/2024	695.82	11.57	6.04	0.59
16A	2350501	06/12/2023	04/01/2024	695.62	13.00	6.78	0.66
16B	2350502	06/12/2023	04/01/2024	695.62	11.20	5.84	0.57
17A	2350503	06/12/2023	04/01/2024	692.60	18.89	9.86	0.95
17B	2350504	06/12/2023	04/01/2024	692.60	18.61	9.72	0.94
18A	2350505	06/12/2023	04/01/2024	695.75	18.17	9.49	0.92
18B	2350506	06/12/2023	04/01/2024	695.75	17.84	9.31	0.90
Blank	2350507			699.17	0.14	0.07	0.01

Samples have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures. Results within this report relate only to samples as received. Data provided by the client and any subsequent calculations shall be indicated by an asterisk (*), these calculations and results are not within the scope of our UKAS accreditation. Any queries concerning data in this report should be directed to the Laboratory Manager Gradko International Ltd. This report is not to be reproduced, except in full, without the written permission of Gradko International Ltd.

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(A division of Gradko International Ltd.)

St. Martins House, 77 Wales Street Winchester, Hampshire SO23 0RH
tel.: 01962 860331 fax: 01962 841339 e-mail: diffusion@gradko.co.uk



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LABORATORY ANALYSIS REPORT

NITROGEN DIOXIDE IN DIFFUSION TUBES BY U.V.SPECTROPHOTOMETRY

REPORT NUMBER S01033R
BOOKING IN REFERENCE S01033
DESPATCH NOTE 104582
CUSTOMER RPS (Brighton) Attn: Georgie Coppin
Planning, Transport & Enviro,
6-7 Lovers Walk
Preston Park
Brighton, Sussex
BN1 6AH
DATE SAMPLES RECEIVED 02/02/2024
JOB NUMBER 600530

Location	Sample Number	Exposure Data Date On* Date Off*	Time* (hr.)	µg/m ³ *	ppb *	µg NO ₂ on tube
1A	2365221	04/01/2024 29/01/2024	596.97	23.88	12.46	1.04
1B	2365222	04/01/2024 29/01/2024	596.97	23.12	12.07	1.00
2A	2365223	04/01/2024 29/01/2024	599.47	23.71	12.37	1.03
2B	2365224	04/01/2024 29/01/2024	599.47	22.95	11.98	1.00
3A	2365225	04/01/2024 29/01/2024	599.45	21.74	11.34	0.95
3B	2365226	04/01/2024 29/01/2024	599.45	22.61	11.80	0.99
4A	2365227	04/01/2024 29/01/2024	599.45	15.08	7.87	0.66
4B	2365228	04/01/2024 29/01/2024	599.45	14.37	7.50	0.63
5A	2365229	04/01/2024 29/01/2024	599.42	17.88	9.33	0.78
5B	2365230	04/01/2024 29/01/2024	599.42	18.16	9.48	0.79
6A	2365231	04/01/2024 29/01/2024	599.25	15.54	8.11	0.68
6B	2365232	04/01/2024 29/01/2024	599.25	12.74	6.65	0.56
7A	2365233	04/01/2024 29/01/2024	599.40	18.91	9.87	0.82
7B	2365234	04/01/2024 29/01/2024	599.40	17.33	9.05	0.76
8A	2365235	04/01/2024 29/01/2024	599.62	14.57	7.60	0.64
8B	2365236	04/01/2024 29/01/2024	599.62	14.73	7.69	0.64
9A	2365237	04/01/2024 29/01/2024	599.30	14.26	7.44	0.62
9B	2365238	04/01/2024 29/01/2024	599.30	14.51	7.57	0.63
10A	2365239	04/01/2024 29/01/2024	599.38	27.66	14.44	1.21
10B	2365240	04/01/2024 29/01/2024	599.38	23.76	12.40	1.04
12A	2365243	04/01/2024 29/01/2024	599.43	17.93	9.36	0.78
12B	2365244	04/01/2024 29/01/2024	599.43	17.17	8.96	0.75
13A	2365245	04/01/2024 29/01/2024	599.45	18.55	9.68	0.81
13B	2365246	04/01/2024 29/01/2024	599.45	20.82	10.87	0.91
14A	2365247	04/01/2024 29/01/2024	599.40	20.31	10.60	0.89
14B	2365248	04/01/2024 29/01/2024	599.40	10.33	5.39	0.45
15A	2365249	04/01/2024 29/01/2024	599.48	18.61	9.71	0.81
15B	2365250	04/01/2024 29/01/2024	599.48	16.43	8.58	0.72
16A	2365251	04/01/2024 29/01/2024	599.43	19.26	10.05	0.84
16B	2365252	04/01/2024 29/01/2024	599.43	16.94	8.84	0.74
18A	2365255	04/01/2024 29/01/2024	600.33	25.78	13.46	1.13
18B	2365256	04/01/2024 29/01/2024	600.33	25.76	13.45	1.12
Blank	2365257	04/01/2024 29/01/2024	600.00	0.25	0.13	0.01

Samples have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures. Results within this report relate only to samples as received. Data provided by the client and any subsequent calculations shall be indicated by an asterisk (*), these calculations and results are not within the scope of our UKAS accreditation. Any queries concerning data in this report should be directed to the Laboratory Manager Gradko International Ltd. This report is not to be reproduced, except in full, without the written permission of Gradko International Ltd.

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(A division of Gradko International Ltd.)

St. Martins House, 77 Wales Street Winchester, Hampshire SO23 0RH
tel.: 01962 860331 fax: 01962 841339 e-mail: diffusion@gradko.co.uk



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LABORATORY ANALYSIS REPORT

NITROGEN DIOXIDE IN DIFFUSION TUBES BY U.V.SPECTROPHOTOMETRY

REPORT NUMBER S02243R
BOOKING IN REFERENCE S02243
DESPATCH NOTE 104583
CUSTOMER RPS (Brighton) Attn: Georgie Coppin
Planning, Transport & Enviro,
6-7 Lovers Walk
Preston Park
Brighton, Sussex
BN1 6AH
DATE SAMPLES RECEIVED 22/03/2024

Location	Sample Number	Exposure Data		Time* (hr.)	$\mu\text{g}/\text{m}^3$ *	ppb *	$\mu\text{g NO}_2$ on tube
		Date On*	Date Off*				
2A	2387247	29/01/2024	07/03/2024	912.28	21.70	11.33	1.44
2B	2387248	29/01/2024	07/03/2024	912.28	21.55	11.25	1.43
3A	2387249	29/01/2024	07/03/2024	912.30	19.64	10.25	1.30
3B	2387250	29/01/2024	07/03/2024	912.30	19.44	10.15	1.29
4A	2387251	29/01/2024	07/03/2024	912.28	11.31	5.90	0.75
4B	2387252	29/01/2024	07/03/2024	912.28	12.22	6.38	0.81
5A	2387253	29/01/2024	07/03/2024	912.28	18.08	9.44	1.20
5B	2387254	29/01/2024	07/03/2024	912.28	16.95	8.85	1.12
6A	2387255	29/01/2024	07/03/2024	912.40	11.25	5.87	0.75
6B	2387256	29/01/2024	07/03/2024	912.40	12.02	6.27	0.80
7A	2387257	29/01/2024	07/03/2024	912.30	15.35	8.01	1.02
7B	2387258	29/01/2024	07/03/2024	912.30	14.19	7.41	0.94
8A	2387259	29/01/2024	07/03/2024	912.27	11.13	5.81	0.74
8B	2387260	29/01/2024	07/03/2024	912.27	12.01	6.27	0.80
9A	2387261	29/01/2024	07/03/2024	912.30	12.40	6.47	0.82
9B	2387262	29/01/2024	07/03/2024	912.30	12.16	6.34	0.81
10A	2387263	29/01/2024	07/03/2024	912.30	19.94	10.41	1.32
10B	2387264	29/01/2024	07/03/2024	912.30	23.54	12.29	1.56
13A	2387269	29/01/2024	07/03/2024	912.13	18.12	9.46	1.20
13B	2387270	29/01/2024	07/03/2024	912.13	18.49	9.65	1.23
14A	2387271	29/01/2024	07/03/2024	912.22	16.74	8.74	1.11
14B	2387272	29/01/2024	07/03/2024	912.22	16.20	8.45	1.07
15A	2387273	29/01/2024	07/03/2024	912.05	12.54	6.54	0.83
15B	2387274	29/01/2024	07/03/2024	912.05	15.70	8.20	1.04
16A	2387275	29/01/2024	07/03/2024	912.18	14.48	7.56	0.96
16B	2387276	29/01/2024	07/03/2024	912.18	13.74	7.17	0.91
Blank	2387281	29/01/2024	07/03/2024	912.00	0.12	0.06	0.01
Laboratory Blank				912.40	0.08	0.04	0.005

Comment: Results are not blank subtracted

Tubes 2387269 & 2387270 were dirty when received. Results may be compromised.

Results have been corrected to a temperature of 293 K (20°)

Overall M.U. $\pm 9.7\%$

Limit of Detection $0.031 \mu\text{gNO}_2$

The reported expanded uncertainty is based on a standard uncertainty multiplied by a factor of $k=2$, providing a level of confidence of approximately 95%. Uncertainty of measurement has not been applied to the reported results.

Tube Preparation: 20% TEA / Water

Analysed on UV CARY2

Analyst Name Gordon Clemenson

Report Checked By Adam Robinson

Date of Analysis 27/03/2024

Date of Report 27/03/2024

Analysis carried out in accordance with documented in-house Laboratory Method GLM7

Samples have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures. Results within this report relate only to samples as received. Data provided by the client and any subsequent calculations shall be indicated by an asterisk (*), these calculations and results are not within the scope of our UKAS accreditation. Any queries concerning data in this report should be directed to the Laboratory Manager Gradko International Ltd. This report is not to be reproduced, except in full, without the written permission of Gradko International Ltd.

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Report Number S02243R

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Signed.....
L. Gates, Laboratory Manager



(A division of Gradko International Ltd.)

St. Martins House, 77 Wales Street Winchester, Hampshire SO23 0RH
tel.: 01962 860331 fax: 01962 841339 e-mail: diffusion@gradko.co.uk



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LABORATORY ANALYSIS REPORT

NITROGEN DIOXIDE IN DIFFUSION TUBES BY U.V.SPECTROPHOTOMETRY

REPORT NUMBER S03083R
BOOKING IN REFERENCE S03083
DESPATCH NOTE 104584
CUSTOMER RPS (Brighton) Attn: Georgie Coppin
Planning, Transport & Enviro,
6-7 Lovers Walk
Preston Park
Brighton, Sussex
BN1 6AH
DATE SAMPLES RECEIVED 25/04/2024

Location	Sample Number	Exposure Data			$\mu\text{g}/\text{m}^3$ *	ppb *	$\mu\text{g NO}_2$ on tube
		Date On*	Date Off*	Time* (hr.)			
2A	2406057	07/03/2024	03/04/2024	648.08	18.53	9.67	0.87
2B	2406058	07/03/2024	03/04/2024	648.08	17.88	9.33	0.84
3A	2406059	07/03/2024	03/04/2024	648.88	17.15	8.95	0.81
3B	2406060	07/03/2024	03/04/2024	648.88	16.65	8.69	0.79
5A	2406063	07/03/2024	03/04/2024	648.92	14.97	7.81	0.71
5B	2406064	07/03/2024	03/04/2024	648.92	14.63	7.64	0.69
6A	2406065	07/03/2024	03/04/2024	648.85	9.52	4.97	0.45
6B	2406066	07/03/2024	03/04/2024	648.85	10.92	5.70	0.52
7A	2406067	07/03/2024	03/04/2024	648.88	13.68	7.14	0.65
7B	2406068	07/03/2024	03/04/2024	648.88	12.47	6.51	0.59
8A	2406069	07/03/2024	03/04/2024	648.90	11.05	5.77	0.52
8B	2406070	07/03/2024	03/04/2024	648.90	11.03	5.75	0.52
9A	2406071	07/03/2024	03/04/2024	648.88	10.62	5.54	0.50
9B	2406072	07/03/2024	03/04/2024	648.88	11.24	5.87	0.53
10A	2406073	07/03/2024	03/04/2024	648.83	22.75	11.88	1.07
10B	2406074	07/03/2024	03/04/2024	648.83	24.60	12.84	1.16
11A	2406075	07/03/2024	03/04/2024	648.08	13.35	6.97	0.63
11B	2406076	07/03/2024	03/04/2024	650.08	13.42	7.00	0.63
13A	2406079	07/03/2024	03/04/2024	647.50	14.90	7.77	0.70
13B	2406080	07/03/2024	03/04/2024	647.50	15.45	8.06	0.73
15A	2406083	07/03/2024	03/04/2024	647.37	10.16	5.30	0.48
15B	2406084	07/03/2024	03/04/2024	647.37	12.26	6.40	0.58
17A	2406087	07/03/2024	03/04/2024	648.17	16.71	8.72	0.79
17B	2406088	07/03/2024	03/04/2024	648.17	15.81	8.25	0.75
18A	2406089	07/03/2024	03/04/2024	648.12	16.26	8.49	0.77
18B	2406090	07/03/2024	03/04/2024	648.12	13.50	7.05	0.64
Blank	2406091	07/03/2024	03/04/2024	648.00	0.11	0.06	0.01

Laboratory Blank 650.08 0.06 0.03 0.003

Samples have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures. Results within this report relate only to samples as received. Data provided by the client and any subsequent calculations shall be indicated by an asterisk (*), these calculations and results are not within the scope of our UKAS accreditation. Any queries concerning data in this report should be directed to the Laboratory Manager Gradko International Ltd. This report is not to be reproduced, except in full, without the written permission of Gradko International Ltd.

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Gradko International Ltd
This signature confirms the authenticity of these results
Signed: [Signature]
L. Gates, Laboratory Manager



(A division of Gradko International Ltd.)
St. Martins House, 77 Wales Street Winchester, Hampshire SO23 0RH
tel.: 01962 860331 fax: 01962 841339 e-mail: diffusion@gradko.co.uk



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LABORATORY ANALYSIS REPORT

NITROGEN DIOXIDE IN DIFFUSION TUBES BY U.V.SPECTROPHOTOMETRY

REPORT NUMBER S03776R
BOOKING IN REFERENCE S03776
DESPATCH NOTE 104585
CUSTOMER RPS (Brighton) Attn: Georgie Coppin
Planning, Transport & Enviro,
6-7 Lovers Walk
Preston Park
Brighton, Sussex
BN1 6AH
DATE SAMPLES RECEIVED 24/05/2024

Location	Sample Number	Exposure Data		Time* (hr.)	$\mu\text{g}/\text{m}^3$ *	ppb*	$\mu\text{g NO}_2$ on tube
		Date On*	Date Off*				
2A	2425058	02/04/2024	30/04/2024	671.67	15.88	8.29	0.78
2B	2425059	02/04/2024	30/04/2024	671.67	15.38	8.03	0.75
3A	2425060	02/04/2024	30/04/2024	670.83	13.74	7.17	0.67
3B	2425061	02/04/2024	30/04/2024	670.83	14.07	7.34	0.69
5A	2425062	02/04/2024	30/04/2024	670.93	10.77	5.62	0.53
5B	2425063	02/04/2024	30/04/2024	670.93	10.13	5.29	0.49
6A	2425064	02/04/2024	30/04/2024	671.00	6.40	3.34	0.31
6B	2425065	02/04/2024	30/04/2024	671.00	7.79	4.07	0.38
7A	2425066	02/04/2024	30/04/2024	670.95	8.16	4.26	0.40
7B	2425067	02/04/2024	30/04/2024	670.95	<0.57	<0.30	<0.028
8A	2425068	02/04/2024	30/04/2024	670.97	7.61	3.97	0.37
8B	2425069	02/04/2024	30/04/2024	670.97	7.18	3.75	0.35
9A	2425070	02/04/2024	30/04/2024	671.02	7.16	3.73	0.35
9B	2425071	02/04/2024	30/04/2024	671.02	7.42	3.87	0.36
10A	2425072	02/04/2024	30/04/2024	670.95	14.99	7.82	0.73
10B	2425073	02/04/2024	30/04/2024	670.95	16.88	8.81	0.82
11A	2425074	02/04/2024	30/04/2024	671.52	<0.57	<0.30	<0.028
11B	2425075	02/04/2024	30/04/2024	671.52	10.53	5.50	0.51
13A	2425076	02/04/2024	30/04/2024	672.33	12.79	6.68	0.63
13B	2425077	02/04/2024	30/04/2024	672.33	12.93	6.75	0.63
18A	2425078	02/04/2024	30/04/2024	671.47	<0.57	<0.30	<0.028
18B	2425079	02/04/2024	30/04/2024	671.47	11.60	6.05	0.57
Blank	2425080	02/04/2024	30/04/2024	672.00	0.08	0.04	0.00
	Laboratory Blank			672.33	0.12	0.06	0.006

Comment: Results are not blank subtracted

Results reported as <0.028 are below the reporting limit.

Results have been corrected to a temperature of 293 K (20°)

Overall M.U. $\pm 9.7\%$

The reported expanded uncertainty is based on a standard uncertainty multiplied by a factor of $k=2$, providing a level of confidence of approximately 95%. Uncertainty of measurement has not been applied to the reported results.

Tube Preparation: 20% TEA / Water

Analyst Name Ivelina Paldamova

Date of Analysis 31/05/2024

Analysis carried out in accordance with documented in-house Laboratory Method GLM7

Limit of Detection 0.028 $\mu\text{g NO}_2$

Analysed on UV CARY1

Report Checked By Marek Bianga

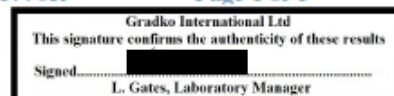
Date of Report 31/05/2024

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(A division of Gradko International Ltd.)
St. Martin's House, 77 Wales Street Winchester, Hampshire SO23 0RH
tel.: 01962 860331 fax: 01962 841339 e-mail: diffusion@gradko.co.uk



2187

LABORATORY ANALYSIS REPORT

NITROGEN DIOXIDE IN DIFFUSION TUBES BY U.V.SPECTROPHOTOMETRY

REPORT NUMBER S04257R
BOOKING IN REFERENCE S04257
DESPATCH NOTE 104588
CUSTOMER RPS (Brighton) Attn: Georgie Coppin
Planning, Transport & Enviro,
6-7 Lovers Walk
Preston Park
Brighton, Sussex
BN1 6AH
DATE SAMPLES RECEIVED 13/06/2024

Location	Sample Number	Exposure Data			$\mu\text{g}/\text{m}^3$ *	ppb *	$\mu\text{g NO}_2$ on tube
		Date On*	Date Off*	Time* (hr.)			
2a	2441561	30/04/2024	06/06/2024	888.83	16.69	8.71	1.08
2b	2441562	30/04/2024	06/06/2024	888.83	16.59	8.66	1.07
3a	2441563	30/04/2024	06/06/2024	888.83	15.09	7.88	0.98
3b	2441564	30/04/2024	06/06/2024	888.83	15.82	8.26	1.02
4a	2441565	30/04/2024	06/06/2024	888.77	5.98	3.12	0.39
4b	2441566	30/04/2024	06/06/2024	888.77	6.46	3.37	0.42
5a	2441568	30/04/2024	06/06/2024	888.73	14.69	7.67	0.95
5b	2441569	30/04/2024	06/06/2024	888.73	13.75	7.18	0.89
7a	2441572	30/04/2024	06/06/2024	888.75	7.77	4.06	0.50
7b	2441573	30/04/2024	06/06/2024	888.75	7.40	3.86	0.48
8a	2441574	30/04/2024	06/06/2024	888.78	6.94	3.62	0.45
8b	2441575	30/04/2024	06/06/2024	888.78	7.28	3.80	0.47
9a	2441576	30/04/2024	06/06/2024	888.78	6.83	3.56	0.44
9b	2441577	30/04/2024	06/06/2024	888.78	7.11	3.71	0.46
10a	2441578	30/04/2024	06/06/2024	888.80	14.66	7.65	0.95
10b	2441579	30/04/2024	06/06/2024	888.80	13.53	7.06	0.87
11a	2441580	30/04/2024	06/06/2024	888.15	10.70	5.59	0.69
11b	2441581	30/04/2024	06/06/2024	888.15	10.33	5.39	0.67
12a	2441582	30/04/2024	06/06/2024	888.78	18.65	9.74	1.21
12b	2441583	30/04/2024	06/06/2024	888.78	16.47	8.60	1.06
13a	2441584	30/04/2024	06/06/2024	888.75	14.29	7.46	0.92
15a	2441586	30/04/2024	06/06/2024	888.65	10.42	5.44	0.67
15b	2441587	30/04/2024	06/06/2024	888.65	9.43	4.92	0.61
16a	2441588	30/04/2024	06/06/2024	888.67	6.78	3.54	0.44
16b	2441589	30/04/2024	06/06/2024	888.67	7.46	3.89	0.48
18b	2441590	30/04/2024	06/06/2024	888.13	11.32	5.91	0.73
Blank	2441591	30/04/2024	06/06/2024	888.00	0.06	0.03	0.00
Laboratory Blank				888.83	0.11	0.06	0.007

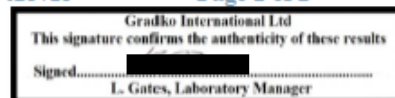
Comment: Results are not blank subtracted

Samples have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures. Results within this report relate only to samples as received. Data provided by the client and any subsequent calculations shall be indicated by an asterisk (*), these calculations and results are not within the scope of our UKAS accreditation. Any queries concerning data in this report should be directed to the Laboratory Manager Gradko International Ltd. This report is not to be reproduced, except in full, without the written permission of Gradko International Ltd.

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- 1.1.3 The precision of the duplicate diffusion tubes has been calculated using the LAQM Diffusion Tube Precision Accuracy Bias tool. The results of the tool are below. Any set of tubes with a poor precision rating have resulted in the lowest data point been removed from further analysis (on a conservative basis).

Diffusion Tubes Measurements									Data Quality Check	
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Triplicate e Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean	Tubes Precision Check	
1	06/12/2023	04/01/2024	14.90	15.41	15.15	0.36	2.39	3.25	Good	
2	06/12/2023	04/01/2024	2.19	15.96	9.07	9.73	107.26	87.45	Poor Precision	
3	06/12/2023	04/01/2024	16.91	16.57	16.74	0.24	1.42	2.13	Good	
4	06/12/2023	04/01/2024	8.93	9.99	9.46	0.75	7.97	6.78	Good	
5	06/12/2023	04/01/2024	13.73	13.47	13.60	0.18	1.34	1.63	Good	
6	06/12/2023	04/01/2024	8.95	10.42	9.68	1.03	10.68	9.29	Good	
7	06/12/2023	04/01/2024	15.31	14.05	14.68	0.89	6.09	8.03	Good	
8	06/12/2023	04/01/2024	10.83	9.84	10.34	0.70	6.76	6.28	Good	
9	06/12/2023	04/01/2024	10.62	11.23	10.92	0.43	3.97	3.89	Good	
10	06/12/2023	04/01/2024	24.57	23.96	24.26	0.43	1.79	3.89	Good	
11	06/12/2023	04/01/2024	-	-	-	-	-	-	-	
12	06/12/2023	04/01/2024	12.46	12.78	12.62	0.22	1.77	2.01	Good	
13	06/12/2023	04/01/2024	-	-	-	-	-	-	-	
14	06/12/2023	04/01/2024	14.79	15.33	15.06	0.38	2.51	3.39	Good	
15	06/12/2023	04/01/2024	11.88	11.57	11.73	0.22	1.91	2.01	Good	
16	06/12/2023	04/01/2024	13.00	11.20	12.10	1.27	10.52	11.44	Good	
17	06/12/2023	04/01/2024	18.89	18.61	18.75	0.20	1.05	1.77	Good	
18	06/12/2023	04/01/2024	18.17	17.84	18.01	0.24	1.32	2.14	Good	
									Good precision	

Diffusion Tubes Measurements									Data Quality Check	
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean	Tubes Precision Check	
1	04/01/2024	29/01/2024	23.88	23.12	23.50	0.54	2.29	4.83	Good	
2	04/01/2024	29/01/2024	23.71	22.95	23.33	0.54	2.30	4.81	Good	
3	04/01/2024	29/01/2024	21.74	22.61	22.17	0.62	2.78	5.54	Good	
4	04/01/2024	29/01/2024	15.08	14.37	14.72	0.50	3.42	4.52	Good	
5	04/01/2024	29/01/2024	17.88	18.16	18.02	0.19	1.08	1.75	Good	
6	04/01/2024	29/01/2024	15.54	12.74	14.14	1.98	14.00	17.80	Good	
7	04/01/2024	29/01/2024	18.91	17.33	18.12	1.12	6.18	10.06	Good	
8	04/01/2024	29/01/2024	14.57	14.73	14.65	0.11	0.78	1.02	Good	
9	04/01/2024	29/01/2024	14.26	14.51	14.38	0.18	1.24	1.60	Good	
10	04/01/2024	29/01/2024	27.66	23.76	25.71	2.76	10.73	24.79	Good	
11	04/01/2024	29/01/2024	-	-	-	-	-	-	-	
12	04/01/2024	29/01/2024	17.93	17.17	17.55	0.54	3.05	4.81	Good	
13	04/01/2024	29/01/2024	18.55	20.82	19.68	1.61	8.16	14.44	Good	
14	04/01/2024	29/01/2024	20.31	10.33	15.32	7.06	46.08	63.44	Poor Precision	
15	04/01/2024	29/01/2024	18.61	16.43	17.52	1.54	8.80	13.85	Good	
16	04/01/2024	29/01/2024	19.26	16.94	18.10	1.64	9.06	14.73	Good	
17	04/01/2024	29/01/2024	-	-	-	-	-	-	-	
18	04/01/2024	29/01/2024	25.78	25.76	25.77	0.02	0.06	0.15	Good	
									Good precision	

Diffusion Tubes Measurements									Data Quality Check	
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean	Tubes Precision Check	
1	29/01/2024	07/03/2024	-	-	-	-	-	-	-	-
2	29/01/2024	07/03/2024	21.70	21.55	21.63	0.11	0.49	0.96	Good	-
3	29/01/2024	07/03/2024	19.64	19.44	19.54	0.14	0.71	1.25	Good	-
4	29/01/2024	07/03/2024	11.31	12.22	11.76	0.64	5.44	5.75	Good	-
5	29/01/2024	07/03/2024	18.08	16.95	17.52	0.80	4.57	7.19	Good	-
6	29/01/2024	07/03/2024	11.25	12.02	11.63	0.54	4.67	4.89	Good	-
7	29/01/2024	07/03/2024	15.35	14.19	14.77	0.82	5.56	7.38	Good	-
8	29/01/2024	07/03/2024	11.13	12.01	11.57	0.62	5.35	5.56	Good	-
9	29/01/2024	07/03/2024	12.40	12.16	12.28	0.17	1.39	1.53	Good	-
10	29/01/2024	07/03/2024	19.94	23.54	21.74	2.55	11.72	22.90	Good	-
11	29/01/2024	07/03/2024	-	-	-	-	-	-	-	-
12	29/01/2024	07/03/2024	-	-	-	-	-	-	-	-
13	29/01/2024	07/03/2024	18.12	18.49	18.30	0.27	1.46	2.40	Good	-
14	29/01/2024	07/03/2024	16.74	16.20	16.47	0.38	2.33	3.45	Good	-
15	29/01/2024	07/03/2024	12.54	15.70	14.12	2.24	15.86	20.13	Good	-
16	29/01/2024	07/03/2024	14.48	13.74	14.11	0.52	3.70	4.70	Good	-
17	29/01/2024	07/03/2024	-	-	-	-	-	-	-	-
18	29/01/2024	07/03/2024	-	-	-	-	-	-	-	-
									Good precision	

Diffusion Tubes Measurements									Data Quality Check	
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean	Tubes Precision Check	
1	07/03/2024	03/04/2024	-	-	-	-	-	-	-	-
2	07/03/2024	03/04/2024	18.53	17.88	18.20	0.47	2.56	4.18	Good	-
3	07/03/2024	03/04/2024	17.15	16.65	16.90	0.36	2.13	3.23	Good	-
4	07/03/2024	03/04/2024	-	-	-	-	-	-	-	-
5	07/03/2024	03/04/2024	14.97	14.63	14.80	0.24	1.62	2.16	Good	-
6	07/03/2024	03/04/2024	9.52	10.92	10.22	0.99	9.68	8.89	Good	-
7	07/03/2024	03/04/2024	13.68	12.47	13.07	0.85	6.54	7.68	Good	-
8	07/03/2024	03/04/2024	11.05	11.03	11.04	0.01	0.14	0.13	Good	-
9	07/03/2024	03/04/2024	10.62	11.24	10.93	0.43	3.98	3.91	Good	-
10	07/03/2024	03/04/2024	22.75	24.60	23.68	1.30	5.51	11.72	Good	-
11	07/03/2024	03/04/2024	13.35	13.42	13.39	0.05	0.34	0.41	Good	-
12	07/03/2024	03/04/2024	-	-	-	-	-	-	-	-
13	07/03/2024	03/04/2024	14.90	15.45	15.17	0.39	2.57	3.51	Good	-
14	07/03/2024	03/04/2024	-	-	-	-	-	-	-	-
15	07/03/2024	03/04/2024	10.16	12.26	11.21	1.49	13.27	13.37	Good	-
16	07/03/2024	03/04/2024	-	-	-	-	-	-	-	-
17	07/03/2024	03/04/2024	16.71	15.81	16.26	0.63	3.88	5.66	Good	-
18	07/03/2024	03/04/2024	16.26	13.50	14.88	1.95	13.11	17.53	Good	-
									Good precision	

Diffusion Tubes Measurements									Data Quality Check
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean	Tubes Precision Check
1	03/04/2024	30/04/2024	-	-	-	-	-	-	-
2	03/04/2024	30/04/2024	15.88	15.38	15.63	0.35	2.22	3.12	Good
3	03/04/2024	30/04/2024	13.74	14.07	13.91	0.23	1.67	2.08	Good
4	03/04/2024	30/04/2024	-	-	-	-	-	-	-
5	03/04/2024	30/04/2024	10.77	10.13	10.45	0.45	4.30	4.04	Good
6	03/04/2024	30/04/2024	6.40	7.79	7.09	0.99	13.90	8.86	Good
7	03/04/2024	30/04/2024	8.16	-	-	-	-	-	-
8	03/04/2024	30/04/2024	7.61	7.18	7.39	0.30	4.12	2.74	Good
9	03/04/2024	30/04/2024	7.16	7.42	7.29	0.19	2.59	1.69	Good
10	03/04/2024	30/04/2024	14.99	16.88	15.93	1.33	8.37	11.99	Good
11	03/04/2024	30/04/2024	-	10.53	-	-	-	-	-
12	03/04/2024	30/04/2024	-	-	-	-	-	-	-
13	03/04/2024	30/04/2024	12.79	12.93	12.86	0.10	0.79	0.91	Good
14	07/03/2024	03/04/2024	-	-	-	-	-	-	-
15	07/03/2024	03/04/2024	-	-	-	-	-	-	-
16	07/03/2024	03/04/2024	-	-	-	-	-	-	-
17	07/03/2024	03/04/2024	-	-	-	-	-	-	-
18	07/03/2024	03/04/2024	-	11.60	-	-	-	-	-
									Good precision

Diffusion Tubes Measurements									Data Quality Check
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient t of Variation (CV)	95% CI of mean	Tubes Precision Check
1	30/04/2024	06/06/2024	-	-	-	-	-	-	-
2	30/04/2024	06/06/2024	16.69	16.59	16.64	0.07	0.39	0.59	Good
3	30/04/2024	06/06/2024	15.09	15.82	15.46	0.51	3.33	4.62	Good
4	30/04/2024	06/06/2024	5.98	6.46	6.22	0.34	5.46	3.05	Good
5	30/04/2024	06/06/2024	14.69	13.75	14.22	0.67	4.70	6.00	Good
6	30/04/2024	06/06/2024	-	-	-	-	-	-	-
7	30/04/2024	06/06/2024	7.77	7.40	7.59	0.26	3.46	2.36	Good
8	30/04/2024	06/06/2024	6.94	7.28	7.11	0.24	3.39	2.16	Good
9	30/04/2024	06/06/2024	6.83	7.11	6.97	0.20	2.83	1.77	Good
10	30/04/2024	06/06/2024	14.66	13.53	14.09	0.80	5.67	7.18	Good
11	30/04/2024	06/06/2024	10.70	10.33	10.52	0.26	2.50	2.36	Good
12	30/04/2024	06/06/2024	18.65	16.47	17.56	1.54	8.79	13.87	Good
13	30/04/2024	06/06/2024	14.29	-	-	-	-	-	-
14	07/03/2024	03/04/2024	-	-	-	-	-	-	-
15	07/03/2024	03/04/2024	10.42	9.43	9.92	0.70	7.06	6.30	Good
16	07/03/2024	03/04/2024	6.78	7.46	7.12	0.48	6.76	4.33	Good
17	07/03/2024	03/04/2024	-	-	-	-	-	-	-
18	07/03/2024	03/04/2024	-	11.32	-	-	-	-	-
									Good precision

- 1.1.4 Following precision analysis, the data underwent annualisation, in line with LAQM TG22. Data was collated from the UK Automatic Urban and Rural Network (AURN), a countrywide network of air quality monitoring stations operated on behalf of Defra. Monitoring data for AURN sites was obtained from Automatic Urban and Rural Network (AURN) - DEFRA UK Air - GOV.UK.
- 1.1.5 As per the requirements of LAQM.TG22, background AURN monitoring sites within 50km of the diffusion tube monitoring positions, and with a minimum data capture of 85%, have been used within the calculation. The following sites have been used: Borehamwood Meadow Park, London Haringey Priory Park South and London North Kensington. The data is shown in Table 6.3.2.

Table 6.3.2 Annualisation of Diffusion Tube Data

Site	Borehamwood Meadow Park	London N. Kensington	London Haringey Priory Park South
Year Average (i.e. 06/12/2023 to 06/12/2024)	11.10	4.95	13.76
Period* Average	11.35	5.13	15.49
Ratio	0.98	0.97	0.89
Average Ratio	0.94		
* Corresponding to the monitoring period undertaken for the diffusion tube survey.			

- 1.1.6 Following the annualisation, a bias adjustment factor is also applied to the data, as outlined in LAQM TG22 to offset the inherent bias associated with diffusion tubes measuring NO₂. This adjustment factor is taken from the most recent national Defra Diffusion Tube Bias Adjustment Factors Spreadsheet (June 2025), which calculates an adjustment factor using 31 studies that utilise Gradko 20% TEA in water tubes. A value of 0.84 has been applied to the data set. Table 6.3.3 below displays the adjusted and annualised data.

Table 6.3.3 Adjusted and Annualised Concentrations

Monitoring Site	Raw Period Mean Concentration (µg/m ³)	Annualised Mean Concentration (µg/m ³)	Bias Adjusted Annualised Mean Concentration (µg/m ³)
1	19.33	18.17	15.26
2	18.80	17.67	14.85
3	17.45	16.40	13.78
4	10.54	9.91	8.32
5	14.77	13.88	11.66
6	10.56	9.92	8.33
7	13.15	12.36	10.38
8	10.35	9.73	8.17
9	10.46	9.83	8.26

10	20.90	19.65	16.51
11	11.67	10.97	9.21
12	16.32	15.34	12.89
13	16.26	15.28	12.84
14	16.67	15.67	13.17
15	12.90	12.13	10.19
16	12.86	12.09	10.15
17	17.51	16.46	13.82
18	13.17	12.38	10.40