Appendix 7.4: Diffusion Tube Monitoring Survey Results

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 7.4.1.

Table 7.4.1 Raw Diffusion Tube Data

Monitoring Location	Monitored NO2 Concentration (µg/m3)					
	February	March	April	May	June	July
1	20.01	16.42	15.07	13.18	9.75	12.55
2	-	15.29	12.88	10.70	16.29	17.92
3	-	-	-	-	-	-
4	11.04	11.10	-	-	-	-
5	23.94	20.84	17.69	-	32.80	17.42
6	23.70	20.80	18.36	13.84	9.24	
7	29.32	23.42	21.48	18.35	18.44	19.21
8	14.80	12.60	10.04	6.46	6.69	8.71
9	22.51	18.58	16.55	9.54	9.85	12.35
10	13.35	11.22	8.22	6.58	5.71	8.46
11	12.24	9.66	8.32	5.53	4.87	8.15
12	29.74	12.94	9.37	5.25	5.53	8.59
13	24.24	17.08	14.42	13.95	14.63	15.14
14	24.48	0.62	13.61	10.29	10.19	11.91
15	27.31	23.54	19.09	15.25	15.92	15.96
16	32.78	29.48	24.26	19.77	19.80	20.47
17	25.73	19.79	-	16.18	16.33	17.19
18	11.87	9.76	7.98	6.71	5.49	8.77

Location three was not accessible due to ongoing ground works in the vicinity.

Figure 7.4.1 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.

gradko environmental
(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 T02040R
BOOKING IN REFERENCE T02040
DESPATCH NOTE 113604
CUSTOMER RPS - (Brighton) Attn: Georgie Coppin
6-7 Lovers Walk
Preston Park
Brighton
Sussex
BN1 6AH
DATE SAMPLES RECEIVED 28/03/2025
JOB REFERENCE 794-ENV-GDE-JER9482

Location	Sample Number	Exposure Data Date On*	Date Off*	Time* (hr.)	µg/m³ *	ppb *	µg NO_2 on tube
9A	2621812	13/02/2025	12/03/2025	647.82	22.36	11.67	1.05
10A	2621811	13/02/2025	12/03/2025	647.80	12.70	6.63	0.60
11A	2621810	13/02/2025	12/03/2025	647.72	12.53	6.54	0.59
8A	2621809	13/02/2025	12/03/2025	647.53	14.83	7.74	0.70
18A	2621815	13/02/2025	12/03/2025	647.35	11.41	5.96	0.54
7A	2621807	13/02/2025	12/03/2025	647.33	28.69	14.98	1.35
6A	2621808	13/02/2025	12/03/2025	647.42	23.74	12.39	1.12
5A	2621806	13/02/2025	12/03/2025	647.67	23.24	12.13	1.09
17A	2621816	13/02/2025	12/03/2025	648.23	13.67	7.13	0.64
1A	2621818	13/02/2025	12/03/2025	646.05	19.57	10.22	0.92
4A	2621814	13/02/2025	12/03/2025	646.05	10.09	5.27	0.47
16A	2621824	13/02/2025	12/03/2025	645.88	32.32	16.87	1.52
15A	2621825	13/02/2025	12/03/2025	646.12	26.53	13.85	1.25
14A	2621813	13/02/2025	12/03/2025	646.57	24.45	12.76	1.15
12A	2621838	13/02/2025	12/03/2025	641.58	13.94	7.28	0.65
13A	2621817	13/02/2025	12/03/2025	640.75	24.18	12.62	1.13
1B	2621822	13/02/2025	12/03/2025	646.05	20.45	10.67	0.96
4B	2621832	13/02/2025	12/03/2025	646.05	11.99	6.26	0.56
5B	2621820	13/02/2025	12/03/2025	647.67	24.64	12.86	1.16
6B	2621823	13/02/2025	12/03/2025	647.52	23.67	12.35	1.11
7B	2621821	13/02/2025	12/03/2025	647.33	29.95	15.63	1.41
8B	2621831	13/02/2025	12/03/2025	647.53	14.77	7.71	0.70
9B	2621828	13/02/2025	12/03/2025	647.82	22.66	11.83	1.07
10B	2621830	13/02/2025	12/03/2025	646.62	14.00	7.31	0.66
11B	2621829	13/02/2025	12/03/2025	658.03	11.94	6.23	0.57
12B	2621837	13/02/2025	12/03/2025	641.58	29.74	15.52	1.39
13B	2621836	13/02/2025	12/03/2025	640.75	24.31	12.69	1.13
14B	2621827	13/02/2025	12/03/2025	642.02	24.52	12.80	1.14
15B	2621844	13/02/2025	12/03/2025	646.12	28.09	14.66	1.32
16B	2621834	13/02/2025	12/03/2025	645.88	33.25	17.36	1.56
17B	2621843	13/02/2025	12/03/2025	648.23	25.73	13.43	1.21
18B	2621835	13/02/2025	12/03/2025	648.00	12.34	6.44	0.58
Control	2621842			658.03	0.15	0.08	0.01

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L. Gates, Laboratory Manager

gradko environmental
(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 T02606R
BOOKING IN REFERENCE T02606
DESPATCH NOTE 113632
CUSTOMER RPS - (Brighton) Attn: Georgie Coppin
6-7 Lovers Walk
Preston Park
Brighton
Sussex
BN1 6AH
DATE SAMPLES RECEIVED 14/04/2025
JOB NUMBER 794-ENV-GDE-21850

Location	Sample Number	Exposure Data Date On*	Date Off*	Time* (hr.)	µg/m³ *	ppb *	µg NO_2 on tube
1A	2637123	12/03/2025	09/04/2025	671.68	15.73	8.21	0.77
1B	2637122	12/03/2025	09/04/2025	671.68	17.10	8.93	0.84
2A	2637121	12/03/2025	09/04/2025	671.65	16.98	8.86	0.83
2B	2637120	12/03/2025	09/04/2025	671.65	13.60	7.10	0.66
4A	2637119	12/03/2025	09/04/2025	671.83	10.28	5.37	0.50
4B	2637118	12/03/2025	09/04/2025	671.83	11.92	6.22	0.58
5A	2637128	12/03/2025	09/04/2025	670.73	20.41	10.65	1.00
5B	2637127	12/03/2025	09/04/2025	670.73	21.27	11.10	1.04
6A	2637126	12/03/2025	09/04/2025	671.15	21.57	11.26	1.05
6B	2637125	12/03/2025	09/04/2025	671.15	20.03	10.45	0.98
7A	2637124	12/03/2025	09/04/2025	671.43	23.89	12.47	1.17
7B	2637134	12/03/2025	09/04/2025	671.43	22.95	11.98	1.12
8A	2637133	12/03/2025	09/04/2025	671.43	12.58	6.57	0.61
8B	2637131	12/03/2025	09/04/2025	671.43	12.62	6.59	0.62
9A	2637132	12/03/2025	09/04/2025	672.02	19.29	10.07	0.94
9B	2637130	12/03/2025	09/04/2025	672.02	17.87	9.33	0.87
10A	2637140	12/03/2025	09/04/2025	671.97	11.55	6.03	0.56
10B	2637139	12/03/2025	09/04/2025	671.97	10.89	5.69	0.53
11A	2637138	12/03/2025	09/04/2025	671.97	10.40	5.43	0.51
11B	2637137	12/03/2025	09/04/2025	671.97	8.93	4.66	0.44
12A	2637136	12/03/2025	09/04/2025	671.85	12.94	6.76	0.63
13A	2637146	12/03/2025	09/04/2025	672.07	17.98	9.38	0.88
13B	2637145	12/03/2025	09/04/2025	672.07	16.19	8.45	0.79
14A	2637144	12/03/2025	09/04/2025	671.07	<0.62	<0.32	<0.030
14B	2637143	12/03/2025	09/04/2025	671.07	<0.62	<0.32	<0.030
15A	2637142	12/03/2025	09/04/2025	670.53	23.66	12.35	1.15
15B	2637149	12/03/2025	09/04/2025	670.53	23.41	12.22	1.14
16A	2637148	12/03/2025	09/04/2025	670.88	30.02	15.67	1.46
16B	2637150	12/03/2025	09/04/2025	670.88	28.94	15.10	1.41
17A	2637156	12/03/2025	09/04/2025	671.73	19.79	10.33	0.97
18A	2637152	12/03/2025	09/04/2025	671.85	9.46	4.94	0.46
18B	2637151	12/03/2025	09/04/2025	671.85	10.06	5.25	0.49
Control	2637155			672.07	0.18	0.10	0.01

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L. Gates, Laboratory Manager

gradko environmental
(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 T03350R
BOOKING IN REFERENCE T03350
DESPATCH NOTE 113633
CUSTOMER RPS - (Brighton) Attn: Georgie Coppin
6-7 Lovers Walk, Preston Park, Brighton, Sussex, BN1 6AH
DATE SAMPLES RECEIVED 19/05/2025
JOB REFERENCE 794-ENV-GDE-21850

Location	Sample Number	Exposure Data Date On*	Date Off*	Time* (hr.)	µg/m³ *	ppb *	µg NO_2 on tube
1A	2651317	09/04/2025	13/05/2025	817.45	14.74	7.70	0.88
1B	2651316	09/04/2025	13/05/2025	817.45	15.40	8.04	0.92
2A	2651315	09/04/2025	13/05/2025	817.47	12.15	6.34	0.72
2B	2651314	09/04/2025	13/05/2025	817.47	13.62	7.11	0.81
5A	2651313	09/04/2025	13/05/2025	818.32	17.12	8.93	1.02
5B	2651312	09/04/2025	13/05/2025	818.32	18.26	9.53	1.09
6B	2651322	09/04/2025	13/05/2025	818.30	18.36	9.58	1.09
7A	2651321	09/04/2025	13/05/2025	817.37	22.47	11.73	1.34
7B	2651320	09/04/2025	13/05/2025	817.37	20.49	10.69	1.22
8A	2651319	09/04/2025	13/05/2025	816.70	9.60	5.01	0.57
9A	2651318	09/04/2025	13/05/2025	816.83	16.54	8.63	0.98
8B	2651328	09/04/2025	13/05/2025	817.83	10.48	5.47	0.62
9B	2651327	09/04/2025	13/05/2025	817.97	16.55	8.64	0.98
10A	2651326	09/04/2025	13/05/2025	815.55	8.64	4.51	0.51
10B	2651325	09/04/2025	13/05/2025	815.55	7.79	4.07	0.46
11A	2651324	09/04/2025	13/05/2025	815.72	8.28	4.32	0.49
11B	2651334	09/04/2025	13/05/2025	815.72	8.35	4.36	0.50
12A	2651333	09/04/2025	13/05/2025	816.17	9.02	4.71	0.54
12B	2651332	09/04/2025	13/05/2025	816.17	9.73	5.08	0.58
13A	2651331	09/04/2025	13/05/2025	816.22	14.48	7.56	0.86
13B	2651330	09/04/2025	13/05/2025	816.22	14.36	7.50	0.85
14A	2651340	09/04/2025	13/05/2025	817.10	13.76	7.18	0.82
14B	2651339	09/04/2025	13/05/2025	817.10	13.47	7.03	0.80
15A	2651338	09/04/2025	13/05/2025	817.60	19.30	10.07	1.15
15B	2651337	09/04/2025	13/05/2025	817.60	18.88	9.85	1.12
16A	2651336	09/04/2025	13/05/2025	817.80	23.50	12.27	1.40
16B	2651346	09/04/2025	13/05/2025	817.80	25.02	13.06	1.49
18A	2651345	09/04/2025	13/05/2025	819.50	8.01	4.18	0.48
18B	2651344	09/04/2025	13/05/2025	819.50	7.94	4.14	0.47
Control	2651343			819.50	0.13	0.07	0.01
	Laboratory Blank			819.50	0.07	0.04	0.004

Comment: Results are not blank subtracted.
Tube 2651316 contained a spider, insect & web. Result may be compromised.
Tubes 2651325 & 2651336 contained webs. Results may be compromised.
Tube 2651346 contained a spider & nest. Result may be compromised.
Results have been corrected to a temperature of 293 K (20°).

Overall M.U. ±9.7% **Limit of Detection** 0.030µgNO_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 CARY3

Analyst Name Mihnea Marmara **Report Checked By** Marek Bianga
Date of Analysis 28/05/2025 **Date of Report** 28/05/2025

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

REPORT OFFICIALLY CHECKED

Gradko International Ltd
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L. Gates, Laboratory Manager

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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 T04067R
BOOKING IN REFERENCE T04067
DESPATCH NOTE 113634
CUSTOMER RPS - (Brighton) Attn: Georgie Coppin
6-7 Lovers Walk
Preston Park
Brighton
Sussex
BN1 6AH
DATE SAMPLES RECEIVED 20/06/2025

Location	Sample Number	Exposure Data Date On*	Date Off*	Time* (hr.)	µg/m³ *	ppb *	µg NO_2 on tube
Control	2668953			816.30	0.07	0.04	0.00
1A	2668952	13/05/2025	16/06/2025	815.65	14.17	7.40	0.84
1B	2668951	13/05/2025	16/06/2025	815.65	12.20	6.37	0.72
2A	2668950	13/05/2025	16/06/2025	815.53	10.27	5.36	0.61
2B	2668949	13/05/2025	16/06/2025	815.53	11.12	5.80	0.66
6A	2668948	13/05/2025	16/06/2025	814.80	13.54	7.07	0.80
6B	2668958	13/05/2025	16/06/2025	814.80	14.13	7.38	0.84
7A	2668957	13/05/2025	16/06/2025	815.58	18.14	9.47	1.08
7B	2668956	13/05/2025	16/06/2025	815.58	18.57	9.69	1.10
8A	2668955	13/05/2025	16/06/2025	815.88	6.43	3.35	0.38
8B	2668954	13/05/2025	16/06/2025	815.88	6.49	3.39	0.39
9A	2668964	13/05/2025	16/06/2025	814.22	9.38	4.89	0.56
9B	2668963	13/05/2025	16/06/2025	814.22	9.70	5.06	0.57
10A	2668962	13/05/2025	16/06/2025	815.95	6.53	3.41	0.39
10B	2668961	13/05/2025	16/06/2025	815.95	6.63	3.46	0.39
11A	2668960	13/05/2025	16/06/2025	815.85	5.40	2.82	0.32
11B	2668970	13/05/2025	16/06/2025	815.85	5.67	2.96	0.34
12A	2668969	13/05/2025	16/06/2025	815.88	4.69	2.45	0.28
12B	2668968	13/05/2025	16/06/2025	815.88	5.82	3.04	0.35
13A	2668967	13/05/2025	16/06/2025	815.92	14.40	7.52	0.85
13B	2668966	13/05/2025	16/06/2025	815.92	13.49	7.04	0.80
14A	2668976	13/05/2025	16/06/2025	815.58	10.29	5.37	0.61
14B	2668975	13/05/2025	16/06/2025	815.58	10.29	5.37	0.61
15A	2668974	13/05/2025	16/06/2025	815.80	15.45	8.06	0.92
15B	2668973	13/05/2025	16/06/2025	815.80	15.04	7.85	0.89
16A	2668972	13/05/2025	16/06/2025	815.22	18.70	9.76	1.11
16B	2668982	13/05/2025	16/06/2025	815.22	20.84	10.88	1.24
17A	2668981	13/05/2025	16/06/2025	815.45	<0.51	<0.26	<0.030
17B	2668980	13/05/2025	16/06/2025	815.45	16.18	8.45	0.96
18B	2668979	13/05/2025	16/06/2025	816.30	6.71	3.50	0.40
Laboratory Blank				816.30	0.13	0.07	0.008

REPORT OFFICIALLY CHECKED

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Signed.....[redacted].....
L. Gates, Laboratory Manager

gradko environmental
(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 T04743R
BOOKING IN REFERENCE T04743
DESPATCH NOTE 113635
CUSTOMER RPS - (Brighton) Attn: Georgie Coppin
6-7 Lovers Walk, Preston Park,
Brighton, Sussex, BN1 6AH
DATE SAMPLES RECEIVED 21/07/2025

Location	Sample Number	Exposure Data Date On*	Date Off*	Time* (hr.)	µg/m³ *	ppb *	µg NO_2 on tube
1A	2688244	16/06/2025	10/07/2025	575.78	9.82	5.13	0.41
1B	2688243	16/06/2025	10/07/2025	575.78	9.68	5.05	0.41
2A	2688242	16/06/2025	10/07/2025	575.90	15.46	8.07	0.65
2B	2688241	16/06/2025	10/07/2025	575.90	17.13	8.94	0.72
5A	2688240	16/06/2025	10/07/2025	575.87	31.97	16.68	1.34
5B	2688239	16/06/2025	10/07/2025	575.87	33.64	17.56	1.41
6A	2688249	16/06/2025	10/07/2025	575.80	7.98	4.17	0.33
6B	2688248	16/06/2025	10/07/2025	575.80	10.49	5.48	0.44
7A	2688247	16/06/2025	10/07/2025	575.80	18.52	9.67	0.78
7B	2688246	16/06/2025	10/07/2025	575.80	18.35	9.58	0.77
8A	2688245	16/06/2025	10/07/2025	575.92	6.67	3.48	0.28
8B	2688255	16/06/2025	10/07/2025	575.92	6.71	3.50	0.28
9A	2688254	16/06/2025	10/07/2025	575.55	9.99	5.22	0.42
9B	2688253	16/06/2025	10/07/2025	575.55	9.71	5.07	0.41
10A	2688252	16/06/2025	10/07/2025	576.08	5.54	2.89	0.23
10B	2688251	16/06/2025	10/07/2025	576.08	5.88	3.07	0.25
11A	2688261	16/06/2025	10/07/2025	576.13	4.87	2.54	0.20
12A	2688260	16/06/2025	10/07/2025	575.93	5.57	2.91	0.23
12B	2688259	16/06/2025	10/07/2025	575.93	5.49	2.87	0.23
13A	2688258	16/06/2025	10/07/2025	575.95	14.95	7.81	0.63
13B	2688257	16/06/2025	10/07/2025	575.95	14.31	7.47	0.60
14A	2688267	16/06/2025	10/07/2025	575.70	10.40	5.43	0.44
14B	2688266	16/06/2025	10/07/2025	575.70	9.99	5.21	0.42
15A	2688273	16/06/2025	10/07/2025	575.75	16.06	8.38	0.67
15B	2688265	16/06/2025	10/07/2025	575.75	15.77	8.23	0.66
16A	2688264	16/06/2025	10/07/2025	575.80	19.26	10.05	0.81
16B	2688263	16/06/2025	10/07/2025	575.80	20.34	10.61	0.85
17A	2688272	16/06/2025	10/07/2025	575.82	15.65	8.17	0.66
17B	2688271	16/06/2025	10/07/2025	575.82	17.01	8.88	0.71
18A	2688270	16/06/2025	10/07/2025	575.90	5.40	2.82	0.23
18B	2688269	16/06/2025	10/07/2025	575.90	5.59	2.92	0.23
Control	2688277			576.13	0.05	0.02	0.00
	Laboratory Blank			576.13	0.24	0.12	0.010

Comment: Results are not blank subtracted.
Tubes 2688259 & 2688272 contained insects. Results may be compromised.
Tubes 2688246, 2688249 & 2688267 were dirty when received. Results may be compromised.
Results have been corrected to a temperature of 293 K (20°).

Overall M.U. ±9.7% **Limit of Detection** 0.030µgNO_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 CARY3

Analyst Name Mihnea Mamara **Report Checked By** Marek Bianga
Date of Analysis 30/07/2025 **Date of Report** 31/07/2025

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

REPORT OFFICIALLY CHECKED

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

gradko environmental
(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

ilac-MRA UKAS TESTING 2187

LABORATORY ANALYSIS REPORT

NITROGEN DIOXIDE IN DIFFUSION TUBES BY U.V.SPECTROPHOTOMETRY

REPORT NUMBER T05153R
BOOKING IN REFERENCE T05153
DESPATCH NOTE 113636
CUSTOMER RPS - (Brighton) Attn: Georgie Coppin
6-7 Lovers Walk, Preston Park, Brighton, Sussex, BN1 6AH
DATE SAMPLES RECEIVED 11/08/2025

Location	Sample Number	Exposure Data Date On*	Date Off*	Time* (hr.)	µg/m³ *	µg NO_2 ppb *	on tube
1A	2711194	10/07/2025	06/08/2025	648.03	12.63	6.59	0.60
1B	2711193	10/07/2025	06/08/2025	648.03	12.46	6.50	0.59
2A	2711192	10/07/2025	06/08/2025	647.85	17.44	9.10	0.82
2B	2711191	10/07/2025	06/08/2025	647.85	18.41	9.61	0.87
5A	2711190	10/07/2025	06/08/2025	648.02	17.35	9.05	0.82
5B	2711189	10/07/2025	06/08/2025	648.02	17.50	9.13	0.82
7A	2711200	10/07/2025	06/08/2025	648.15	20.15	10.51	0.95
7B	2711199	10/07/2025	06/08/2025	648.15	18.28	9.54	0.86
8A	2711198	10/07/2025	06/08/2025	648.20	8.47	4.42	0.40
8B	2711197	10/07/2025	06/08/2025	648.20	8.96	4.68	0.42
9A	2711196	10/07/2025	06/08/2025	648.77	12.22	6.38	0.58
9B	2711195	10/07/2025	06/08/2025	648.77	12.49	6.52	0.59
10A	2711206	10/07/2025	06/08/2025	648.30	8.62	4.50	0.41
10B	2711205	10/07/2025	06/08/2025	648.30	8.30	4.33	0.39
11A	2711204	10/07/2025	06/08/2025	648.33	8.17	4.26	0.39
11B	2711203	10/07/2025	06/08/2025	648.33	8.13	4.24	0.38
12A	2711202	10/07/2025	06/08/2025	648.38	8.76	4.57	0.41
12B	2711201	10/07/2025	06/08/2025	648.38	8.42	4.40	0.40
13A	2711212	10/07/2025	06/08/2025	648.42	14.73	7.69	0.69
13B	2711218	10/07/2025	06/08/2025	648.42	15.55	8.12	0.73
14A	2711224	10/07/2025	06/08/2025	647.62	11.90	6.21	0.56
14B	2711211	10/07/2025	06/08/2025	647.62	11.92	6.22	0.56
15A	2711210	10/07/2025	06/08/2025	647.55	15.87	8.28	0.75
15B	2711209	10/07/2025	06/08/2025	647.55	16.04	8.37	0.76
16A	2711208	10/07/2025	06/08/2025	647.98	21.64	11.29	1.02
16B	2711207	10/07/2025	06/08/2025	647.98	19.30	10.07	0.91
17A	2711228	10/07/2025	06/08/2025	647.83	17.37	9.07	0.82
17B	2711217	10/07/2025	06/08/2025	647.83	17.01	8.88	0.80
18A	2711216	10/07/2025	06/08/2025	648.17	<0.59	<0.31	<0.028
18B	2711215	10/07/2025	06/08/2025	648.17	8.77	4.58	0.41
Control	2711214			648.77	0.13	0.07	0.01
	Laboratory Blank			648.77	0.04	0.02	0.002

Comment: Results are not blank subtracted.
Tubes 2711198 & 2711218 contained insects. Results may be compromised.
Tube 2711216 contained a web. Result may be compromised.
Tube 2711216 was received with the grids in the wrong cap. Results may be compromised.
Results reported as <0.028 µg are below the reporting limit.
Results have been corrected to a temperature of 293 K (20°).

Overall M.U. ±9.7% **Limit of Detection** 0.028µgNO_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 CARY1
Analyst Name Ivelina Paldamova **Report Checked By** Marek Bianga
Date of Analysis 20/08/2025 **Date of Report** 20/08/2025
Analysis carried out in accordance with documented in-house Laboratory Method GLM7

REPORT OFFICIALLY CHECKED

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

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									
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	13/02/2025	12/03/2025	19.57	20.45	20.01	0.62	3.09	5.55	Good
2	13/02/2025	12/03/2025	-	-					
3	13/02/2025	12/03/2025	-	-					
4	13/02/2025	12/03/2025	10.09	11.99	11.04	1.34	12.14	12.04	Good
5	13/02/2025	12/03/2025	23.24	24.64	23.94	0.99	4.14	8.91	Good
6	13/02/2025	12/03/2025	23.74	23.67	23.70	0.05	0.20	0.43	Good
7	13/02/2025	12/03/2025	28.69	29.95	29.32	0.89	3.02	7.97	Good
8	13/02/2025	12/03/2025	14.83	14.77	14.80	0.05	0.30	0.40	Good
9	13/02/2025	12/03/2025	22.36	22.66	22.51	0.21	0.93	1.89	Good
10	13/02/2025	12/03/2025	12.70	14.00	13.35	0.92	6.88	8.26	Good
11	13/02/2025	12/03/2025	12.53	11.94	12.24	0.42	3.43	3.77	Good
12	13/02/2025	12/03/2025	13.94	29.74	21.84	11.18	51.17	100.41	Poor Precision
13	13/02/2025	12/03/2025	24.18	24.31	24.24	0.09	0.38	0.82	Good
14	12/03/2025	12/03/2025	24.52	15.33	24.48	0.05	0.19	0.42	Good
15	12/03/2025	12/03/2025	28.09	11.57	27.31	1.10	4.02	9.88	Good
16	12/03/2025	12/03/2025	33.25	11.20	32.78	0.66	2.02	5.95	Good
17	12/03/2025	12/03/2025	25.73	18.61	19.70	8.52	43.28	76.59	Poor Precision
18	12/03/2025	12/03/2025	12.34	17.84	11.87	0.65	5.49	5.86	Good
									Good precision

Diffusion Tubes Measurements									
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	12/03/2025	09/04/2025	15.73	17.10	16.42	0.97	5.91	8.72	Good
2	12/03/2025	09/04/2025	16.98	13.60	15.29	2.39	15.63	21.47	Good
3	12/03/2025	09/04/2025	-	-					
4	12/03/2025	09/04/2025	10.28	11.92	11.10	1.16	10.44	10.41	Good
5	12/03/2025	09/04/2025	20.41	21.27	20.84	0.61	2.92	5.47	Good
6	12/03/2025	09/04/2025	21.57	20.03	20.80	1.09	5.23	9.77	Good
7	12/03/2025	09/04/2025	23.89	22.95	23.42	0.67	2.85	5.99	Good
8	12/03/2025	09/04/2025	12.58	12.62	12.60	0.03	0.23	0.26	Good
9	12/03/2025	09/04/2025	19.29	17.87	18.58	1.00	5.38	8.98	Good
10	12/03/2025	09/04/2025	11.55	10.89	11.22	0.46	4.13	4.16	Good
11	12/03/2025	09/04/2025	10.40	8.93	9.66	1.04	10.79	9.37	Good
12	12/03/2025	09/04/2025	12.94	-					
13	12/03/2025	09/04/2025	17.98	16.19	17.08	1.26	7.37	11.32	Good
14	12/03/2025	09/04/2025	0.62	0.62	0.62				
15	12/03/2025	09/04/2025	23.66	23.41	23.54	0.17	0.74	1.56	Good
16	12/03/2025	09/04/2025	30.02	28.94	29.48	0.77	2.61	6.91	Good
17	12/03/2025	09/04/2025	-	19.79					
18	12/03/2025	09/04/2025	9.46	10.06	9.76	0.42	4.30	3.77	Good
									Good precision

Diffusion Tubes Measurements									
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	09/04/2025	13/05/2025	14.74	15.40	15.07	0.46	3.08	4.17	Good
2	09/04/2025	13/05/2025	12.15	13.62	12.88	1.04	8.04	9.30	Good
3	09/04/2025	13/05/2025	-	-					
4	09/04/2025	13/05/2025	-	-					
5	09/04/2025	13/05/2025	17.12	18.26	17.69	0.81	4.57	7.26	Good
6	09/04/2025	13/05/2025	-	18.36					
7	09/04/2025	13/05/2025	22.47	20.49	21.48	1.40	6.54	12.62	Good
8	09/04/2025	13/05/2025	9.60	10.48	10.04	0.62	6.18	5.58	Good
9	09/04/2025	13/05/2025	16.54	16.55	16.55	0.01	0.05	0.07	Good
10	09/04/2025	13/05/2025	8.64	7.79	8.22	0.60	7.26	5.36	Good
11	09/04/2025	13/05/2025	8.28	8.35	8.32	0.05	0.57	0.43	Good
12	09/04/2025	13/05/2025	9.02	9.73	9.37	0.50	5.34	4.50	Good
13	09/04/2025	13/05/2025	14.48	14.36	14.42	0.08	0.58	0.75	Good
14	09/04/2025	13/05/2025	13.76	13.47	13.61	0.20	1.49	1.82	Good
15	09/04/2025	13/05/2025	19.30	18.88	19.09	0.30	1.56	2.67	Good
16	09/04/2025	13/05/2025	23.50	25.02	24.26	1.07	4.41	9.62	Good
17	09/04/2025	13/05/2025	-	-					
18	09/04/2025	13/05/2025	8.01	7.94	7.98	0.05	0.60	0.43	Good
									Good precision

Diffusion Tubes Measurements									
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	13/05/2025	16/06/2025	14.17	12.20	13.18	1.40	10.59	12.54	Good
2	13/05/2025	16/06/2025	10.27	11.12	10.70	0.60	5.58	5.36	Good
3	13/05/2025	16/06/2025	-	-					
4	13/05/2025	16/06/2025	-	-					
5	13/05/2025	16/06/2025	-	-					
6	13/05/2025	16/06/2025	13.54	14.13	13.84	0.42	3.02	3.75	Good
7	13/05/2025	16/06/2025	18.14	18.57	18.35	0.31	1.69	2.79	Good
8	13/05/2025	16/06/2025	6.43	6.49	6.46	0.05	0.74	0.43	Good
9	13/05/2025	16/06/2025	9.38	9.70	9.54	0.23	2.38	2.04	Good
10	13/05/2025	16/06/2025	6.53	6.63	6.58	0.07	1.09	0.64	Good
11	13/05/2025	16/06/2025	5.40	5.67	5.53	0.19	3.45	1.71	Good
12	13/05/2025	16/06/2025	4.69	5.82	5.25	0.80	15.21	7.18	Good
13	13/05/2025	16/06/2025	14.40	13.49	13.95	0.64	4.62	5.79	Good
14	13/05/2025	16/06/2025	10.29	10.29	10.29	0.00	0.00	0.00	Good
15	13/05/2025	16/06/2025	15.45	15.04	15.25	0.29	1.88	2.57	Good
16	13/05/2025	16/06/2025	18.70	20.84	19.77	1.52	7.67	13.62	Good
17	13/05/2025	16/06/2025	-	16.18					
18	13/05/2025	16/06/2025	-	6.71					
									Good precision

Diffusion Tubes Measurements									
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	16/06/2025	10/07/2025	9.82	9.68	9.75	0.10	1.04	0.91	Good
2	16/06/2025	10/07/2025	15.46	17.13	16.29	1.18	7.26	10.62	Good
3	16/06/2025	10/07/2025	-	-					
4	16/06/2025	10/07/2025	-	-					
5	16/06/2025	10/07/2025	31.97	33.64	32.80	1.18	3.61	10.63	Good
6	16/06/2025	10/07/2025	7.98	10.49	9.24	1.77	19.21	15.94	Good
7	16/06/2025	10/07/2025	18.52	18.35	18.44	0.12	0.64	1.06	Good
8	16/06/2025	10/07/2025	6.67	6.71	6.69	0.03	0.51	0.30	Good
9	16/06/2025	10/07/2025	9.99	9.71	9.85	0.20	2.06	1.82	Good
10	16/06/2025	10/07/2025	5.54	5.88	5.71	0.24	4.14	2.12	Good
11	16/06/2025	10/07/2025	4.87	-					
12	16/06/2025	10/07/2025	5.57	5.49	5.53	0.05	0.92	0.46	Good
13	16/06/2025	10/07/2025	14.95	14.31	14.63	0.46	3.12	4.10	Good
14	16/06/2025	10/07/2025	10.40	9.99	10.19	0.29	2.82	2.58	Good
15	16/06/2025	10/07/2025	16.06	15.77	15.92	0.20	1.27	1.82	Good
16	16/06/2025	10/07/2025	19.26	20.34	19.80	0.76	3.84	6.83	Good
17	16/06/2025	10/07/2025	15.65	17.01	16.33	0.96	5.90	8.65	Good
18	16/06/2025	10/07/2025	5.40	5.59	5.49	0.14	2.46	1.21	Good
									Good precision

Diffusion Tubes Measurements									
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	10/07/2025	10/07/2025	12.63	12.46	12.55	0.12	0.96	1.08	Good
2	10/07/2025	10/07/2025	17.44	18.41	17.92	0.69	3.85	6.21	Good
3	10/07/2025	10/07/2025	-	-					
4	10/07/2025	10/07/2025	-	-					
5	10/07/2025	10/07/2025	17.35	17.50	17.42	0.11	0.60	0.94	Good
6	10/07/2025	10/07/2025	-	-					
7	10/07/2025	10/07/2025	20.15	18.28	19.21	1.32	6.88	11.87	Good
8	10/07/2025	10/07/2025	8.47	8.96	8.71	0.35	3.96	3.10	Good
9	10/07/2025	10/07/2025	12.22	12.49	12.35	0.19	1.58	1.75	Good
10	10/07/2025	10/07/2025	8.62	8.30	8.46	0.23	2.66	2.02	Good
11	10/07/2025	10/07/2025	8.17	8.13	8.15	0.03	0.37	0.27	Good
12	10/07/2025	10/07/2025	8.76	8.42	8.59	0.24	2.79	2.16	Good
13	10/07/2025	10/07/2025	14.73	15.55	15.14	0.59	3.87	5.26	Good
14	10/07/2025	10/07/2025	11.90	11.92	11.91	0.02	0.13	0.13	Good
15	10/07/2025	10/07/2025	15.87	16.04	15.96	0.12	0.75	1.08	Good
16	10/07/2025	10/07/2025	21.64	19.30	20.47	1.65	8.07	14.84	Good
17	10/07/2025	10/07/2025	17.37	17.01	17.19	0.26	1.48	2.29	Good
18	10/07/2025	10/07/2025	-	8.77					
									Good precision

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.

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: Reading New Town, London Hillingdon and Oxford St Ebbes. The data is shown in Table 7.4.2.

Table 7.4.2 Annualisation of Diffusion Tube Data

Site	London Hillingdon	Reading New Town	Oxford St Ebbes
Year Average (i.e. 06/08/2024 to 06/08/2025)	24.34	12.22	11.20
Period* Average	22.22	11.20	10.49
Ratio	1.10	1.09	1.07
Average Ratio	1.09		
* Corresponding to the monitoring period undertaken for the diffusion tube survey.			

Following the annualisation, a bias adjustment factor of 0.84 is also applied to the data, as outlined in LAQM TG22 to offset the inherent bias associated with diffusion tubes measuring NO_2. 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 1.09 has been applied to the data set for annualisation. Table 7.4.3 below displays the adjusted and annualised data.

Table 7.4.3 Adjusted and Annualised Concentrations

Monitoring site	Raw Period Mean Concentration (µg/m3)	Annualised Mean Concentration (µg/m3)	Bias Adjusted Annualised Mean Concentration (µg/m3)
1	14.5	15.8	13.2
2	14.6	15.9	13.4
4	11.1	12.0	10.1
5	22.5	24.5	20.6
6	17.2	18.7	15.7
7	21.7	23.6	19.8
8	9.9	10.8	9.0
9	14.9	16.2	13.6
10	8.9	9.7	8.2
11	8.1	8.8	7.4
12	11.9	13.0	10.9
13	16.6	18.0	15.1
14	11.9	12.9	10.8
15	19.5	21.2	17.8
16	24.4	26.6	22.3
17	19.0	20.7	17.4
18	8.4	9.2	7.7