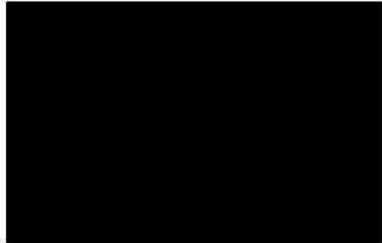




Customer:



Testing Facility:

SOCOTEC
Unit 12
Moorbrook
Southmead Industrial
Park
Didcot
Oxfordshire
OX11 7HP

Quotation
Number:

DIF-ANU-10952
(Period 5)

Samples
Received:

02 June 2023

Customer
Order Number:

Analysis
Completed:

15 June 2023

Customer
Reference:

Report Date:

16 June 2023

Nitrogen Dioxide Diffusion Tube Analysis Report

The samples have been analysed in accordance with SOCOTEC's standard operating procedure ANU/SOP/1015. This method meets the guidelines set out in DEFRA's 'Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance.'

The tubes were prepared by spiking acetone:triethanolamine (50:50) onto the grids prior to the tubes being assembled. The tubes were desorbed with distilled water and the extract analysed using a segmented flow auto analyser with ultraviolet detection. All samples were received in good condition, unless otherwise stated in the comments field of results table. Please note:

- (i) As set out in the practical guidance, the results were initially calculated assuming an ambient temperature of 11°C, the reported values **have** been adjusted to 20°C to allow for direct comparison with EU limits.
- (ii) The reported results have not been bias adjusted.

This analysis of diffusion tube samples to determine the amount of nitrogen dioxide present on the tube is within the scope of our UKAS schedule. Any further calculations and assessments requiring exposure details and conditions fall outside the scope of our accreditation. In the AIR PT intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes, SOCOTEC currently holds the highest rank of a **Satisfactory** laboratory.

This report shall not be reproduced except in full without approval of the laboratory.

Approved By



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| Sample Number | Site | Date and Time ON | Date and Time OFF | Exposure Time (Hours) | Total µg | µg m ⁻³ | ppb | Comments |
|---------------|------|---------------------|---------------------|-----------------------|----------|--------------------|------|----------|
| OCC/23A/NA5S1 | 1 | 03/05/2023 09:54 | 31/05/2023 09:12 | 671.30 | 0.58 | 12.3 | 6.4 | |
| OCC/23A/NA5S2 | 2 | 03/05/2023 09:56 | 31/05/2023 09:14 | 671.30 | 0.58 | 12.4 | 6.5 | |
| OCC/23A/NA5S3 | 3 | 03/05/2023 09:58 | 31/05/2023 09:16 | 671.30 | 0.87 | 18.7 | 9.7 | |
| OCC/23A/NA5S4 | 4 | 03/05/2023 10:00 | 31/05/2023 09:19 | 671.32 | 0.96 | 20.6 | 10.7 | |
| OCC/23A/NA5S5 | 5 | 03/05/2023 10:03 | 31/05/2023 09:21 | 671.30 | 0.85 | 18.2 | 9.4 | |
| OCC/23A/NA5S6 | 6 | 03/05/2023 10:08 | 31/05/2023 09:23 | 671.25 | 1.01 | 21.6 | 11.2 | |
| OCC/23A/NA5S7 | 7 | 03/05/2023 10:10 | 31/05/2023 09:26 | 671.27 | 0.88 | 18.8 | 9.8 | |
| OCC/23A/NA5S8 | 8 | 03/05/2023 10:13 | 31/05/2023 09:28 | 671.25 | 1.44 | 30.8 | 16 | |
| OCC/23A/NA5S9 | 9 | 03/05/2023 10:16 | 31/05/2023 09:32 | 671.27 | 1.19 | 25.3 | 13.2 | |





| Sample Number | Site | Date and Time ON | Date and Time OFF | Exposure Time (Hours) | Total µg | µg m ⁻³ | ppb | Comments |
|----------------|------|---------------------|---------------------|-----------------------|----------|--------------------|------|----------|
| OCC/23A/NA5S10 | 10 | 03/05/2023 10:19 | 31/05/2023 09:36 | 671.28 | 1.65 | 35.3 | 18.3 | |
| OCC/23A/NA5S11 | 11 | 03/05/2023 10:20 | 31/05/2023 09:42 | 671.37 | 1.43 | 30.5 | 15.9 | |
| OCC/23A/NA5S12 | 12 | 03/05/2023 10:22 | 31/05/2023 09:45 | 671.38 | 1.48 | 31.6 | 16.4 | |
| OCC/23A/NA5S13 | 13 | 03/05/2023 10:26 | 31/05/2023 10:00 | 671.57 | 0.43 | 9.2 | 4.8 | |
| OCC/23A/NA5S14 | 14 | 03/05/2023 10:26 | 31/05/2023 10:00 | 671.57 | 0.39 | 8.4 | 4.4 | |
| OCC/23A/NA5S15 | 15 | 03/05/2023 10:26 | 31/05/2023 10:00 | 671.57 | 0.47 | 10 | 5.2 | |
| OCC/23A/NA5S16 | 16 | 03/05/2023 10:32 | 31/05/2023 10:07 | 671.58 | 0.84 | 17.8 | 9.3 | |
| OCC/23A/NA5S17 | 17 | 03/05/2023 10:36 | 31/05/2023 10:11 | 671.58 | 1.18 | 25.3 | 13.1 | |
| OCC/23A/NA5S18 | 18 | 03/05/2023 10:38 | 31/05/2023 10:15 | 671.62 | 1.17 | 24.9 | 13 | |





| Sample Number | Site | Date and Time ON | Date and Time OFF | Exposure Time (Hours) | Total µg | µg m ⁻³ | ppb | Comments |
|----------------|------|---------------------|---------------------|-----------------------|----------|--------------------|------|----------|
| OCC/23A/NA5S19 | 19 | | | | | | | Missing |
| OCC/23A/NA5S20 | 20 | 03/05/2023 10:45 | 31/05/2023 10:30 | 671.75 | 0.41 | 8.8 | 4.6 | |
| OCC/23A/NA5S21 | 21 | | | | | | | Missing |
| OCC/23A/NA5S22 | 22 | | | | | | | Missing |
| OCC/23A/NA5S23 | 23 | 03/05/2023 10:55 | 31/05/2023 10:44 | 671.82 | 0.72 | 15.4 | 8 | |
| OCC/23A/NA5S24 | 24 | 03/05/2023 11:00 | 31/05/2023 10:50 | 671.83 | 0.85 | 18.1 | 9.4 | |
| OCC/23A/NA5S25 | 25 | 03/05/2023 11:03 | 31/05/2023 10:56 | 671.88 | 1.28 | 27.4 | 14.3 | |
| OCC/23A/NA5S26 | 26 | 03/05/2023 11:06 | 31/05/2023 10:58 | 671.87 | 1.6 | 34.1 | 17.7 | |
| OCC/23A/NA5S27 | 27 | 03/05/2023 11:10 | 31/05/2023 11:00 | 671.83 | 1.21 | 25.9 | 13.5 | |





| Sample Number | Site | Date and Time ON | Date and Time OFF | Exposure Time (Hours) | Total µg | µg m ⁻³ | ppb | Comments |
|----------------|------|---------------------|---------------------|-----------------------|----------|--------------------|------|----------|
| OCC/23A/NA5S28 | 28 | 03/05/2023 11:13 | 31/05/2023 11:05 | 671.87 | 1.36 | 29 | 15.1 | |
| OCC/23A/NA5S29 | 29 | 03/05/2023 11:17 | 31/05/2023 11:09 | 671.87 | 0.8 | 17.1 | 8.9 | |
| OCC/23A/NA5S30 | 30 | 03/05/2023 11:20 | 31/05/2023 11:11 | 671.85 | 1.36 | 29.1 | 15.1 | |
| OCC/23A/NA5S31 | 31 | 03/05/2023 11:23 | 31/05/2023 11:13 | 671.83 | 0.93 | 19.8 | 10.3 | |
| OCC/23A/NA5S32 | 32 | 03/05/2023 11:25 | 31/05/2023 11:20 | 671.92 | 1.18 | 25.2 | 13.1 | |
| OCC/23A/NA5S33 | 33 | 03/05/2023 11:27 | 31/05/2023 11:25 | 671.97 | 1.61 | 34.3 | 17.8 | |
| OCC/23A/NA5S34 | 34 | 03/05/2023 11:30 | 31/05/2023 11:30 | 672.00 | 1.71 | 36.5 | 19 | |
| OCC/23A/NA5S35 | 35 | 03/05/2023 12:12 | 31/05/2023 12:30 | 672.30 | 1.96 | 41.7 | 21.7 | |
| OCC/23A/NA5S36 | 36 | 03/05/2023 12:15 | 31/05/2023 12:33 | 672.30 | 1.61 | 34.3 | 17.8 | |



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| Sample Number | Site | Date and Time ON | Date and Time OFF | Exposure Time (Hours) | Total µg | µg m ⁻³ | ppb | Comments |
|----------------|------|---------------------|---------------------|-----------------------|----------|--------------------|------|----------|
| OCC/23A/NA5S37 | 37 | 03/05/2023 12:18 | 31/05/2023 12:35 | 672.28 | 1.95 | 41.6 | 21.6 | |
| OCC/23A/NA5S38 | 38 | 03/05/2023 12:25 | 31/05/2023 12:40 | 672.25 | 1.25 | 26.7 | 13.9 | |
| OCC/23A/NA5S39 | 39 | 03/05/2023 12:30 | 31/05/2023 12:42 | 672.20 | 1.17 | 24.9 | 13 | |
| OCC/23A/NA5S40 | 40 | 03/05/2023 12:32 | 31/05/2023 12:48 | 672.27 | 1.14 | 24.3 | 12.6 | |
| OCC/23A/NA5S41 | 41 | 03/05/2023 12:36 | 31/05/2023 12:50 | 672.23 | 1.16 | 24.7 | 12.8 | |
| OCC/23A/NA5S42 | 42 | 03/05/2023 12:40 | 31/05/2023 12:52 | 672.20 | 1.25 | 26.7 | 13.9 | |
| OCC/23A/NA5S43 | 43 | 03/05/2023 12:42 | 31/05/2023 12:55 | 672.22 | 1.24 | 26.5 | 13.8 | |
| OCC/23A/NA5S44 | 44 | 03/05/2023 12:57 | 31/05/2023 13:08 | 672.18 | 1.92 | 41 | 21.3 | |
| OCC/23A/NA5S45 | 45 | 03/05/2023 13:00 | 31/05/2023 13:10 | 672.17 | 1.43 | 30.6 | 15.9 | |





| Sample Number | Site | Date and Time ON | Date and Time OFF | Exposure Time (Hours) | Total µg | µg m ⁻³ | ppb | Comments |
|----------------|------|---------------------|---------------------|-----------------------|----------|--------------------|------|----------|
| OCC/23A/NA5S46 | 46 | 03/05/2023 13:06 | 31/05/2023 13:15 | 672.15 | 1.17 | 25 | 13 | |
| OCC/23A/NA5S47 | 47 | 03/05/2023 13:10 | 31/05/2023 13:17 | 672.12 | 0.76 | 16.1 | 8.4 | |
| OCC/23A/NA5S48 | 48 | 03/05/2023 13:12 | 31/05/2023 13:20 | 672.13 | 1.27 | 27.1 | 14.1 | |
| OCC/23A/NA5S49 | 49 | 03/05/2023 13:14 | 31/05/2023 13:25 | 672.18 | 1.38 | 29.4 | 15.3 | |
| OCC/23A/NA5S50 | 50 | 03/05/2023 13:18 | 31/05/2023 13:30 | 672.20 | 0.74 | 15.8 | 8.2 | |
| OCC/23A/NA5S51 | 51 | | | | | | | Missing |
| OCC/23A/NA5S52 | 52 | 03/05/2023 13:30 | 31/05/2023 13:40 | 672.17 | 0.55 | 11.7 | 6.1 | |
| OCC/23A/NA5S53 | 53 | 03/05/2023 13:40 | 31/05/2023 13:43 | 672.05 | 0.8 | 17.1 | 8.9 | |
| OCC/23A/NA5S54 | 54 | 03/05/2023 13:44 | 31/05/2023 13:45 | 672.02 | 1 | 21.3 | 11.1 | |





| Sample Number | Site | Date and Time ON | Date and Time OFF | Exposure Time (Hours) | Total µg | µg m ⁻³ | ppb | Comments |
|----------------|------|---------------------|---------------------|-----------------------|----------|--------------------|------|----------|
| OCC/23A/NA5S55 | 55 | 03/05/2023 13:46 | 31/05/2023 13:50 | 672.07 | 0.98 | 20.9 | 10.9 | |
| OCC/23A/NA5S56 | 56 | 03/05/2023 13:48 | 31/05/2023 14:00 | 672.20 | 1.38 | 29.3 | 15.2 | |
| OCC/23A/NA5S57 | 57 | 03/05/2023 13:50 | 31/05/2023 14:05 | 672.25 | 0.71 | 15.1 | 7.8 | |
| OCC/23A/NA5S58 | 58 | 03/05/2023 13:52 | 31/05/2023 14:07 | 672.25 | 0.75 | 15.9 | 8.3 | |
| OCC/23A/NA5S59 | 59 | 03/05/2023 14:00 | 31/05/2023 14:09 | 672.15 | 1.25 | 26.8 | 13.9 | |
| OCC/23A/NA5S60 | 60 | 03/05/2023 14:05 | 31/05/2023 14:13 | 672.13 | 0.64 | 13.7 | 7.1 | |
| OCC/23A/NA5S61 | 61 | 03/05/2023 13:55 | 31/05/2023 14:10 | 672.25 | 1.97 | 42.1 | 21.9 | |
| OCC/23A/NA5S62 | 62 | 03/05/2023 13:55 | 31/05/2023 14:10 | 672.25 | 2.06 | 43.9 | 22.8 | |
| OCC/23A/NA5S63 | 63 | 03/05/2023 13:55 | 31/05/2023 14:10 | 672.25 | 1.72 | 36.7 | 19.1 | |



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| Sample Number | Site | Date and Time ON | Date and Time OFF | Exposure Time (Hours) | Total µg | µg m ⁻³ | ppb | Comments |
|----------------|------|---------------------|---------------------|-----------------------|----------|--------------------|------|----------|
| OCC/23A/NA5S64 | 64 | 03/05/2023 14:12 | 31/05/2023 14:20 | 672.13 | 1.23 | 26.2 | 13.6 | |
| OCC/23A/NA5S65 | 65 | 03/05/2023 14:13 | 31/05/2023 14:22 | 672.15 | 1.09 | 23.2 | 12 | |
| OCC/23A/NA5S66 | 66 | 03/05/2023 14:16 | 31/05/2023 14:25 | 672.15 | 0.68 | 14.5 | 7.5 | |
| OCC/23A/NA5S67 | 67 | 03/05/2023 14:18 | 31/05/2023 14:27 | 672.15 | 1.43 | 30.5 | 15.9 | |
| OCC/23A/NA5S68 | 68 | 03/05/2023 14:19 | 31/05/2023 14:30 | 672.18 | 1.22 | 25.9 | 13.5 | |
| OCC/23A/NA5S69 | 69 | | | | | | | Missing |
| OCC/23A/NA5S70 | 70 | 03/05/2023 14:22 | 31/05/2023 14:37 | 672.25 | 0.82 | 17.5 | 9.1 | |
| OCC/23A/NA5S71 | 71 | 03/05/2023 14:25 | 31/05/2023 14:38 | 672.22 | 1.19 | 25.4 | 13.2 | |
| OCC/23A/NA5S72 | 72 | 03/05/2023 14:28 | 31/05/2023 14:40 | 672.20 | 0.94 | 20.1 | 10.5 | |





| Sample Number | Site | Date and Time ON | Date and Time OFF | Exposure Time (Hours) | Total µg | µg m ⁻³ | ppb | Comments |
|----------------|------|---------------------|---------------------|-----------------------|----------|--------------------|------|---------------|
| OCC/23A/NA5S73 | 73 | 03/05/2023 14:30 | 31/05/2023 14:42 | 672.20 | 1.4 | 29.9 | 15.5 | |
| OCC/23A/NA5S74 | 74 | 03/05/2023 14:32 | 31/05/2023 14:44 | 672.20 | 1.04 | 22.2 | 11.5 | |
| OCC/23A/NA5S75 | 75 | 03/05/2023 14:35 | 31/05/2023 14:45 | 672.17 | 1.03 | 22 | 11.5 | |
| OCC/23A/NA5S76 | 76 | 03/05/2023 14:10 | 31/05/2023 14:17 | 672.12 | 0.67 | 14.4 | 7.5 | |
| OCC/23A/NA5S77 | 77 | 03/05/2023 14:08 | 31/05/2023 14:15 | 672.12 | 0.2 | 4.3 | 2.2 | Water in tube |
| | | | | | | | | |

