

# **Appendix A14.3 Baseline Ambient Air Quality Report 2016**





## **CONTENTS**

1.0.	Scope	3
2.0.	Methodology	3
3.0.	Survey Results	4

#### **Attachments**

Figure 1 – 6 Maps showing Air Quality Monitoring Locations

**Laboratory Analysis Reports** 

**Field Observation Records for Odour Assessments** 







#### 1.0 Scope

This report presents the results of a survey of ambient air quality at various locations in Dublin associated with the Greater Dublin Drainage Orbital Sewer and Wastewater Treatment Plant Project.

#### 2.0 Methodology

The survey was conducted by TMS Environment Ltd personnel during the period January – March 2016. The surveys included the following:

- Diffusion tube surveys for determination of ambient levels of nitrogen dioxide (NO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>), benzene, toluene, ethylbenzene and xylenes (BTEX);
- Subjective assessments of odour at all monitoring locations where diffusion tube monitoring was undertaken.

Diffusion tubes were used for the determination of ambient levels of nitrogen dioxide (NO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>), benzene, toluene, ethylbenzene and xylenes (BTEX) at 12 locations in accordance with standard methodologies including UK DEFRA Technical Guidance LAQM TG(09).

The levels of ambient BTEX, nitrogen dioxide  $(NO_2)$  and nitrogen oxides  $(NO_x)$  were measured by positioning diffusion tubes at strategic locations for a period of approximately 28 days. The selection of sampling point locations was determined by the location of the proposed site taking in to account the surrounding area, with respect to the location of the samplers relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. After the exposure period was complete, the diffusion tubes were removed from the site; the diffusion tubes were analysed using ultraviolet-visible spectrophotometry to determine the levels of  $NO_2$  and  $NO_x$  and gas chromatography (GC) with flame ionisation detection (FID) analysis for BTEX. The locations of the tubes are marked as AQ1 - AQ12 on the attached maps in Figures 1 - 6.

The monitoring personnel also carried out subjective olfactometric assessments at the same locations during the measurement events. The methodology conformed to the general guidance issued by the EPA in the Guidance Note "Air Guidance Note 5 (AG5): Odour Impact Assessment Guidance for EPA Licensed Sites". This Guidance offers a systematic and consistent approach to the assessment of odours on and in the local area of facilities and installations that are licensed by the Agency. While the study is aimed at establishing baseline ambient air quality as opposed to examining the air quality impact of a licenced facility, the use of this best-practice Guidance demonstrates the robust assessment procedures adopted for the study.

#### 3.0 Survey results

The measurement results are presented in Tables 1 - 3. The detailed laboratory analysis results are presented in the attached Laboratory Analysis Reports and the Field Record Sheets for the Odour Assessments.







Table 14.3.1: Monitoring results for  $NO_2$  and  $NO_x$ 

Monitoring Location	Monitoring dates	NO₂ μg/m⁻³	NO <sub>x</sub> μg/m <sup>-3</sup>
AQ1 St. Francis Hospice, Connolly Hospital. North of proposed pumping station	12/01/2016 to 12/02/2016	18.3	21.6
AQ2 Elm Green Nursing Home, Southeast of proposed pumping station	12/01/2016 to 12/02/2016	26.3	38.6
AQ3 St. Michael's House, south of proposed WwTP	12/01/2016 to 12/02/2016	22.5	23.9
AQ4 In the vicinity of the proposed WwTP site	02/02/2016 to 01/03/2016	25.5	28.1
AG5 In the vicinity of the proposed WwTP site	12/01/2016 to 12/02/2016	14.6	17.4
AQ6 In the vicinity of the proposed WwTP site	12/01/2016 to 12/02/2016	18.3	26.0
AQ7 In the vicinity of the proposed WwTP site	02/02/2016 to 01/03/2016	21.0	20.3
AQ8 In the vicinity of the proposed WwTP site	02/02/2016 to 01/03/2016	25.9	25.6
AQ9 In the vicinity of the proposed WwTP site	02/02/2016 to 01/03/2016	24.5	51.3
AQ10 In the vicinity of the proposed WwTP site	02/02/2016 to 01/03/2016	21.5	23.8
AQ11 Grange	12/01/2016 to 12/02/2016	12.9	16.5
AQ12 Grange	12/01/2016 to 12/02/2016	20.1	21.1









Table 14.3.2: Monitoring results for BTEX

Monitoring Location	Benzene µg/m <sup>-3</sup>	Toluene μg/m <sup>·3</sup>	Ethylbenzene µg/m <sup>-3</sup>	m-, p-xylene µg/m <sup>-3</sup>	o-Xylene µg/m <sup>-3</sup>
AQ1	< 0.19	13.6	< 0.24	< 0.24	< 0.24
AQ2	0.68	1.66	0.28	0.94	0.32
AQ3	0.59	0.96	< 0.25	0.48	< 0.25
AQ4	< 0.21	0.32	< 0.27	0.30	< 0.27
AG5	0.59	1.38	< 0.25	0.38	< 0.25
AQ6	0.43	0.77	< 0.25	0.44	< 0.25
AQ7	0.59	2.81	0.36	1.08	0.34
AQ8	0.59	2.12	0.28	0.98	0.30
AQ9	0.71	2.99	0.34	1.01	0.31
AQ10	0.48	0.83	< 0.27	0.73	< 0.27
AQ11	0.45	0.78	< 0.25	0.36	< 0.25
AQ12	0.80	1.11	< 0.25	0.79	0.25

NOTE AQ1, AQ2, AQ3, AQ5, AQ6, AQ11, AQ12 monitoring was undertaken from 12 January to 12 February 2016 AQ4, AQ7, AQ8, AQ9, AQ10 monitoring was undertaken from 2 February to 1 March 2016





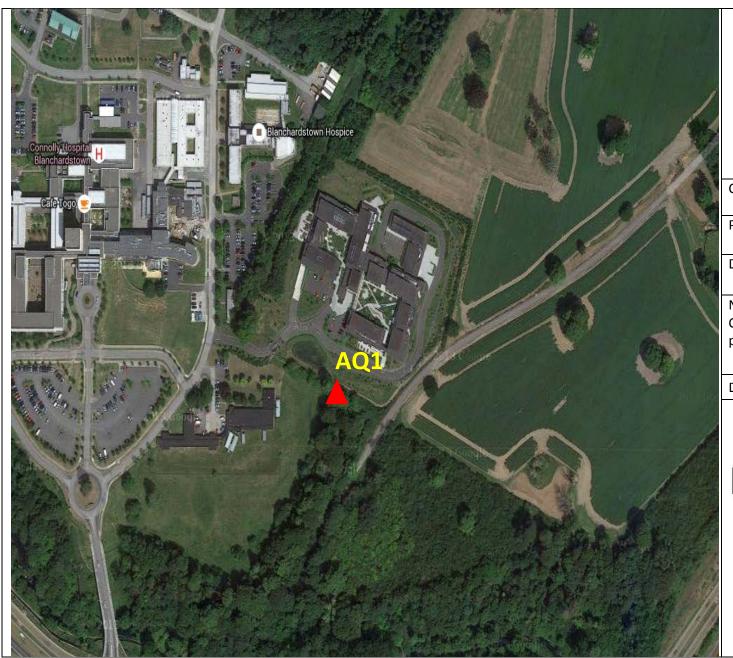


 Table 3
 Baseline Odour assessments

Monitoring Location	Monitoring dates	Odour rating	Description
AQ1 St. Francis Hospice, Connolly Hospital. North of proposed pumping station	02/02/2016 01/03/2016	0	None detected
AQ2 Elm Green Nursing Home, Southeast of proposed pumping station	02/02/2016 01/03/2016	0	None detected
AQ3 St. Michael's House, south of proposed WwTP	02/02/2016 01/03/2016	0	None detected
AQ4 In the vicinity of the proposed WwTP site	02/02/2016 01/03/2016	0	None detected
AG5 In the vicinity of the proposed WwTP site	02/02/2016 01/03/2016	0	None detected
AQ6 In the vicinity of the proposed WwTP site	02/02/2016 01/03/2016	0	None detected
AQ7 In the vicinity of the proposed WwTP site	02/02/2016 01/03/2016	0	None detected
AQ8 In the vicinity of the proposed WwTP site	02/02/2016 01/03/2016	0	None detected
AQ9 In the vicinity of the proposed WwTP site	02/02/2016 01/03/2016	0	None detected
AQ10 In the vicinity of the proposed WwTP site	02/02/2016 01/03/2016	0	None detected
AQ11 Grange	02/02/2016 01/03/2016	0	None detected
AQ12 Grange	02/02/2016 01/03/2016	0	None detected

NOTE Odour rating: 0 = No odour, 1 = Faint odour, 2 = Moderate odour, 3 = Strong odour, 4 = Very strong







Project Ref: 24396

Drawing Title: AQ1

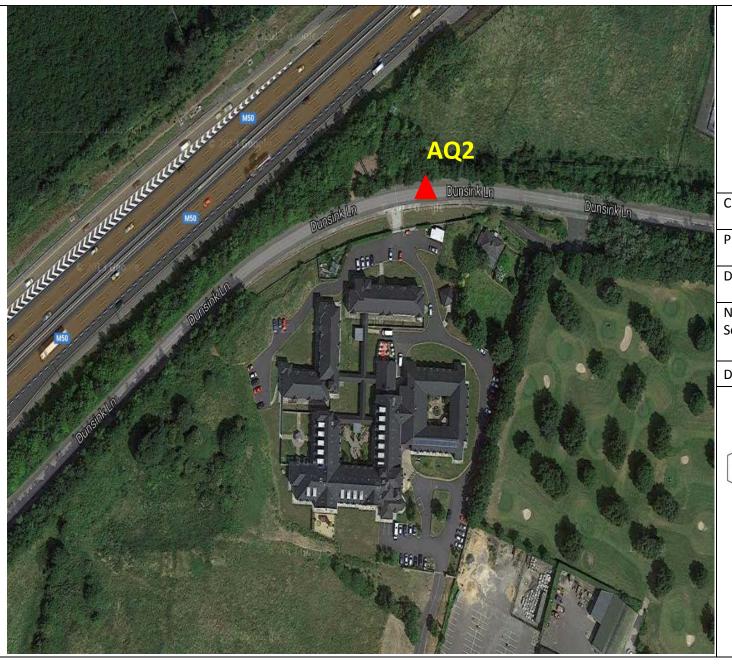
Notes: St. Francis's Hospice, Connolly Hospital. North of proposed pumping station

Date: 02 Mar 2016 Drawn: MK



# environment ltd

53 Broomhill Drive, Tallaght. Dublin 24





Project Ref: 24396

Drawing Title: AQ2

Notes: Elm Green Nursing Home, South of proposed pumping station

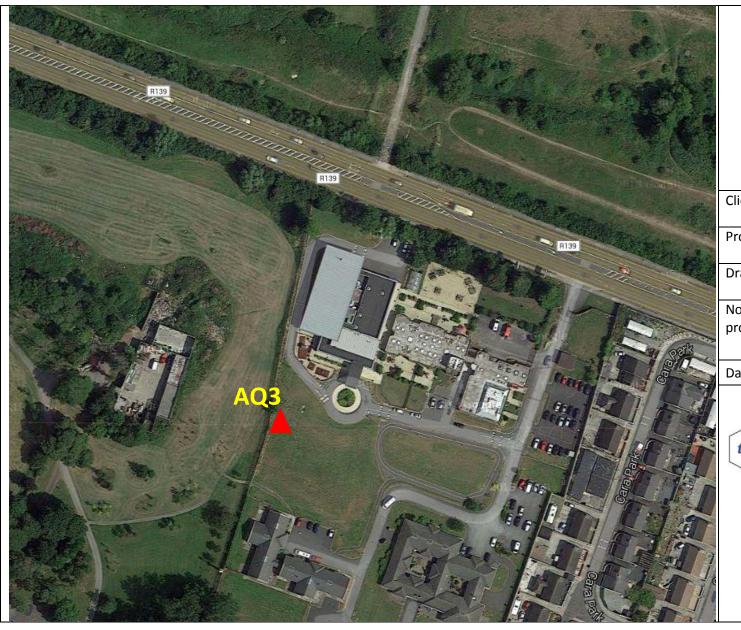
Date: 02 Mar 2016

Drawn: MK



# environment ltd

53 Broomhill Drive, Tallaght. Dublin 24





Project Ref: 24396

Drawing Title: AQ3

Notes: St. Michael's House, south of

proposed WWTP

Date:02 Mar 2016

Drawn:MK



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Project Ref: 24396

Drawing Title: AQ4, AQ5, AQ7, AQ8,

AQ9, AQ10

Notes: Boundary of proposed

WWTP site

Date:02 Mar 2016

Drawn:MK



## environment ltd

53 Broomhill Drive, Tallaght. Dublin 24





Project Ref: 24396

Drawing Title: AQ6

Notes: East of proposed WWTP

Date:02 Mar 2016

Drawn:MK



## environment ltd

53 Broomhill Drive, Tallaght. Dublin 24





Project Ref: 24396

Drawing Title: AQ11 & AQ12

Notes: Grange

Date: 02 Mar 2016

Drawn:MK



## environment ltd.

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DTEV



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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

#### LABORATORY ANALYSIS REPORT

DETERMINATION OF AMBIENT AIR VOLATILE ORGANIC COMPOUNDS IN DIFFUSION TUBES
BY THERMAL DESORPTION / GAS CHROMATOGRAPHY

Report number K01732R
Booking in reference no X5498
Despatch note no SOR27036

**Customer** TMS Environmental

53 Broomhill Drive, Tallaght

Dublin 24 Ireland

Date samples received 07/03/2016

Job Reference 22918

							BIEX		
Location	Tube no	Date exposed	Date finished	Exposure hours	Benzene	Toluene	Ethyl Benzene	<i>mp</i> - Xylene	<i>o</i> - Xylene
						I	ng on Tube		
AQ1	GRA10944	12/01/2016	12/02/2016	744.25	<5.00	340.53	<5.00	<5.00	<5.00
AQ2	GRA11087	12/01/2016	12/02/2016	743.17	18.06	41.52	5.80	19.09	6.59
AQ3	GRA11154	12/01/2016	12/02/2016	741.83	15.49	24.10	< 5.00	9.78	< 5.00
AQ5	GRA06546	12/01/2016	12/02/2016	741.00	15.45	34.46	< 5.00	7.66	< 5.00
AQ6	GRA11193	12/01/2016	12/02/2016	739.50	11.26	19.26	< 5.00	9.03	< 5.00
AQ11	GRA11099	12/01/2016	12/02/2016	738.67	11.84	19.57	< 5.00	7.33	< 5.00
AQ12	GRA11049	12/01/2016	12/02/2016	737.67	20.96	27.53	< 5.00	15.93	5.10
AQ7	GRA11545	02/02/2016	01/03/2016	672.40	14.01	63.66	6.58	19.98	6.26
AQ8	GRA11105	02/02/2016	01/03/2016	672.42	14.08	48.08	5.23	18.13	5.63
AQ9	GRA11696	02/02/2016	01/03/2016	672.42	16.87	67.79	6.29	18.65	5.75
AQ10	GRA10946	02/02/2016	01/03/2016	672.42	11.54	18.90	< 5.00	13.55	< 5.00
AQ4	GRA11631	02/02/2016	01/03/2016	672.33	< 5.00	7.37	< 5.00	5.52	< 5.00
Blank	GRA11086	12/01/2016	12/02/2016	744.00	1.89	8.02	0.75	1.39	0.72
Lab blank	GRA08446				2.397	2.297	0.469	1.347	1.966

(RESULTS ARE BLANK CORRECTED)
Tube Type Carbograph 1TD

**COMMENTS:** 

Results below 5.0ng on tube are below the reporting limit.

Customer blank was high. Laboratory blank used for blank correction.

Customer blank was not lab blank substracted.

Overall M.U. ±9.1% Reporting Limit 5ng on tube

Analyst name M. Witek

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the 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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## LABORATORY ANALYSIS REPORT

**Date of analysis** 18/03/2016 **Date of report** 21/03/2016

The analysis has been carried out in accordance with in-house method GLM4

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the 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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## LABORATORY ANALYSIS REPORT

DETERMINATION OF AMBIENT AIR VOLATILE ORGANIC COMPOUNDS IN DIFFUSION TUBES
BY THERMAL DESORPTION / GAS CHROMATOGRAPHY

Report number K01732R1
Booking in reference no X5498
Despatch note no SOR27036

**Customer** TMS Environmental

53 Broomhill Drive, Tallaght

Dublin 24 Ireland

Date samples received 07/03/2016

Job Reference 22918

							BTEX		
Location	Tube no	Date exposed	Date finished	Exposure hours	Benzene	Toluene	Ethyl Benzene	<i>mp</i> - Xylene	<i>o</i> - Xylene
					Values F	Reported in	Parts per Bil	llion (p.p.b.)	) in Air *
AQ1	GRA10944	12/01/2016	12/02/2016	744.25	<0.06	3.68	<0.06	<0.06	<0.06
AQ2	GRA11087	12/01/2016	12/02/2016	743.17	0.22	0.45	0.07	0.22	0.08
AQ3	GRA11154	12/01/2016	12/02/2016	741.83	0.19	0.26	< 0.06	0.11	< 0.06
AQ5	GRA06546	12/01/2016	12/02/2016	741.00	0.19	0.37	< 0.06	0.09	< 0.06
AQ6	GRA11193	12/01/2016	12/02/2016	739.50	0.14	0.21	< 0.06	0.10	< 0.06
AQ11	GRA11099	12/01/2016	12/02/2016	738.67	0.14	0.21	< 0.06	0.09	< 0.06
AQ12	GRA11049	12/01/2016	12/02/2016	737.67	0.26	0.30	< 0.06	0.19	0.06
AQ7	GRA11545	02/02/2016	01/03/2016	672.40	0.19	0.76	0.08	0.26	0.08
AQ8	GRA11105	02/02/2016	01/03/2016	672.42	0.19	0.58	0.07	0.23	0.07
AQ9	GRA11696	02/02/2016	01/03/2016	672.42	0.23	0.81	0.08	0.24	0.07
AQ10	GRA10946	02/02/2016	01/03/2016	672.42	0.15	0.23	< 0.06	0.17	< 0.06
AQ4	GRA11631	02/02/2016	01/03/2016	672.33	< 0.07	0.09	< 0.06	0.07	< 0.06
Blank	GRA11086	12/01/2016	12/02/2016	744.00	0.02	0.09	0.01	0.02	0.01
Blank	GRA08446			744.00	0.03	0.02	0.01	0.02	0.02

#### (RESULTS ARE BLANK CORRECTED)

**Tube Type Carbograph 1TD** 

**COMMENTS:** 

Results indicated with < are below the reporting limit calculated for time exposed.

Customer blank was high. Laboratory blank used for blank correction.

Customer blank was not lab blank substracted.

Uptake rates (ng.ppm<sup>-1</sup>min<sup>-1</sup>

Weeks exposed 4 1) 1.85 2.07 1.94 1.94 1.94

**Overall M.U.**  $\pm 9.1\%$  **Reporting Limit** 5ng on tube

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the 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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## LABORATORY ANALYSIS REPORT

Analyst name

M. Witek

Date of analysis 18/03/2016

Date of report

21/03/2016

The analysis has been carried out in accordance with in-house method GLM4

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the 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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Page 4 of 6

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#### LABORATORY ANALYSIS REPORT

DETERMINATION OF AMBIENT AIR VOLATILE ORGANIC COMPOUNDS IN DIFFUSION TUBES
BY THERMAL DESORPTION / GAS CHROMATOGRAPHY

Report number K01732R2

Booking in reference no X5498

Despatch note no SOR27036

**Customer** TMS Environmental

53 Broomhill Drive, Tallaght

Dublin 24

Ireland

Date samples received 07/03/2016

Job Reference 22918

							BIEX		
Location	Tube no	Date exposed	Date finished	Exposure hours	Benzene	Toluene	Ethyl Benzene	<i>mp</i> - Xylene	<i>o</i> - Xylene
					,	Values Rep	orted in µgm	<sup>-3</sup> in Air *	
AQ1	GRA10944	12/01/2016	12/02/2016	744.25	<0.19	13.56	<0.24	<0.24	<0.24
AQ2	GRA11087	12/01/2016	12/02/2016	743.17	0.68	1.66	0.28	0.94	0.32
AQ3	GRA11154	12/01/2016	12/02/2016	741.83	0.59	0.96	< 0.25	0.48	< 0.25
AQ5	GRA06546	12/01/2016	12/02/2016	741.00	0.59	1.38	< 0.25	0.38	< 0.25
AQ6	GRA11193	12/01/2016	12/02/2016	739.50	0.43	0.77	< 0.25	0.44	< 0.25
AQ11	GRA11099	12/01/2016	12/02/2016	738.67	0.45	0.78	< 0.25	0.36	< 0.25
AQ12	GRA11049	12/01/2016	12/02/2016	737.67	0.80	1.11	< 0.25	0.79	0.25
AQ7	GRA11545	02/02/2016	01/03/2016	672.40	0.59	2.81	0.36	1.08	0.34
AQ8	GRA11105	02/02/2016	01/03/2016	672.42	0.59	2.12	0.28	0.98	0.30
AQ9	GRA11696	02/02/2016	01/03/2016	672.42	0.71	2.99	0.34	1.01	0.31
AQ10	GRA10946	02/02/2016	01/03/2016	672.42	0.48	0.83	< 0.27	0.73	< 0.27
AQ4	GRA11631	02/02/2016	01/03/2016	672.33	< 0.21	0.32	< 0.27	0.30	< 0.27
Blank	GRA11086	12/01/2016	12/02/2016	744.00	0.07	0.32	0.04	0.07	0.04
Lab blank	GRA08446			744.25	0.09	0.09	0.02	0.07	0.10

#### (RESULTS ARE BLANK CORRECTED)

**Tube Type Carbograph 1TD** 

**COMMENTS:** 

Results indicated with < are below the reporting limit calculated for time exposed.

Customer blank was high. Laboratory blank used for blank correction.

Customer blank was not lab blank substracted.

Weeks exposed 4 Uptake rates (ng.ppm<sup>-1</sup>min<sup>-1</sup>) 1.85 2.07 1.94 1.94

Overall M.U. ±9.1% Reporting Limit 5ng on tube

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the 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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Page 5 of 6

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## LABORATORY ANALYSIS REPORT

Analyst name

M. Witek

Date of analysis

18/03/2016

Date of report

21/03/2016

The analysis has been carried out in accordance with in-house method GLM4

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the 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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Page 6 of 6

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## LABORATORY ANALYSIS REPORT

NITROGEN DIOXIDE IN DIFFUSION TUBES BY U.V.SPECTROPHOTOMETRY

**REPORT NUMBER X5502R** 

**BOOKING REFERENCE No X5502** 

**DESPATCH NOTE No SOR27036** 

**CUSTOMER** TMS Environmental

53 Broomhill Drive, Tallaght

Dublin 24, Ireland

JOB REFERENCE 22918

			Exposu	re Data		$NO_2$	$NO_X$	NO	$NO_2$	$NO_X$	NO	TOTAL	TOTAL
$NO_2$	<b>Tube Numbe</b>	r NO <sub>x</sub>	Date On	Date Off	Time (hr.)	ppb *	ppb *	ppb * *	μg/m <sup>3</sup> *	μg/m³ *	μg/m³ * <del>*</del>	$\mu$ G NO <sub>2</sub>	μG NOx
66150	9 AQ1	661519	12/01/2016	12/02/2016	744.25	9.56	11.29	1.73	18.32	21.63	3.31	0.99	1.17
66150	8 AQ2	661520	12/01/2016	12/02/2016	743.17	13.75	20.16	6.41	26.35	38.62	12.27	1.42	2.09
66150	7 AQ3	661521	12/01/2016	12/02/2016	741.83	11.74	12.48	0.74	22.50	23.91	1.41	1.21	1.29
66150	6 AQ5	661522	12/01/2016	12/02/2016	741.00	7.62	9.07	1.45	14.59	17.38	2.79	0.79	0.94
66150	5 AQ6	661526	12/01/2016	12/02/2016	739.50	9.57	13.59	4.02	18.33	26.03	7.70	0.99	1.40
661504	AQ11	661523	12/01/2016	12/02/2016	738.58	6.73	8.61	1.89	12.89	16.51	3.61	0.69	0.89
661503	3 AQ12	661525	12/01/2016	12/02/2016	737.50	10.49	11.03	0.55	20.09	21.14	1.04	1.08	1.13
661502	Travel blanks	661524			744.25	0.15	2.48	2.33	0.30	4.75	4.46	0.02	0.26
661510	) Q7	661518	02/02/2016	01/03/2016	672.40	10.98	10.58		21.04	20.28		1.03	0.99
661511	Q8	661517	02/02/2016	01/03/2016	672.42	13.52	13.36		25.90	25.60		1.27	1.25
661516	Q9	661531	02/02/2016	01/03/2016	672.42	12.76	26.79	14.03	24.45	51.34	26.89	1.20	2.51

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the 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.

Form LQF32c Issue 6 – February 2015

Report number X5502R

Page 1 of 2

Gradko International Ltd
This signature confirms the authenticity of these results

L. Gates, Laboratory Manager

REPORT OFFICIALLY CHECKED





(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

#### LABORATORY ANALYSIS REPORT

661515	Q10	661530	02/02/2016	01/03/2016	672.42	11.25	12.41	1.16	21.55	23.78	2.23	1.05	1.16
661514	Q4	661529	02/02/2016	01/03/2016	672.33	13.33	14.68	1.35	25.54	28.12	2.58	1.25	1.37
L	_ab Blank	S			744.25	0.12	0.17	0.06	0.22	0.33	0.11	0.012	0.018

Comment: Results are not blank subtracted

Where nitric oxide (NO) results have not been calculated result for NOX was lower than result for NO2.

\*NO results are derived by subtracting NO2 from NOx.

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

Overall M.O.U. 5.2% +/- Limit of Detection 0.029ug NOx, 0.01ug NO2 on tube

Tube Preparation: 20%TEA/Water Analysed on UVS05 Camspec M550

Analyst Name C. Fraser

**Date of Analysis** 17/03/2016 **Date of Report** 17/03/2016

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

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the 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 X5502R

REPORT OFFICIALLY CHECKED

# **Odour Investigation Field Record Sheet**

General	Your Reference	Site License No.	Assessme	nt by			Date of Assessment	
	22918	N/A		e: Martin Kearns estigator(s) present)	·		02 Feb 2016	
Pre-Assessment Preparation	Observer is free from medical conditions (cold sore throat, sinus trouble?)	Observer abstinence (30 min) from smoking, flavoured drinks, scented toiletries and deodorizers?		dour assessment- erification; routine; y)	Map- Has a map showing assessment locations been attached?	Weather Conditions Note 3 (record wind info on page 2):		
Pre Pr	Yes	Yes	Baseline		Yes	Dry, cool		
n these notes defing the field overleaf)	Note 1: Observation potential of them 0)  1 Remote (no housing, commercial/ind 2 Low sensitivity (no housing, commer 3 Moderate sensitivity (housing, commercial of the sensitivity (housing, commercial 5 Extra sensitive (complaints arising from the sensitivity (housing).	r Conditions sently, drizzle, raining, foggy rm, hot Persistence letected intermittently during per ected throughout the period of as						
Notes (the ranking systems in these notes must be used when completing the field observations table overleaf)	Note 2: Wind Streng  Calm Light air Light breeze Gentle breeze Moderate breeze Fresh breeze Fresh breeze Krong breeze Near gale Gale Strong gale	smoke rises vertically Direction of wind shown by smoke drift, but not win Wind felt on face; leaves rustle, ordinary vane moved Leaves and small twigs in constant motion Raises dust and loose paper; small branches are move Small trees in leaf begin to sway Large branches in motion; umbrellas used with diffic Whole trees in motion; inconvenience felt when walk Twigs break off trees; progress generally impeded Slight structural damage occurs (chimney pots and s	by wind  d  rulty against the wind  ing against the wind	Note 5: Intensity  No Detectable Odour Faint Odour (barely detectable, need to stand still and inhale facing into wind) Moderate Odour (easily detectable while walking and breathing normally) Strong Odour (bearable but offensive – might make clothes/ hair smell Very Strong (unbearable, difficult to remain in area affected by odour)				
(Áa	Start time: 09:46  Finish time:	Do any of the odours experienced in character those recorded during survey?  Yes  Potential on-site sources identified	on-site match the off-site	List areas Inspected  Designted location	on-site during t assessment?  Minimal agric	activities were occurring he off-site odour ultural activity – vesting cabbages		
Odour Source Investigation (Post Odour Survey)	18:55	N/A						

	Observer location	n	Wind (nd= not detectable)		ctable )	Time		Odour Rating		Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ1	1	w	uw	3	14:15	5	0	0	No odour detected
	AQ1	1	w	UW	2	16:25	5	0	0	No odour detected
suo	AQ1	1	w	uw	2	18:15	5	0	0	No odour detected
Field observations										
ld obs										
i i i										
	neating with local reside									

	Observer location	n	Wind (1	nd= not dete	ctable )	Time		Odour Rating		Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ2	2	w	DW	2	14:25	5	0	0	No odour detected
	AQ2	2	w	DW	2	16:40	5	0	0	No odour detected
suo	AQ2	2	W	DW	2	18:30	5	0	0	No odour detected
Field observations										
ld obs										
i i i										
	neating with local reside									

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ3	1	w	DW	2	13:55	5	0	0	No odour detected
	AQ3	1	w	DW	2	16:00	5	0	0	No odour detected
suo	AQ3	1	W	DW	2	17:50	5	0	0	No odour detected
Field observations										
sqo pla										
<b>3</b> .										
		_								

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ4	1	w	DW	2	10:45	5	0	0	No odour detected
	AQ4	1	w	DW	2	12:00	5	0	0	No odour detected
suo	AQ4	1	w	DW	2	13:10	5	0	0	No odour detected
Field observations										
eld obs										
i i i										
	meeting with local reside									

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ5	1	w	DW	2	14:55	5	0	0	No odour detected
	AQ5	1	w	DW	2	16:55	5	0	0	No odour detected
suo	AQ5	1	w	DW	2	18:55	5	0	0	No odour detected
Field observations										
ld obs										
i i i										
	neating with local reside									

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ6	1	w	DW	3	13:20	5	0	0	No odour detected
	AQ6	1	w	DW	2	15:15	5	0	0	No odour detected
suo	AQ6	1	W	DW	2	17:10	5	0	0	No odour detected
Field observations										
eld obs										
<b>E</b>										
	meeting with local reside									

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ7	3	W	DW	3	09:46	5	0	0	No odour detected
	AQ7	3	W	DW	2	10:55	5	0	0	No odour detected
suo	AQ7	3	W	DW	2	12:10	5	0	0	No odour detected
Field observations	meeting with local reside									

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ8	2	w	UW	2	10:00	5	0	0	No odour detected
	AQ8	2	w	uw	2	11:10	5	0	0	No odour detected
suo	AQ8	2	W	uw	2	12:25	5	0	0	No odour detected
Field observations										
opsq pla										
Fie										

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ9	2	w	uw	2	10:15	5	0	0	No odour detected
	AQ9	2	w	UW	2	11:25	5	0	0	No odour detected
suo	AQ9	2	w	uw	2	12:40	5	0	0	No odour detected
Field observations										
eld obs										
i i i										
	neating with local reside									

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ10	1	w	DW	2	10:30	5	0	0	No odour detected
	AQ10	1	w	DW	2	11:45	5	0	0	No odour detected
suo	AQ10	1	w	DW	2	12:55	5	0	0	No odour detected
Field observations										
sqo pla										
Fig.										
	meeting with local reside									

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ11	2	w	DW	3	13:35	5	0	0	No odour detected
	AQ11	2	w	DW	2	15:30	5	0	0	No odour detected
ons	AQ11	2	w	DW	2	17:25	5	0	0	No odour detected
Field observations										
ld obs										
<b>1 3 3</b>										
	meeting with local reside									

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ12	2	w	uw	3	13:45	5	0	0	No odour detected
	AQ12	2	w	uw	2	15:45	5	0	0	No odour detected
suo	AQ12	2	w	uw	2	17:40	5	0	0	No odour detected
Field observations										
sqo pla										
Fig										
	meeting with local reside									

# **Odour Investigation Field Record Sheet**

General	Your Reference	Site License No.			Date of Assessment		
	22918	N/A		e: Martin Kearns estigator(s) present)	·		01 Mar 2016
Pre-Assessment Preparation	Observer is free from medical conditions (cold sore throat, sinus trouble?)	Observer abstinence (30 min) from smoking, flavoured drinks, scented toiletries and deodorizers?		odour assessment- erification; routine; y)	Map- Has a map showing assessment locations been attached?	Weather Condi (record wind in	
Pre Pr	Yes	Yes	Baseline		Yes	Damp, cool	
in these notes pleting the field overleaf)	then 0) 1 Remote (no housing, commercial/ind 2 Low sensitivity (no housing, commer 3 Moderate sensitivity (housing, commer 4 High sensitivity (housing, commercia 5 Extra sensitive (complaints arising fro	Dint Sensitivity (assuming detect ustrial premises or public area within 500m of observational/industrial premises or public area within 100m of ol ercial/industrial premises or public area within 100m of 1/industrial premises or public area within area of observom residents, business and users of public areas within a	on point) bservation point) observation point) vation point)		eently, drizzle, raining, foggy rm, hot  Persistence  letected intermittently during per		
Notes (the ranking systems in these notes must be used when completing the field observations table overleaf)	Note 2: Wind Strength    Calm   Simple fire fire fire fire fire fire fire fir						
urce tion Survey)	Start time: 08:00  Finish time: 18:05	Start time:   Do any of the odours experienced on-site match in character those recorded during the off-site survey?   Yes   Designted locations (AQ1-AQ12)					
Odour Source Investigation (Post Odour Survey)		N/A					

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ7	3	W	DW	2	08:00	5	0	0	No odour detected
	AQ7	3	W	DW	2	09:05	5	0	0	No odour detected
ions	AQ7	3	W	DW	3	10:10	5	0	0	No odour detected
Field observations	meeting with local reside									

	Observer location	n	Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ8	2	w	uw	2	08:15	5	0	0	No odour detected
	AQ8	2	w	UW	2	09:20	5	0	0	No odour detected
suo	AQ8	2	w	uw	1	10:25	5	0	0	No odour detected
Field observations										
sqo pla										
Fic										

	Observer location	n	Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ9	2	w	UW	2	08:30	5	0	0	No odour detected
	AQ9	2	w	uw	2	09:35	5	0	0	No odour detected
suo	AQ9	2	w	uw	1	10:40	5	0	0	No odour detected
Field observations										
sqo pla										
Fie										

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rating		Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ10	1	w	DW	2	08:45	5	0	0	No odour detected
	AQ10	1	w	DW	2	09:50	5	0	0	No odour detected
suo	AQ10	1	w	DW	3	10:55	5	0	0	No odour detected
Field observations										
sqo pla										
Fie										
	meeting with local reside									

	Observer location	n	Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ4	1	w	DW	2	08:55	5	0	0	No odour detected
	AQ4	1	w	DW	2	10:00	5	0	0	No odour detected
suo	AQ4	1	w	DW	3	11:05	5	0	0	No odour detected
Field observations										
sqo pla										
E E										
	meeting with local reside									

	Observer location	n	Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ6	1	w	DW	1	11:30	5	0	0	No odour detected
	AQ6	1	w	DW	2	13:35	5	0	0	No odour detected
suo	AQ6	1	w	DW	3	15:50	5	0	0	No odour detected
Field observations										
eld obs										
i i i										
	neating with local reside									

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rating		Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ11	2	w	DW	1	11:50	5	0	0	No odour detected
	AQ11	2	w	DW	2	13:55	5	0	0	No odour detected
ons	AQ11	2	w	DW	2	16:10	5	0	0	No odour detected
Field observations										
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i i i										
	neating with local reside									

	Observer location	n	Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ12	2	w	uw	3	12:00	5	0	0	No odour detected
	AQ12	2	w	uw	2	14:10	5	0	0	No odour detected
ons	AQ12	2	w	uw	3	16:25	5	0	0	No odour detected
Field observations										
eld obs										
Į Š										
	neating with local reside									

	Observer location	n	Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ3	1	w	DW	3	12:10	5	0	0	No odour detected
	AQ3	1	w	DW	2	14:20	5	0	0	No odour detected
suo	AQ3	1	w	DW	3	16:40	5	0	0	No odour detected
Field observations										
ld obs										
i i i										
	meeting with local reside									

	Observer location	n	Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ1	1	w	uw	3	12:30	5	0	0	No odour detected
	AQ1	1	w	UW	2	14:40	5	0	0	No odour detected
suo	AQ1	1	w	uw	3	17:00	5	0	0	No odour detected
Field observations										
ld obs										
i i i										
	neating with local reside									

	Observer location	n	Wind (1	nd= not dete	ctable )	Time		Odour Rat	ing	Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ2	2	w	DW	3	12:50	5	0	0	No odour detected
	AQ2	2	w	DW	2	15:00	5	0	0	No odour detected
ons	AQ2	2	W	DW	3	17:30	5	0	0	No odour detected
Field observations										
ld obs										
i i i										
	neating with local reside									

	Observer location		Wind (1	nd= not dete	ctable )	Time		Odour Rating		Odour Description Comments
parameter	Name of household/ commercial site (describe so that location can be easily identified again by a third party)	Sensitivity (1-5) Note 1	Direction from which wind blows	Orientation (observation Vs facility)	Strength Note 2	Start time (24hr clock)	Period of observation	Odour persistence (0-2) Note 4	Odour intensity (0-4) Note 5	Description of any odours, other source(s) of odours etc, (Also note variable weather conditions etc)
Thresholds that could indicate nuisance	NA	≥3	NA	Down-wind Approx DW or not detectable etc	NA	NA	NA	1 or 2	≥2	Guide- A location where the score meets or exceeds all the threshold values may be deemed subject to nuisance/significant impairment particularly if the observations are supported by public complaints on impact, frequency and duration of odours.
	AQ5	1	w	DW	3	13:15	5	0	0	No odour detected
	AQ5	1	w	DW	2	15:30	5	0	0	No odour detected
suo	AQ5	1	w	DW	3	18:00	5	0	0	No odour detected
Field observations										
eld obs										
E E										
	meeting with local reside									