

LABORATORY ANALYSIS REPORT

Report Number N05712R
Customer SIA Estonian, Latvian & Lithuanian Environment
Vilandes Street 3-6
Riga
LV-1010
Latvia
Booking In Reference T1007 & T1010
Despatch Note Number 73023
Date Samples Received 06/08/2019
Diffusion Tube Type 2BSUL

Identification and estimation of ng on tube in accordance with ISO16000-6

Index to UKAS Accreditation Status

U	Analysis is UKAS accredited under our Fixed Scope
F	Analysis is UKAS accredited under our Flexible Scope
N	Analysis is not UKAS accredited

Tube Number GRA09848
Gradko Lab Reference 05N0752
Sample Volume (l) 1.50
Sample Location 1. Near AB Grigeo KNV
Sample ID 1

	Accreditation Status	Estimated ng on tube	μgm^{-3} *
Top 20 VOC			
m/p-Xylene	U	65	43.6
Decanal**	N	45	30.2
Toluene	U	22	15.0
Ethylbenzene	U	21	13.7
o-Xylene	U	20	13.6
Tetrachloroethylene	U	19	12.4
Nonanal**	N	13	8.4
Ethanol, 2-phenoxy-	N	9	5.9
2-Ethyl-1-hexanol	N	7	4.6
Benzene	U	7	4.4
Pentadecane	N	6	4.2
Octanal**	N	<5	<3.3
Acetophenone**	N	<5	<3.3
Phenol	N	<5	<3.3
Benzaldehyde**	N	<5	<3.3
Hexanal**	N	<5	<3.3
.alpha.-Pinene	N	<5	<3.3
Heptanal**	N	<5	<3.3
Phenol, 3-methyl-	N	<5	<3.3
Nonane	U	<5	<3.3

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

REPORT OFFICIALLY CHECKED

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

LABORATORY ANALYSIS REPORT

Tube Number MI150791
Gradko Lab Reference 05N0753
Sample Volume (l) 1.50
Sample Location 2. Near AB Grigeo KNV
Sample ID 2

Top 20 VOC	Accreditation	Estimated	
	Status	ng on tube	μgm^{-3*}
m/p-Xylene	U	51	34.3
Ethylbenzene	U	14	9.6
o-Xylene	U	14	9.3
Toluene	U	14	9.2
Decanal**	N	<5	<3.3
Nonanal**	N	<5	<3.3
Tetrachloroethylene	U	<5	<3.3
Benzene	U	<5	<3.3

8 Compounds detected

Tube Number 003512
Gradko Lab Reference 05N0754
Sample Volume (l) 1.50
Sample Location 3. Near AB Grigeo KNV
Sample ID 3

Top 20 VOC	Accreditation	Estimated	
	Status	ng on tube	μgm^{-3*}
o-Xylene	U	17	11.1
Ethylbenzene	U	16	10.7
Toluene	U	15	10.1
5,9-Undecadien-2-one, 6,10-dimethyl-, (E)-	N	14	9.4
Nonanal**	N	9	5.9
Octanal**	N	<5	<3.3
Benzene	U	<5	<3.3
Benzaldehyde**	N	<5	<3.3
Hexanal**	N	<5	<3.3
Phenol	N	<5	<3.3
Acetophenone**	N	<5	<3.3

11 Compounds detected

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

Form LQF32b Issue 9 – August 2019

Report Number N05712R

Page 2 of 9

REPORT OFFICIALLY CHECKED

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

LABORATORY ANALYSIS REPORT

Tube Number 273503
Gradko Lab Reference 05N0755
Sample Volume (l) 1.50
Sample Location 4. Near Point 9
Sample ID 4

Top 20 VOC	Accreditation Status	Estimated ng on tube	μgm^{-3*}
Decanal**	N	78	52.2
m/p-Xylene	U	58	38.8
Nonanal**	N	17	11.4
Ethylbenzene	U	16	11.0
o-Xylene	U	16	10.7
Toluene	U	16	10.3
Pentadecane	N	9	6.1
Tetrachloroethylene	U	<5.0	<3.3
Octanal**	N	<5.0	<3.3
Benzene	U	<5.0	<3.3

10 Compounds detected

Tube Number GRA10690
Gradko Lab Reference 05N0756
Sample Volume (l) 1.50
Sample Location 5. Near Point 9
Sample ID 5

Top 20 VOC	Accreditation Status	Estimated ng on tube	μgm^{-3*}
Ethylbenzene	U	15	10.1
Toluene	U	15	9.9
m/p-Xylene	U	15	9.7
o-Xylene	U	15	9.7
Decanal**	N	11	7.2
Nonanal**	N	5	3.6
Benzene	U	<5	<3.3

7 Compounds detected

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

Form LQF32b Issue 9 – August 2019

Report Number N05712R

Page 3 of 9

REPORT OFFICIALLY CHECKED

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

LABORATORY ANALYSIS REPORT

Tube Number	GRA10396		
Gradko Lab Reference	05N0757		
Sample Volume (l)	1.50		
Sample Location	6. Near Point 9		
Sample ID	6		
	Accreditation	Estimated	
	Status	ng on tube	µgm^{-3*}
Top 20 VOC			
m/p-Xylene	U	59	39.1
Ethylbenzene	U	17	11.2
Decanal**	N	17	11.1
Toluene	U	17	11.1
o-Xylene	U	16	10.7
Nonanal**	N	8	5.5
Benzene	U	<5	<3.3

7 Compounds detected

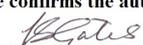
Tube Number	GRA07606		
Gradko Lab Reference	05N0758		
Sample Volume (l)	1.50		
Sample Location	7. Near Point 3		
Sample ID	7		
	Accreditation	Estimated	
	Status	ng on tube	µgm^{-3*}
Top 20 VOC			
m/p-Xylene	U	70	46.9
Decanal**	N	46	30.7
Ethylbenzene	U	19	13.0
o-Xylene	U	19	12.9
Toluene	U	19	12.6
Nonanal**	N	18	12.3
Benzene	U	<5	3.3

7 Compounds detected

Tube Number	003527		
Gradko Lab Reference	05N0759A		
Sample Volume (l)	1.50		
Sample Location	8. Near Point 87 Klairedan Nofta		
Sample ID	8		
	Accreditation	Estimated	
	Status	ng on tube	µgm^{-3*}
Top 20 VOC			
m/p-Xylene	U	80	53.1
Butane	U	27	17.7
Decanal**	N	25	16.8
Toluene	U	23	15.6
m/p-Xylene	U	23	15.4

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

REPORT OFFICIALLY CHECKED

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

LABORATORY ANALYSIS REPORT

	Accreditation Status	Estimated ng on tube	$\mu\text{g m}^{-3}$ *
o-Xylene	U	22	14.4
Butane, 2-methyl-	N	21	14.0
Nonanal**	N	18	12.2
Pentane	U	13	8.6
Benzene	U	8	5.6
Octane	U	<5	<3.3
Heptane	U	<5	<3.3
Cyclohexane, methyl-	N	<5	<3.3

13 Compounds detected

Tube Number	003517
Gradko Lab Reference	05N0760
Sample Volume (l)	1.50
Sample Location	9. Near Klairedan Nofta
Sample ID	9

	Accreditation Status	Estimated ng on tube	$\mu\text{g m}^{-3}$ *
Top 20 VOC			
Butane	U	87	57.7
m/p-Xylene	U	77	51.1
Butane, 2-methyl-	N	66	44.1
Pentane	U	63	42.1
Pentane, 2-methyl-	N	35	23.3
Toluene	U	29	19.5
Hexane	U	29	19.3
Ethylbenzene	U	23	15.1
Decanal**	N	22	14.4
Pentane, 2,2,4-trimethyl-	N	21	13.7
o-Xylene	U	20	13.1
Benzene	U	16	10.9
Pentane, 3-methyl-	N	16	10.6
Heptane	U	15	10.0
Nonanal**	N	15	9.8
Pentane, 2,3,4-trimethyl-	N	14	9.1
Pentane, 2,3,3-trimethyl-	N	11	7.4
Cyclohexane, methyl-	N	11	7.1
Cyclopentane, methyl-	N	10	7.0
Octane	U	10	6.6

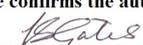
Samples have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures. Results within this report relate only to samples as received. Data provided by the client and any subsequent calculations shall be indicated by an asterisk (*), these calculations and results are not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

Form LQF32b Issue 9 – August 2019

Report Number N05712R

Page 5 of 9

REPORT OFFICIALLY CHECKED

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

LABORATORY ANALYSIS REPORT

Tube Number 003520
Gradko Lab Reference 05N0761
Sample Volume (l) 1.50
Sample Location 10. Near UAB BRANDA
Sample ID 10

Top 20 VOC	Accreditation	Estimated	
	Status	ng on tube	μgm^{-3*}
m/p-Xylene	U	94	62.7
Ethylbenzene	U	28	18.5
o-Xylene	U	28	18.4
Toluene	U	25	17.0
Decanal**	N	19	12.7
Nonanal**	N	14	9.4
.alpha.-Pinene	N	9	5.8
Benzene	U	5	3.3

8 Compounds detected

Tube Number 003521
Gradko Lab Reference 05N0762
Sample Volume (l) 1.50
Sample Location 11. Near Point 3
Sample ID 11

Top 20 VOC	Accreditation	Estimated	
	Status	ng on tube	μgm^{-3*}
m/p-Xylene	U	77	51.3
Decanal**	N	28	18.9
Ethylbenzene	U	21	14.1
o-Xylene	U	21	14.0
Toluene	U	20	13.0
Nonanal**	N	16	10.4
Benzene	U	6	4.0

7 Compounds detected

Tube Number 003529
Gradko Lab Reference 05N0763
Sample Volume (l) 1.50
Sample Location 12. Near UAB BRANDA
Sample ID 12

Top 20 VOC	Accreditation	Estimated	
	Status	ng on tube	μgm^{-3*}
m/p-Xylene	U	81	54.3
Decanal**	N	32	21.2
Ethylbenzene	U	24	16.2
o-Xylene	U	24	15.8

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

REPORT OFFICIALLY CHECKED

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

LABORATORY ANALYSIS REPORT

	Accreditation Status	Estimated ng on tube	μgm^{-3*}
Toluene	U	22	14.7
Nonanal**	N	15	9.9
Benzene	U	5	3.4

7 Compounds detected

Tube Number 003525
Gradko Lab Reference 05N0764
Sample Volume (l) 1.50
Sample Location 13. Near Point 2
Sample ID 13

	Accreditation Status	Estimated ng on tube	μgm^{-3*}
Top 20 VOC			
m/p-Xylene	U	90	59.7
Ethylbenzene	U	23	15.0
o-Xylene	U	22	14.7
Toluene	U	21	14.3
Decanal**	N	20	13.3
Nonanal**	N	9	6.3
Benzene	U	<5	<3.3

7 Compounds detected

Tube Number 003513
Gradko Lab Reference 05N0765
Sample Volume (l) 1.50
Sample Location 14. Near Point 9 BRANDA
Sample ID 14

	Accreditation Status	Estimated ng on tube	μgm^{-3*}
Top 20 VOC			
m/p-Xylene	U	82	54.9
Ethylbenzene	U	23	15.6
Toluene	U	22	15.0
o-Xylene	U	22	14.8
Decanal**	N	14	9.6
Nonanal**	N	7	4.9
Benzene	U	<5	<3.3

7 Compounds detected

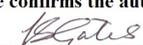
Samples have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures. Results within this report relate only to samples as received. Data provided by the client and any subsequent calculations shall be indicated by an asterisk (*), these calculations and results are not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

Form LQF32b Issue 9 – August 2019

Report Number N05712R

Page 7 of 9

REPORT OFFICIALLY CHECKED

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

LABORATORY ANALYSIS REPORT

Tube Number	003523		
Gradko Lab Reference	05N0766		
Sample Volume (l)	1.50		
Sample Location	15_Near AB Grigeo Klaireda		
Sample ID	15		
	Accreditation	Estimated	
	Status	ng on tube	µgm^{-3*}
Top 20 VOC			
m/p-Xylene	U	70	46.9
Ethylbenzene	U	20	13.3
o-Xylene	U	19	13.0
Toluene	U	17	11.4
Nonanal**	N	<5	<3.3
Benzene	U	<5	<3.3
Decanal**	N	<5	<3.3
7 Compounds detected			

Tube Number	003528		
Gradko Lab Reference	05N0767		
Sample Volume (l)	1.50		
Sample Location	16_Near AB Grigeo Klaireda		
Sample ID	16		
	Accreditation	Estimated	
	Status	ng on tube	µgm^{-3*}
Top 20 VOC			
m/p-Xylene	U	98	65
Ethylbenzene	U	27	18
o-Xylene	U	26	17
Decanal**	N	23	15
Toluene	U	22	14
Nonanal**	N	13	9
Benzene	U	7	4
7 Compounds detected			

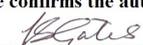
Samples have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures. Results within this report relate only to samples as received. Data provided by the client and any subsequent calculations shall be indicated by an asterisk (*), these calculations and results are not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

Form LQF32b Issue 9 – August 2019

Report Number N05712R

Page 8 of 9

REPORT OFFICIALLY CHECKED

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

LABORATORY ANALYSIS REPORT

Tube Number	003526	
Gradko Lab Reference	05N0768	
Sample Location	17 Blank	
Sample ID	17	
	Accreditation	Estimated
	Status	ng on tube
Top 20 VOC		
m/p-Xylene	U	56
Decanal**	N	27
Ethylbenzene	U	16
o-Xylene	U	15
Toluene	U	15
Nonanal**	N	9
Benzene	U	<5
7 Compounds detected		

Tube Number	GRA0551	
Gradko Lab Reference	19_190819_Blank6_TC1	
Sample ID	Laboratory Blank	
	Accreditation	Estimated
	Status	ng on tube
Top 20 VOC		
Benzene	U	<5
1 Compound detected		

Estimated results as ng on tube are calculated by reference to toluene in accordance with ISO 16000-6

Results are not Blank corrected.

Results reported as <5ng on tube are below the reporting limit.

Reporting limit for non BTEX compounds are derived from the non-specific standard Toluene.

**Compounds may be an artifact due to reaction of ozone with the Tenax sorbent.

Results for samples 1 to 7 may be compromised because they were associated with a failed AQC standard.

Analysts Name	Gavin Aikman	Date of Analysis	20/08/2019
Report Checked By	Len Gates	Date of Report	22/08/2019

Analysis has been carried out in accordance with in-house method GLM 13

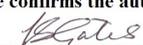
Samples have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures. Results within this report relate only to samples as received. Data provided by the client and any subsequent calculations shall be indicated by an asterisk (*), these calculations and results are not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

Form LQF32b Issue 9 – August 2019

Report Number N05712R

Page 9 of 9

REPORT OFFICIALLY CHECKED

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