**Our Ref: P-RED12-135/EB/R1/Rev0**
**Client Ref:**

**19th November 2012**

**Terry Cornwall**
**Terex United Kingdom Limited**
**Central Boulevard**
**Prologis Park**
**Coventry**
**CV6 4BX**

**Dear Terry**

**Re: Emissions Monitoring**

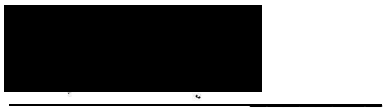
Please find enclosed a copy of your report for the monitoring carried out during the 23rd and the 24th October 2012.

I trust the enclosed is satisfactory but if you have any questions please contact me on the numbers below or directly on 07971 628431.

Yours sincerely

**Elena Berek BSc (Hons), MSc, CSci, CChem MRSC**
**Director**

## PROJECT TEAM

| | |
|---|---|
| Project work carried out by: | **Elena Berek – Team Leader**<br>**Tony Berek – Env Consultant**<br>**Vicki Gavin – Env Consultant** |
| Report prepared by: | **Elena Berek - Director** |
| Signature: |  |
| Date: | 19th November 2012 |
| Report reviewed by: | **Philip Butler - Director** |
| Signature: |  |
| Date: | 19th November 2012 |
| Report authorised by: | Philip Butler |
| Signature: |  |
| Date: | 19th November 2012 |

# OCTOBER 2012

# EMISSIONS MONITORING

# REPORT

**Terry Cornwall**
**Terex United Kingdom Limited**
**Central Boulevard**
**Prologis Park**
**Coventry CV6 4BX**

**Tel: 02476 339634**

**Prepared By**

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**Report Number P-RED12-135/EB/R1/Rev0**

**19th November 2012**

# Contents


Contents

Executive Summary

| | | |
|---|---|---|
| 1.0 | Introduction | Page 1 |
| 1.0 | Monitoring Programme | Pages 1 - 2 |
| 1.5 | Monitoring Results, comparison to emission limits | Pages 3 – 5 |
| 2.0 | Supporting Info | Page 6 |
| 2.1 | General Info | Page 6 |
| 2.1.1 | MCerts information | Page 6 |
| 2.2 | Methods | Pages 6 – 7 |
| 3.0 | Quality Assurance | Page 8 |
| 4.0 | Disclaimer | Page 8 |

*Appendix A – Particulate & Velocity Results* Appendix Pages 1 to 31

*Appendix B – VOC Raw Data* Appendix Pages 32 to 36

*Appendix C – VOC Charts* Appendix Pages 37 to 41

*Appendix D – Isocyanate Results* Appendix Pages 42 to 45

*Calibration Certificates are available upon request*


redwing ENVIRONMENTAL

## EXECUTIVE SUMMARY (Page 1 of 1)

The following document details the emissions to air monitoring survey undertaken by Elena Berek, Vicki Gavin and Tony Berek of Redwing Environmental Ltd at Terex United Kingdom Limited on the 23rd and 24th October 2012.

All results pertain to the dates monitored only.

A summary of results is shown below:-

| Emission point reference Stack N° | Total Particulate Matter at reference conditions ($mg/m^3$) | * Highest 30 minute mean VOC at reference conditions ($mg/m^3$) | Isocyanate Concentration at reference conditions ($mg/m^3$) | Velocity corrected to reference conditions (m/s) | Volume flow corrected to reference conditions ($m^3/hr$) |
|---|---|---|---|---|---|
| Primer Spray Booth 1 | 0.12 ± 0.13 | -- | -- | 7.0 | 50,977 |
| Primer Spray Booth 2 | 0.04 ± 0.12 | -- | -- | 7.4 | 53,478 |
| Primer Flash-off | 0.46 ± 0.20 | -- | -- | 9.4 | 17,106 |
| Topcoat Spray Booth 1 | 0.5 ± 0.2 | -- | <0.001 | 7.8 | 56,656 |
| Topcoat Spray Booth 2 | 0.12 ± 0.17 | -- | <0.001 | 8.2 | 59,662 |
| Topcoat Flash-off | 0.52 ± 0.25 | -- | <0.001 | 12.0 | 27,563 |
| Topcoat Curing Oven | 0.19 ± 0.15 | -- | <0.001 | 11.3 | 31,902 |
| Preparation Booth 1 | 3.3 ± 0.4 | -- | -- | 13.3 | 18,404 |
| Preparation Booth 2 | 0.21 ± 0.14 | -- | -- | 13.1 | 18,186 |
| Spray Bake Booth 1 | -- | -- | <0.001 | 14.1 | 25,586 |
| Spray Bake Booth 2 | -- | -- | <0.001 | 15.1 | 27,392 |
| Scissor 1 Booth 1 | 4.2 ± 0.44 | 19.9 ± 1.2 (19.6) | -- | 13.4 | 13,640 |
| Scissor 1 Booth 2 | 2.22 ± 0.64 | 14.2 ± 0.8 (13.4) | -- | 13.8 | 13,998 |
| Scissor 1 Oven | 0.30 ± 0.18 | -- | -- | 6.4 | 724 |
| Scissor 2 Booth 1 | 0.53 ± 0.25 | 21.5 ± 1.2 (21.5) | -- | 13.5 | 13,708 |
| Scissor 2 Booth 2 | 0.07 ± 0.12 | 13.6 ± 0.7 (13.2) | -- | 13.1 | 13,362 |
| Scissor 2 Oven | 0.11 ± 0.16 | -- | -- | 6.1 | 693 |

*** Figure in brackets represent the average VOC for the duration of the monitoring**

NOTE 1: Reference conditions are standard Temperature (273K) and standard pressure (101.3kPa), without correction for water vapour

## 1.0 INTRODUCTION

1.1 The exhausts listed below were monitored with respect to quotation **Q-RED12-135/EB/v0** for the compliance check monitoring of emissions to air. The substances requested for monitoring at each emission point are listed below:

**Monitoring Programme**

| Stack reference/Proposed method | Total Particulate Matter<br>BS EN 13284 | Volatile Organic Compounds<br>BS EN 13526 | Isocyanates<br>USEPA CTM36 |
|---|---|---|---|
| **Main Paint Facility** | | | |
| Primer spray booth - 1 | ✓ | × | × |
| Primer spray booth – 2 | ✓ | × | × |
| Primer Flash off | ✓ | × | × |
| Topcoat Spray booth -1 | ✓ | × | ✓ |
| Topcoat spray booth – 2 | ✓ | × | ✓ |
| Topcoat Flash off | ✓ | × | ✓ |
| Topcoat Curing Oven | ✓ | × | ✓ |
| Preparation Booth 1 | ✓ | × | × |
| Preparation Booth 2 | ✓ | × | × |
| Spray Bake Booth 1 | × | × | ✓ |
| Spray Bake Booth 2 | × | × | ✓ |
| Scissor 1 Booth 1 | ✓ | ✓ | × |
| Scissor 1 Booth 2 | ✓ | ✓ | × |
| Scissor 1 Oven | ✓ | × | × |
| Scissor 2 Booth 1 | ✓ | ✓ | × |
| Scissor 2 Booth 2 | ✓ | ✓ | × |
| Scissor 2 Oven | ✓ | × | × |

1.2 Terex United Kingdom Limited operate a metal and plastic coating process at their site in Coventry, the process is governed by the Secretary of States Process Guidance Note PG6/23(04) – Coating of Metal and Plastic.

1.3 The emission limits are listed below:

Process Guidance Note PG6/23 (04): Coating of Metal and Plastic

**EMISSION LIMITS**

| ANALYTE | TOTAL PARTICULATE | TOTAL VOC | TOTAL ISOCYANATES |
|---|---|---|---|
| Emission Limit | 50 mg/m$^3$ | 150 mg/m$^3$ | 0.1mg/m$^3$ |

1.4 The velocity and temperature profile were within the required parameters of 3:1 metres/second and ± 1% for temperature profile. This information indicates that the sample ports are in ideal positions to collect the samples under representative conditions.

## 1.5 Monitoring Results

| Emission Point Reference | Substance to be Monitored | Emission Limit Value | Periodic Monitoring Result | Units | Reference Conditions 273 K, 101.3 kPa | Date of Sampling | Start and End Times | Monitoring Method Reference | Operating Status |
|---|---|---|---|---|---|---|---|---|---|
| Primer Spray Booth 1 | Total Particulate Matter | 50 | 0.12 ± 0.13 | mg/m$^3$ | 273K, 101.3kPa | 23/10/12 | 1245 – 1345 | BS EN 13284-1 | Normal |
| Primer Spray Booth 2 | Total Particulate Matter | 50 | 0.04 ± 0.12 | mg/m$^3$ | 273K, 101.3kPa | 23/10/12 | 1350 – 1450 | BS EN 13284-1 | Normal |
| Primer Flash-off | Total Particulate Matter | 50 | 0.46 ± 0.20 | mg/m$^3$ | 273K, 101.3kPa | 23/10/12 | 1455 – 1555 | BS EN 13284-1 | Normal |
| Top Coat Spray Booth 1 | Total Particulate Matter | 50 | 0.5 ± 0.2 | mg/m$^3$ | 273K, 101.3kPa | 23/10/12 | 1240 – 1340 | BS EN 13284-1 | Normal |
| | Isocyanates | 0.1 | <0.001 | mg/m$^3$ | | 24/10/12 | 1000 – 1100 | USEPA 36 | |
| Top Coat Spray Booth 2 | Total Particulate Matter | 50 | 0.12 ± 0.17 | mg/m$^3$ | 273K, 101.3kPa | 23/10/12 | 1345 – 1445 | BS EN 13284-1 | Normal |
| | Isocyanates | 0.1 | <0.001 | mg/m$^3$ | | 24/10/12 | 1145 - 1245 | USEPA 36 | |

| Emission Point Reference | Substance to be Monitored | Emission Limit Value | Periodic Monitoring Result | Units | Reference Conditions 273 K, 101.3 kPa | Date of Sampling | Start and End Times | Monitoring Method Reference | Operating Status |
|---|---|---|---|---|---|---|---|---|---|
| Topcoat Flash-off | Total Particulate Matter | 50 | 0.52 ± 0.25 | $mg/m^3$ | 273K, 101.3kPa | 23/10/12 | 1450 – 1550 | BS EN 13284-1 | Normal |
| | Isocyanates | 0.1 | <0.001 | $mg/m^3$ | | 24/10/12 | 1210 - 1310 | USEPA 36 | |
| Topcoat Curing Oven | Total Particulate Matter | 50 | 0.19 ± 0.15 | $mg/m^3$ | 273K, 101.3kPa | 24/10/12 | 0750 - 0850 | BS EN 13284-1 | Normal |
| Preparation Booth 1 | Total Particulate Matter | 50 | 3.3 ± 0.4 | $mg/m^3$ | 273K, 101.3kPa | 23/10/12 | 0700 - 0800 | BS EN 13284-1 | Normal |
| Preparation Booth 2 | Total Particulate Matter | 50 | 0.21 ± 0.14 | $mg/m^3$ | 273K, 101.3kPa | 23/10/12 | 0707 - 0807 | BS EN 13284-1 | Normal |
| Spray Bake Booth 1 | Isocyanates | 0.1 | <0.001 | $mg/m^3$ | 273K, 101.3kPa | 23/10/12 | 0810 - 0910 | USEPA 36 | Normal |
| Spray Bake Booth 2 | Isocyanates | 0.1 | <0.001 | $mg/m^3$ | 273K, 101.3kPa | 23/10/12 | 0805 - 0905 | USEPA 36 | Normal |
| Scissor 1 Booth 1 | Total Particulate Matter | 50 | 4.2 ± 0.44 | $mg/m^3$ | 273K, 101.3kPa | 23/10/12 | 0915 - 1015 | BS EN 13284-1 | Normal |
| | Volatile Organic Compounds | 150 | 19.9 ± 1.2 | $mg/m^3$ | | | 0920 – 1020 | BS EN 13526 | |
| Scissor 1 Booth 2 | Total Particulate Matter | 50 | 2.22 ± 0.64 | $mg/m^3$ | 273K, 101.3kPa | 23/10/12 | 1020 – 1120 | BS EN 13284-1 | Normal |
| | Volatile Organic Compounds | 150 | 14.2 ± 0.8 | $mg/m^3$ | | | 1025 - 1125 | BS EN 13526 | |

| Emission Point Reference | Substance to be Monitored | Emission Limit Value | Periodic Monitoring Result | Units | Reference Conditions 273 K, 101.3 kPa | Date of Sampling | Start and End Times | Monitoring Method Reference | Operating Status |
|---|---|---|---|---|---|---|---|---|---|
| Scissor 1 Oven | Total Particulate Matter | 50 | 0.30 ± 0.18 | $mg/m^3$ | 273K, 101.3kPa | 23/10/12 | 1124 – 1224 | BS EN 13284-1 | Normal |
| Scissor 2 Booth 1 | Total Particulate Matter | 50 | 0.53 ± 0.25 | $mg/m^3$ | 273K, 101.3kPa | 23/10/12 | 0918 – 1018 | BS EN 13284-1 | Normal |
| | Volatile Organic Compounds | 150 | 21.5 ± 1.2 | $mg/m^3$ | | | 0915 - 1015 | BS EN 13526 | Normal |
| Scissor 2 Booth 2 | Total Particulate Matter | 50 | 0.07 ± 0.12 | $mg/m^3$ | 273K, 101.3kPa | 23/10/12 | 1025 – 1125 | BS EN 13284-1 | Normal |
| | Volatile Organic Compounds | 150 | 13.6 ± 0.7 | $mg/m^3$ | | | 1030 – 1130 | BS EN 13526 | Normal |
| Scissor 2 Oven | Total Particulate Matter | 50 | 0.11 ± 0.16 | $mg/m^3$ | 273K, 101.3kPa | 23/10/12 | 1130 - 1230 | BS EN 13284-1 | Normal |

# 2 Supporting Information (Held by Redwing Environmental Ltd)

## 2.1 General Information

### 2.1.1 Redwing Environmental Ltd staff details

Elena Berek
Vicki Gavin
Tony Berek

## 2.2 Redwing Environmental Ltd method details

### 2.2.1 Volatile organic compounds (BS EN 13526: 2001)

2.2.2 Monitoring to determine VOC emission concentrations was in accordance with BS EN 13526: 2001.

2.2.3 Volatile organic compound concentrations were measured using a Signal portable heated VOC analyser. The analyser works by burning the gas sample in a hydrogen flame. This ionises any organic compounds present and the current produced across an electric field is proportional to the number of carbon atoms.

2.2.4 The analyser and heated line will be zeroed and calibrated with a test gas (80 ppm and or 800ppm propane) prior to each sampling run. VOC sampling will be undertaken over a period of at least 30 minutes to cover any process variation.

2.2.5 All data was logged onto a Grant Squirrel data logger set at 20 second logging.

2.2.6 A heated line from the sample point to analyser was used to ensure that condensation did not occur leading to the loss of sample concentration.Volatile organic compounds.

## 2.3 Stack Velocity, Pressure and Temperature Measurements

2.3.1 The stack velocity, pressure and temperature will be measured by full pitot traverses of the duct using the points provided. Measurements will be taken at the relevant positions based on the particulate standard followed.

## 2.4 Leak tests for extractive techniques

2.4.1 All extractive-sampling techniques were tested for leaks before sampling proceeded. Any leaks present were eliminated prior to sampling and will be reported.

2.4.2 Leak checks are carried out during the calibrating procedure, as the concentration of the calibration gas is known it is readily indentified if air is entering the sample line and diluting the gas.

## 2.5 Particulate matter BS EN 13284-1: 2002

2.5.1 Total particulate matter was sampled using a Zambelli isokinetic sampling system in accordance with BS EN 13284-1: 2002 – Determination of Low Range Mass Concentration of dust (< 50mg/$m^3$).

2.5.2 The Zambelli sampling system monitors temperature, static pressure and velocities within the duct using an S-type pitot tube and K-type thermocouple. The sampling rate was continuously monitored and adjusted relative to the duct velocity to ensure isokinetic-sampling conditions were maintained throughout the monitoring period.

2.5.3 Exhaust gases were drawn under isokinetic conditions from the exhaust points using the Zambelli sampling probe, particulate matter was then collected on a pre-weighed glass fibre filter (or most suitable filter for process) contained within the filter cassette holder, and the total particulate matter determined gravimetrically.

2.5.4 It is also necessary to wash the probe and nozzle out with water and then acetone between sampling and the weight of the probe washing added to that collected on the sample filter. Analysis of an acetone/water blank will be carried out and the result corrected accordingly.

2.5.5 The sample positions were calculated with respect to BS EN 13284-1: 2002 – Stationary source emissions – Determination of Low Range Mass Concentration of dust.

2.5.6 Sampling may be carried out internally or externally, the method used will be reported and provided there are no deviations from the method the uncertainty for the monitoring procedure is reported to be within the requirements specified by the Hazardous Waste Directive (HWD) as stated in the Environment Agency Technical Document M2

Uncertainty: $\pm$ 30%

2.5.7 ISO 9096: 2003 and BS EN 13284-1: 2002 are very similar methods but BS EN 13284-1: 2002 recommends the use of an 8mm nozzle and nozzles less than 6mm should not be used.

## 2.6 Isocyanates (USEPA CTM 36a)

2.6.1 There are several Isocyanates; these include TDI, MDI, HDI and IPDI. The isocyanate to be monitored is HDI (1,6 – hexamethylene diisocyanate). All Isocyanates follow the same procedure for sampling and analysis.

2.6.2 Isocyanates can be sampled non-isokinetically following MDHS 25 or isokinetically following the USEPA CTM 36

2.6.3 The method used was isokinetic method. A sample probe was placed inside the stack; the sample probe was heated.

2.6.4 The samples are stored in brown glass bottles and submitted for analysis. The samples will be 'blown down' to dryness using air and made upto 1ml using the most suitable matrix (usually acetonitrile). The sample will then be ready for analysis by HPLC (High Pressure Liquid Chromatography).

## 3.0 Quality Assurance

3.1 Redwing Environmental Ltd will always endeavour to follow the methods specified in the Environment Agency Technical Guidance M2. Redwing Environmental Ltd is a member of the Source Testing Association (STA) and therefore operates under the STA's code of practice.

3.2 Redwing Environmental Ltd is accredited to ISO 9001:2008, ISO 14001:2004 and ISO 17025:2005.

## 4.0 Disclaimer

4.1 Redwing Environmental Ltd confirms that in preparing this report all reasonable skill and care has been exercised.

4.1.1 Unless specifically assigned or transferred within the terms of the agreement, Redwing Environmental Ltd asserts and retains all copyright, and other Intellectual Property Rights, in and over the report and its contents.

# APPENDIX A

## Particulate & Velocity Results

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

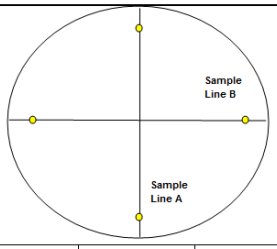
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Primer Spray Booth 1 | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | | |
| | | | | | **1** | 6.70 | | | | |
| **Number of Stacks** | | | 1 | | **2** | 25.00 | | | | |
| **Stack Configuration** | | | Round | | **3** | 75.00 | | | | |
| **Dimensions (mtrs)** | | | 1.60 | | **4** | 93.30 | | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **5** | N/A | | | | |
| **Number of Sample Ports** | | | 2 | | **6** | N/A | | | | |
| **Number of Samples per Axis / Port** | | | 4 | | **7** | N/A | | | | |
| **Nozzle Diameter (mm)** | | | 8.0 | | **8** | N/A | | | | |
| **Nozzle Area (m²)** | | | 0.00005024 | | **Average Isokinetic Flow Rate (ltrs/min)** | | | | **Axis 1** | **Axis 2** |
| **Stack Area (m²)** | | | 2.011 | | | | | | 21.23 | 22.22 |
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | | **Atmos. Pressure (kPa)** | |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | | 101.8 | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | | **Static Pressure (pa)** | |
| **1** | 10.72 | 35 | 22.2 | 7.7 | 46 | 22.2 | 7.7 | | -3.0 | |
| **2** | 40.00 | 39 | 22.2 | 7.7 | 52 | 22.2 | 7.7 | | **1 Axis** | **2 Axis** |
| **3** | N/A | 44 | 22.2 | 7.7 | 48 | 22.2 | 7.7 | | **Velocity of flow (m/s)** | |
| **4** | N/A | 50 | 22.2 | 7.7 | 38 | 22.2 | 7.7 | | 7.04 | 7.37 |
| **5** | N/A | | | | | | | | **Volume Flow Rate (m³/s)** | |
| **6** | N/A | | | | | | | | 14.16 | 14.82 |
| **7** | N/A | | | | | | | | **Reduced Exit** | |
| **8** | N/A | | | | | | | | | |
| **Averages** | | 42 | 22.2 | | 46 | 22.2 | | | N/A | |
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | | | | | **295.20** | | | | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | | | | | | **7.44** | **to** | | **36.96** | |
| **Highest Velocity Reading (m/s) =** | | | | | | **8.1** | | | | |
| **Lowest Velocity Reading (m/s) =** | | | | | | **6.4** | | | | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | | | | | **1.26 : 1** | | | | |

| **On site Checklist** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | | **End of first run** | | | **Start of 2nd run** | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.42** | | | **Manometer Leak Check** | | **OK** |
| | | | | | **Pitot Leak Check** | | **OK** |
| **Range of Gas Temps** | | **OK** | | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | **Run 1** / **98.8** / **Run 2** / **#DIV/0!** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | |

| **Site Equipment Used** | | | | |
|---|---|---|---|---|
| **Pitot Reference** | **RED 0290** | | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | | **Sampling Pump Reference** | **RED 0258** |
| **Tape Measure Reference** | **RED 0123** | | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0274** | | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Primer Spray Booth 1 | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-17 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 12:45 | to | 13:45 | | |
| Velocity (m/s) | 7.04 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 50977 | | | | |
| Average Stack Temp (°C) | 22.2 | | | | |
| Temp Range ± 5% (°C) | 7.44 | to | 36.96 | | |
| Lowest Velocity Reading (m/s) | 6.41 | | | | |
| Highest Velocity Reading (m/s) | 8.06 | | | | |
| Ratio (less than 3:1) | 1.26 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 22.2 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 20 | | | | |
| Carbon Dioxide % | 0.20 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1273 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.221 | | | | |
| Blank Filter Run weight gain (mg) | 0.020 | Blank Concentration ($mg/m^3$) | 0.033 | | |
| Blank Wash Run weight gain (mg) | 0.010 | | 0.016 | | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = | 50 | 2.5 |
| Overall Blank value ($mg/m^3$) | 0.049 | This must be <10% of ELV | ELV = | 50 | 5.0 |
| Particulate weight collected on filter (mg) | 0.00 | | | | |
| Particulate weight collected in Wash (mg) | 0.15 | | | | |
| Total Particulate weight collected (mg) | 0.15 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.12 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 0.12 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.004 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Primer Spray Booth 2 | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | | |
| **Number of Stacks** | | | 1 | | **1** | 6.70 |  | | | |
| **Stack Configuration** | | | Round | | **2** | 25.00 | | | | |
| **Dimensions (mtrs)** | | | 1.60 | | **3** | 75.00 | | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **4** | 93.30 | | | | |
| **Number of Sample Ports** | | | 2 | | **5** | N/A | | | | |
| **Number of Samples per Axis / Port** | | | 4 | | **6** | N/A | | | | |
| **Nozzle Diameter (mm)** | | | 8.0 | | **7** | N/A | | | | |
| **Nozzle Area (m²)** | | | 0.00005024 | | **8** | N/A | | | | |
| **Stack Area (m²)** | | | 2.011 | | **Average Isokinetic Flow Rate (ltrs/min)** | | | | **Axis 1** | **Axis 2** |
| | | | | | | | | | 22.27 | 24.00 |
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | | **Atmos. Pressure (kPa)** | |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | | 101.8 | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | | **Static Pressure (pa)** | |
| **1** | 10.72 | 28 | 16.0 | 7.7 | 47 | 16 | 7.7 | | 4.0 | |
| **2** | 40.00 | 43 | 16.0 | 7.7 | 55 | 16 | 7.7 | | **1 Axis** | **2 Axis** |
| **3** | N/A | 55 | 16.0 | 7.7 | 60 | 16 | 7.7 | | **Velocity of flow (m/s)** | |
| **4** | N/A | 66 | 16.0 | 7.7 | 61 | 16 | 7.7 | | 7.39 | 7.96 |
| **5** | N/A | | | | | | | | **Volume Flow Rate (m³/s)** | |
| **6** | N/A | | | | | | | | 14.85 | 16.01 |
| **7** | N/A | | | | | | | | **Reduced Exit** | |
| **8** | N/A | | | | | | | | | |
| **Averages** | | 48 | 16.0 | | 56 | 16.0 | | | N/A | |
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | | | | | **289.00** | | | | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | | | | | | **1.55** | **to** | **30.45** | | |
| **Highest Velocity Reading (m/s) =** | | | | | | **9.0** | | | | |
| **Lowest Velocity Reading (m/s) =** | | | | | | **5.7** | | | | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | | | | | **1.58 : 1** | | | | |

| **On site Checklist** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | **<0.2** | **End of first run** | **<0.2** | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.45** | | **Manometer Leak Check** | | | **OK** |
| | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** / **Run 2** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | **99.2** / **N/A** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | |

| **Site Equipment Used** | | | |
|---|---|---|---|
| **Pitot Reference** | **RED 0290** | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | **Sampling Pump Reference** | **RED 0258** |
| **Tape Measure Reference** | **RED 0123** | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0274** | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Primer Spray Booth 2 | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-19 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 13:50 | to | 14:50 | | |
| Velocity (m/s) | 7.39 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 53478 | | | | |
| Average Stack Temp (°C) | 16.0 | | | | |
| Temp Range ± 5% (°C) | 1.55 | to | 30.45 | | |
| Lowest Velocity Reading (m/s) | 5.67 | | | | |
| Highest Velocity Reading (m/s) | 8.98 | | | | |
| Ratio (less than 3:1) | 1.58 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 16.0 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 10.4 | | | | |
| Carbon Dioxide % | 5.60 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1260 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.207 | | | | |
| Blank Filter Run weight gain (mg) | 0.020 | Blank Concentration ($mg/m^3$) | 0.033 | | |
| Blank Wash Run weight gain (mg) | 0.000 | | 0.000 | | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = | 50 | 2.5 |
| Overall Blank value ($mg/m^3$) | 0.033 | This must be <10% of ELV | ELV = | 50 | 5.0 |
| Particulate weight collected on filter (mg) | 0.00 | | | | |
| Particulate weight collected in Wash (mg) | 0.05 | | | | |
| Total Particulate weight collected (mg) | 0.05 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.04 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 0.04 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.002 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

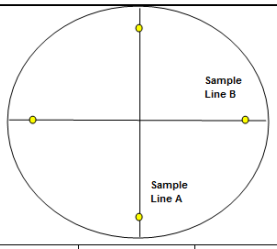
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Primer Flash Off | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | | |
| | | | | | **1** | 14.60 | | | | |
| **Number of Stacks** | | | 1 | | **2** | 85.40 | | | | |
| **Stack Configuration** | | | Round | | **3** | N/A | | | | |
| **Dimensions (mtrs)** | | | 0.80 | | **4** | N/A | | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **5** | N/A | | | | |
| **Number of Sample Ports** | | | 2 | | **6** | N/A | | | | |
| **Number of Samples per Axis / Port** | | | 2 | | **7** | N/A | | | | |
| **Nozzle Diameter (mm)** | | | 7.0 | | **8** | N/A | | | | |
| **Nozzle Area (m²)** | | | 0.00003847 | | **Average Isokinetic Flow Rate (ltrs/min)** | | | | **Axis 1** | **Axis 2** |
| **Stack Area (m²)** | | | 0.503 | | | | | | 21.82 | 23.11 |
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | | **Atmos. Pressure (kPa)** | |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | | 101.8 | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | | **Static Pressure (pa)** | |
| **1** | 11.68 | 77 | 31.0 | 6.8 | 85 | 31.1 | 6.8 | | 22.0 | |
| **2** | 68.32 | 70 | 31.1 | 6.8 | 80 | 31.1 | 6.8 | | **1 Axis** | **2 Axis** |
| **3** | N/A | | | | | | | | **Velocity of flow (m/s)** | |
| **4** | N/A | | | | | | | | 9.45 | 10.02 |
| **5** | N/A | | | | | | | | **Volume Flow Rate (m³/s)** | |
| **6** | N/A | | | | | | | | 4.75 | 5.03 |
| **7** | N/A | | | | | | | | **Reduced Exit** | |
| **8** | N/A | | | | | | | | | |
| **Averages** | | 74 | 31.1 | | 83 | 31.1 | | | N/A | |
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | | | | | **304.05** | | | | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | | | | | | **15.85** | **to** | | **46.25** | |
| **Highest Velocity Reading (m/s) =** | | | | | | **10.5** | | | | |
| **Lowest Velocity Reading (m/s) =** | | | | | | **9.2** | | | | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | | | | | **1.14 : 1** | | | | |

| **On site Checklist** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | **<0.2** | **End of first run** | **<0.2** | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.44** | | **Manometer Leak Check** | | | **OK** |
| | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** / **Run 2** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | **99.4** / **N/A** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | |

| **Site Equipment Used** | | | |
|---|---|---|---|
| **Pitot Reference** | **RED 0290** | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | **Sampling Pump Reference** | **RED 0258** |
| **Tape Measure Reference** | **RED 0123** | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0274** | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Primer Flash Off | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-21 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 14:55 | to | 15:55 | | |
| Velocity (m/s) | 9.45 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 17106 | | | | |
| Average Stack Temp (°C) | 31.1 | | | | |
| Temp Range ± 5% (°C) | 15.85 | to | 46.25 | | |
| Lowest Velocity Reading (m/s) | 9.20 | | | | |
| Highest Velocity Reading (m/s) | 10.46 | | | | |
| Ratio (less than 3:1) | 1.14 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 31.1 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 19.9 | | | | |
| Carbon Dioxide % | 0.30 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1304 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.249 | | | | |
| Blank Filter Run weight gain (mg) | 0.010 | Blank Concentration ($mg/m^3$) | 0.016 | | |
| Blank Wash Run weight gain (mg) | 0.050 | | 0.080 | | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = | 50 | 2.5 |
| Overall Blank value ($mg/m^3$) | 0.096 | This must be <10% of ELV | ELV = | 50 | 5.0 |
| Particulate weight collected on filter (mg) | 0.02 | | | | |
| Particulate weight collected in Wash (mg) | 0.55 | | | | |
| Total Particulate weight collected (mg) | 0.57 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.46 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 0.46 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.01 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

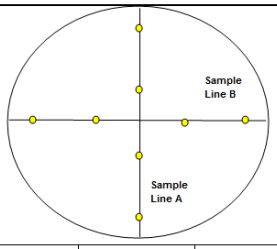
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | TOPCOAT SPRAY BOOTH 1 | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | | |
| **Number of Stacks** | | 1 | | | **1** | 6.70 |  | | | |
| **Stack Configuration** | | Round | | | **2** | 25.00 | | | | |
| **Dimensions (mtrs)** | | 1.60 | | | **3** | 75.00 | | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **4** | 93.30 | | | | |
| **Number of Sample Ports** | | 1 | | | **5** | N/A | | | | |
| **Number of Samples per Axis / Port** | | 4 | | | **6** | N/A | | | | |
| **Nozzle Diameter (mm)** | | 8.0 | | | **7** | N/A | | | | |
| **Nozzle Area (m²)** | | 0.00005024 | | | **8** | N/A | | | | |
| **Stack Area (m²)** | | 2.011 | | | **Average Isokinetic Flow Rate (ltrs/min)** | | | **Axis 1** | **Axis 2** | |
| | | | | | | | | 23.59 | 22.55 | |
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | **Atmos. Pressure (kPa)** | | |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | 101.8 | | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | **Static Pressure (pa)** | | |
| **1** | 10.72 | 44 | 22.9 | 6.3 | 50 | 22.9 | 6.4 | -4.0 | | |
| **2** | 40.00 | 50 | 22.9 | 6.3 | 39 | 22.9 | 6.4 | **1 Axis** | **2 Axis** | |
| **3** | N/A | 56 | 22.9 | 6.3 | 52 | 22.9 | 6.4 | **Velocity of flow (m/s)** | | |
| **4** | N/A | 57 | 22.9 | 6.3 | 48 | 22.9 | 6.4 | 7.83 | 7.48 | |
| **5** | N/A | | | | | | | **Volume Flow Rate (m³/s)** | | |
| **6** | N/A | | | | | | | 15.74 | 15.04 | |
| **7** | N/A | | | | | | | **Reduced Exit** | | |
| **8** | N/A | | | | | | | | | |
| **Averages** | | 52 | 22.9 | | 47 | 22.9 | | N/A | | |
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | | | | | **295.90** | | | | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | | | | | | **8.10** | **to** | **37.70** | | |
| **Highest Velocity Reading (m/s) =** | | | | | | **8.4** | | | | |
| **Lowest Velocity Reading (m/s) =** | | | | | | **6.8** | | | | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | | | | | **1.25 : 1** | | | | |

| **On site Checklist** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | **<0.2** | **End of first run** | **<0.2** | | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.47** | | | **Manometer Leak Check** | | | **OK** |
| | | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** / **Run 2** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | | **95.5** / **N/A** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | | |

| **Site Equipment Used** | | | |
|---|---|---|---|
| **Pitot Reference** | **RED 0290** | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | **Sampling Pump Reference** | **RED 0385** |
| **Tape Measure Reference** | **RED 0123** | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0395** | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | TOPCOAT SPRAY BOOTH 1 | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-22 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 12:40 | to | 13:40 | | |
| Velocity (m/s) | 7.83 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 56656 | | | | |
| Average Stack Temp (°C) | 22.9 | | | | |
| Temp Range ± 5% (°C) | 8.10 | to | 37.70 | | |
| Lowest Velocity Reading (m/s) | 6.77 | | | | |
| Highest Velocity Reading (m/s) | 8.45 | | | | |
| Ratio (less than 3:1) | 1.25 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 22.9 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 19.9 | | | | |
| Carbon Dioxide % | 0.20 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1281 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.230 | | | | |
| Blank Filter Run weight gain (mg) | 0.020 | Blank Concentration ($mg/m^3$) | 0.016 | | |
| Blank Wash Run weight gain (mg) | 0.020 | | 0.016 | | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = | 50 | 2.5 |
| Overall Blank value ($mg/m^3$) | 0.033 | This must be <10% of ELV | ELV = | 50 | 5.0 |
| Particulate weight collected on filter (mg) | 0.02 | | | | |
| Particulate weight collected in Wash (mg) | 0.55 | | | | |
| Total Particulate weight collected (mg) | 0.57 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.46 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 0.46 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.02 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Topcoat Spray Booth 2 | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | | |
| **Number of Stacks** | | 1 | | | **1** | 6.70 |  | | | |
| **Stack Configuration** | | Round | | | **2** | 25.00 | | | | |
| **Dimensions (mtrs)** | | 1.60 | | | **3** | 75.00 | | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **4** | 93.30 | | | | |
| **Number of Sample Ports** | | 1 | | | **5** | N/A | | | | |
| **Number of Samples per Axis / Port** | | 4 | | | **6** | N/A | | | | |
| **Nozzle Diameter (mm)** | | 7.0 | | | **7** | N/A | | | | |
| **Nozzle Area (m²)** | | 0.00003847 | | | **8** | N/A | | | | |
| **Stack Area (m²)** | | 2.011 | | | **Average Isokinetic Flow Rate (ltrs/min)** | | | **Axis 1** | **Axis 2** | |
| | | | | | | | | 18.90 | 19.15 | |

| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | **Atmos. Pressure (kPa)** | |
|---|---|---|---|---|---|---|---|---|---|
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | 101.8 | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | **Static Pressure (pa)** | |
| **1** | 10.72 | 46 | 23.5 | 7.9 | 52 | 23.5 | 7.9 | -16.0 | |
| **2** | 40.00 | 60 | 23.5 | 7.9 | 54 | 23.5 | 7.9 | **1 Axis** | **2 Axis** |
| **3** | 120.00 | 64 | 23.5 | 7.9 | 61 | 23.5 | 7.9 | **Velocity of flow (m/s)** | |
| **4** | 149.28 | 56 | 23.5 | 7.9 | 65 | 23.5 | 7.9 | 8.19 | 8.30 |
| **5** | N/A | | | | | | | **Volume Flow Rate (m³/s)** | |
| **6** | N/A | | | | | | | 16.46 | 16.68 |
| **7** | N/A | | | | | | | **Reduced Exit** | |
| **8** | N/A | | | | | | | | |
| **Averages** | | 57 | 23.5 | | 58 | 23.5 | | N/A | |

| | | | |
|---|---|---|---|
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | **296.50** | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | **8.68** | **to** | **38.33** |
| **Highest Velocity Reading (m/s) =** | | **9.0** | |
| **Lowest Velocity Reading (m/s) =** | | **7.4** | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | **1.23 : 1** | |

**On site Checklist**

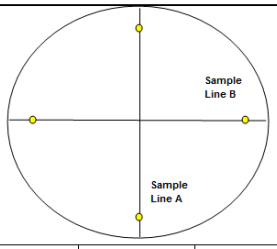
| **Initial Leak Check** | | **End of first run** | | | **Start of 2nd run** | | **End of 2nd run** | | |
|---|---|---|---|---|---|---|---|---|---|
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.38** | | | **Manometer Leak Check** | | | **OK** | |
| | | | | | **Pitot Leak Check** | | | **OK** | |
| **Range of Gas Temps** | | **OK** | | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** | **Run 2** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | | **#DIV/0!** | **#DIV/0!** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | | | |

**Site Equipment Used**

| | | | | |
|---|---|---|---|---|
| **Pitot Reference** | **RED 0290** | | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | | **Sampling Pump Reference** | **RED 0385** |
| **Tape Measure Reference** | **RED 0123** | | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0395** | | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Topcoat Spray Booth 2 | | | |
|---|---|---|---|---|
| | Terex United Kingdom Limited | | | |
| | RUN 1 | | | |
| Filter Reference No | G47-171012-23 | | | |
| Date | 23rd October 2012 | | | |
| Sample Period | 13:45 | to | 14:45 | |
| Velocity (m/s) | 8.24 | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 59662 | | | |
| Average Stack Temp (°C) | 23.5 | | | |
| Temp Range ± 5% (°C) | 8.68 | to | 38.33 | |
| Lowest Velocity Reading (m/s) | 7.37 | | | |
| Highest Velocity Reading (m/s) | 9.03 | | | |
| Ratio (less than 3:1) | 1.23 | : | 1 | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | |
| Instack sampling - Max Filter temperature (°C) | 23.7 | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | |
| Oxygen % | 20 | | | |
| Carbon Dioxide % | 0.10 | | | |
| Moisture (%) | 0.00 | | | |
| Litres sampled | 947 | | | |
| Corrected volume sampled - STP ($m^3$) | 0.908 | | | |
| Blank Filter Run weight gain (mg) | 0.020 | Blank Concentration ($mg/m^3$) | 0.022 | |
| Blank Wash Run weight gain (mg) | 0.006 | | 0.007 | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = 50 | 2.5 |
| Overall Blank value ($mg/m^3$) | 0.029 | This must be <10% of ELV | ELV = 50 | 5.0 |
| Particulate weight collected on filter (mg) | 0.05 | | | |
| Particulate weight collected in Wash (mg) | 0.06 | | | |
| Total Particulate weight collected (mg) | 0.11 | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.12 | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 0.12 | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | |
| Total Particulate Mass Emission (Kg/hour) | 0.01 | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Top Coat Flash Off | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | |
| | | | | | **1** | 14.60 |  | | |
| **Number of Stacks** | | 1 | | | **2** | 85.40 | | | |
| **Stack Configuration** | | Round | | | **3** | N/A | | | |
| **Dimensions (mtrs)** | | 0.90 | | | **4** | N/A | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **5** | N/A | | | |
| **Number of Sample Ports** | | 1 | | | **6** | N/A | | | |
| **Number of Samples per Axis / Port** | | 2 | | | **7** | N/A | | | |
| **Nozzle Diameter (mm)** | | 6.0 | | | **8** | N/A | | | |
| **Nozzle Area (m²)** | | 0.00002826 | | | **Average Isokinetic Flow Rate (ltrs/min)** | | | **Axis 1** | **Axis 2** |
| **Stack Area (m²)** | | 0.636 | | | | | | 20.41 | 21.22 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | **Atmos. Pressure (kPa)** |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | 101.8 |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | **Static Pressure (pa)** |
| **1** | 13.14 | 88 | 53.0 | 8.5 | 140 | 53.3 | 8.6 | 36.0 |
| **2** | 76.86 | 134 | 53.0 | 8.5 | 100 | 53.2 | 8.6 | **1 Axis** / **2 Axis** |
| **3** | N/A | | | | | | | **Velocity of flow (m/s)** |
| **4** | N/A | | | | | | | 12.04 / 12.51 |
| **5** | N/A | | | | | | | **Volume Flow Rate (m³/s)** |
| **6** | N/A | | | | | | | 7.66 / 7.96 |
| **7** | N/A | | | | | | | **Reduced Exit** |
| **8** | N/A | | | | | | | |
| **Averages** | | 111 | 53.0 | | 120 | 53.3 | | N/A |

| | | | |
|---|---|---|---|
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | **326.00** | | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | **36.70** | **to** | **69.30** |
| **Highest Velocity Reading (m/s) =** | **13.9** | | |
| **Lowest Velocity Reading (m/s) =** | **10.7** | | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | **1.30 : 1** | | |

**On site Checklist**

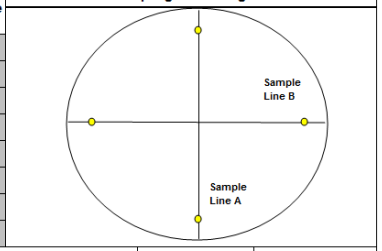
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | | **End of first run** | | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.41** | | **Manometer Leak Check** | | | **OK** |
| | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** / **Run 2** |
| **Passed minimum Velocity requirements (>5pa)** | | **YES** | | | | | **95.8** / **N/A** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | **NO** | | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | **NO** | | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | **YES** | | | | | |

**Site Equipment Used**

| | | | |
|---|---|---|---|
| **Pitot Reference** | **RED 0290** | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | **Sampling Pump Reference** | **RED 0385** |
| **Tape Measure Reference** | **RED 0123** | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0395** | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Top Coat Flash Off | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-21 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 14:50 | to | 15:50 | | |
| Velocity (m/s) | 12.04 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 27563 | | | | |
| Average Stack Temp (°C) | 53.0 | | | | |
| Temp Range ± 5% (°C) | 36.70 | to | 69.30 | | |
| Lowest Velocity Reading (m/s) | 10.68 | | | | |
| Highest Velocity Reading (m/s) | 13.90 | | | | |
| Ratio (less than 3:1) | 1.30 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 53.0 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 20 | | | | |
| Carbon Dioxide % | 0.10 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1144 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.097 | | | | |
| Blank Filter Run weight gain (mg) | 0.010 | Blank Concentration ($mg/m^3$) | 0.009 | | |
| Blank Wash Run weight gain (mg) | 0.050 | | 0.046 | | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = | 50 | 2.5 |
| Overall Blank value ($mg/m^3$) | 0.055 | This must be <10% of ELV | ELV = | 50 | 5.0 |
| Particulate weight collected on filter (mg) | 0.02 | | | | |
| Particulate weight collected in Wash (mg) | 0.55 | | | | |
| Total Particulate weight collected (mg) | 0.57 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.52 | | | | |
| **Total Particulate Concentration, wet gas at STP ($mg/m^3$)** | **0.52** | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.01 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 24th October 2012 |
| **Operator(s)** | V Gavin & T Berek |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Top Coat Curing Oven | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | | |
| | | | | | **1** | 14.60 |  | | | |
| **Number of Stacks** | | | 1 | | **2** | 85.40 | | | | |
| **Stack Configuration** | | | Round | | **3** | N/A | | | | |
| **Dimensions (mtrs)** | | | 1.00 | | **4** | N/A | | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **5** | N/A | | | | |
| **Number of Sample Ports** | | | 2 | | **6** | N/A | | | | |
| **Number of Samples per Axis / Port** | | | 2 | | **7** | N/A | | | | |
| **Nozzle Diameter (mm)** | | | 6.0 | | **8** | N/A | | | | |
| **Nozzle Area (m²)** | | | 0.00002826 | | **Average Isokinetic Flow Rate (ltrs/min)** | | | | **Axis 1** | **Axis 2** |
| **Stack Area (m²)** | | | 0.785 | | | | | | 19.13 | 20.74 |
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | | **Atmos. Pressure (kPa)** | |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | | 101.8 | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | | **Static Pressure (pa)** | |
| **1** | 14.60 | 82 | 37.3 | 9.1 | 130 | 37.3 | 9.1 | | -67.0 | |
| **2** | 85.40 | 123 | 37.3 | 9.1 | 111 | 37.3 | 9.1 | | **1 Axis** | **2 Axis** |
| **3** | N/A | | | | | | | | **Velocity of flow (m/s)** | |
| **4** | N/A | | | | | | | | 11.28 | 12.23 |
| **5** | N/A | | | | | | | | **Volume Flow Rate (m³/s)** | |
| **6** | N/A | | | | | | | | 8.86 | 9.61 |
| **7** | N/A | | | | | | | | **Reduced Exit** | |
| **8** | N/A | | | | | | | | | |
| **Averages** | | 103 | 37.3 | | 121 | 37.3 | | | N/A | |
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | | | | | **310.30** | | | | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | | | | | | **21.79** | **to** | | **52.82** | |
| **Highest Velocity Reading (m/s) =** | | | | | | **13.1** | | | | |
| **Lowest Velocity Reading (m/s) =** | | | | | | **10.1** | | | | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | | | | | **1.30 : 1** | | | | |

| **On site Checklist** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | | **End of first run** | | | **Start of 2nd run** | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.38** | | | **Manometer Leak Check** | | **OK** |
| | | | | | **Pitot Leak Check** | | **OK** |
| **Range of Gas Temps** | | **OK** | | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | **Run 1** / **97.8** / **Run 2** / **N/A** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | |

| **Site Equipment Used** | | | | |
|---|---|---|---|---|
| **Pitot Reference** | **RED 0290** | | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | | **Sampling Pump Reference** | **RED 0385** |
| **Tape Measure Reference** | **RED 0123** | | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0395** | | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Top Coat Curing Oven | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-221012-03 | | | | |
| Date | 24th October 2012 | | | | |
| Sample Period | 07:50 | to | 08:50 | | |
| Velocity (m/s) | 11.28 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 31902 | | | | |
| Average Stack Temp (°C) | 37.3 | | | | |
| Temp Range ± 5% (°C) | 21.79 | to | 52.82 | | |
| Lowest Velocity Reading (m/s) | 10.06 | | | | |
| Highest Velocity Reading (m/s) | 13.06 | | | | |
| Ratio (less than 3:1) | 1.30 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 37.3 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 20 | | | | |
| Carbon Dioxide % | 0.10 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1156 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.116 | | | | |
| Blank Filter Run weight gain (mg) | 0.010 | Blank Concentration ($mg/m^3$) | 0.009 | | |
| Blank Wash Run weight gain (mg) | 0.070 | | 0.063 | | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = | 50 | 2.5 |
| Overall Blank value ($mg/m^3$) | 0.072 | This must be <10% of ELV | ELV = | 50 | 5.0 |
| Particulate weight collected on filter (mg) | 0.12 | | | | |
| Particulate weight collected in Wash (mg) | 0.09 | | | | |
| Total Particulate weight collected (mg) | 0.21 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.19 | | | | |
| **Total Particulate Concentration, wet gas at STP ($mg/m^3$)** | **0.19** | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.004 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23th October 2012 |
| **Operator(s)** | E Berek & T Berek |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Preparation Booth 1 | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | | |
| | | | | | **1** | 14.60 | | | | |
| **Number of Stacks** | | | 1 | | **2** | 85.40 | | | | |
| **Stack Configuration** | | | Round | | **3** | N/A | | | | |
| **Dimensions (mtrs)** | | | 0.70 | | **4** | N/A | | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **5** | N/A | | | | |
| **Number of Sample Ports** | | | 2 | | **6** | N/A | | | | |
| **Number of Samples per Axis / Port** | | | 2 | | **7** | N/A | | | | |
| **Nozzle Diameter (mm)** | | | 6.0 | | **8** | N/A | | | | |
| **Nozzle Area (m²)** | | | 0.00002826 | | **Average Isokinetic Flow Rate (ltrs/min)** | | | | **Axis 1** | **Axis 2** |
| **Stack Area (m²)** | | | 0.385 | | | | | | 22.52 | 22.60 |
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | | **Atmos. Pressure (kPa)** | |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | | 101.8 | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | | **Static Pressure (pa)** | |
| **1** | 10.22 | 138 | 31.1 | 8.4 | 145 | 31.2 | 8.5 | | 25.0 | |
| **2** | 59.78 | 152 | 31.0 | 8.4 | 147 | 31.2 | 8.5 | | **1 Axis** | **2 Axis** |
| **3** | N/A | | | | | | | | **Velocity of flow (m/s)** | |
| **4** | N/A | | | | | | | | 13.28 | 13.33 |
| **5** | N/A | | | | | | | | **Volume Flow Rate (m³/s)** | |
| **6** | N/A | | | | | | | | 5.11 | 5.13 |
| **7** | N/A | | | | | | | | **Reduced Exit** | |
| **8** | N/A | | | | | | | | | |
| **Averages** | | 145 | 31.1 | | 146 | 31.2 | | | N/A | |
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | | | | | **304.05** | | | | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | | | | | | **15.85** | **to** | | **46.25** | |
| **Highest Velocity Reading (m/s) =** | | | | | | **14.0** | | | | |
| **Lowest Velocity Reading (m/s) =** | | | | | | **12.9** | | | | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | | | | | **1.08 : 1** | | | | |

| **On site Checklist** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | **<0.2** | **End of first run** | **<0.2** | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.45** | | **Manometer Leak Check** | | | **OK** |
| | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** / **101.0** — **Run 2** / **N/A** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | |

| **Site Equipment Used** | | | |
|---|---|---|---|
| **Pitot Reference** | **RED 0290** | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | **Sampling Pump Reference** | **RED 0385** |
| **Tape Measure Reference** | **RED 0123** | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0395** | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Preparation Booth 1 | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-01 | | | | |
| Date | 23th October 2012 | | | | |
| Sample Period | 07:00 | to | 08:00 | | |
| Velocity (m/s) | 13.28 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 18404 | | | | |
| Average Stack Temp (°C) | 31.1 | | | | |
| Temp Range ± 5% (°C) | 15.85 | to | 46.25 | | |
| Lowest Velocity Reading (m/s) | 12.92 | | | | |
| Highest Velocity Reading (m/s) | 13.98 | | | | |
| Ratio (less than 3:1) | 1.08 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 31.4 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 20 | | | | |
| Carbon Dioxide % | 0.10 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1290 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.249 | | | | |
| Blank Filter Run weight gain (mg) | 0.030 | Blank Concentration ($mg/m^3$) | 0.048 | | |
| Blank Wash Run weight gain (mg) | 0.010 | | 0.016 | | |
| Weighing uncertainty of balance (mg) | 0.079 | This must be <5% of ELV | ELV = | 50 | 2.5 |
| Overall Blank value ($mg/m^3$) | 0.064 | This must be <10% of ELV | ELV = | 50 | 5.0 |
| Particulate weight collected on filter (mg) | 4.09 | | | | |
| Particulate weight collected in Wash (mg) | 0.02 | | | | |
| Total Particulate weight collected (mg) | 4.11 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 3.29 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 3.29 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (Kg/hour) | 0.06 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

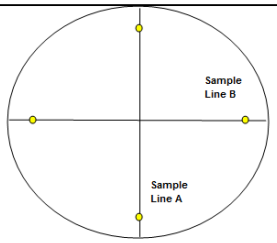
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Preparation Booth 2 | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | | |
| | | | | | **1** | 14.60 | | | | |
| **Number of Stacks** | | | 1 | | **2** | 85.40 | | | | |
| **Stack Configuration** | | | Round | | **3** | N/A | | | | |
| **Dimensions (mtrs)** | | | 0.70 | | **4** | N/A | | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **5** | N/A | | | | |
| **Number of Sample Ports** | | | 2 | | **6** | N/A | | | | |
| **Number of Samples per Axis / Port** | | | 2 | | **7** | N/A | | | | |
| **Nozzle Diameter (mm)** | | | 6.0 | | **8** | N/A | | | | |
| **Nozzle Area (m²)** | | | 0.00002826 | | **Average Isokinetic Flow Rate (ltrs/min)** | | | | **Axis 1** | **Axis 2** |
| **Stack Area (m²)** | | | 0.385 | | | | | | 22.26 | 22.49 |
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | | **Atmos. Pressure (kPa)** | |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | | 101.8 | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | | **Static Pressure (pa)** | |
| **1** | 10.22 | 129 | 25.9 | 8.2 | 133 | 26 | 8.2 | | 35.0 | |
| **2** | 59.78 | 159 | 26.0 | 8.2 | 161 | 26.1 | 8.2 | | **1 Axis** | **2 Axis** |
| **3** | N/A | | | | | | | | **Velocity of flow (m/s)** | |
| **4** | N/A | | | | | | | | 13.13 | 13.26 |
| **5** | N/A | | | | | | | | **Volume Flow Rate (m³/s)** | |
| **6** | N/A | | | | | | | | 5.05 | 5.10 |
| **7** | N/A | | | | | | | | **Reduced Exit** | |
| **8** | N/A | | | | | | | | | |
| **Averages** | | 144 | 26.0 | | 147 | 26.1 | | | N/A | |
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | | | | | **298.95** | | | | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | | | | | | **11.00** | **to** | **40.90** | | |
| **Highest Velocity Reading (m/s) =** | | | | | | **14.3** | | | | |
| **Lowest Velocity Reading (m/s) =** | | | | | | **12.4** | | | | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | | | | | **1.15 : 1** | | | | |

| **On site Checklist** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | **<0.2** | **End of first run** | **<0.2** | | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.45** | | | **Manometer Leak Check** | | | **OK** |
| | | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** / **Run 2** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | | **102.3** / **N/A** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | | |

| **Site Equipment Used** | | | |
|---|---|---|---|
| **Pitot Reference** | **RED 0290** | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | **Sampling Pump Reference** | **RED 0258** |
| **Tape Measure Reference** | **RED 0123** | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0395** | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Preparation Booth 2 | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-03 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 07:07 | to | 08:07 | | |
| Velocity (m/s) | 13.13 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 18186 | | | | |
| Average Stack Temp (°C) | 26.0 | | | | |
| Temp Range ± 5% (°C) | 11.00 | to | 40.90 | | |
| Lowest Velocity Reading (m/s) | 12.38 | | | | |
| Highest Velocity Reading (m/s) | 14.27 | | | | |
| Ratio (less than 3:1) | 1.15 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 26.0 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 20 | | | | |
| Carbon Dioxide % | 0.10 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1328 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.286 | | | | |
| Blank Filter Run weight gain (mg) | 0.010 | Blank Concentration ($mg/m^3$) | 0.016 | | |
| Blank Wash Run weight gain (mg) | 0.020 | | 0.031 | | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = 50 | 2.5 | |
| Overall Blank value ($mg/m^3$) | 0.047 | This must be <10% of ELV | ELV = 50 | 5.0 | |
| Particulate weight collected on filter (mg) | 0.20 | | | | |
| Particulate weight collected in Wash (mg) | 0.07 | | | | |
| Total Particulate weight collected (mg) | 0.27 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.21 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 0.21 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.003 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

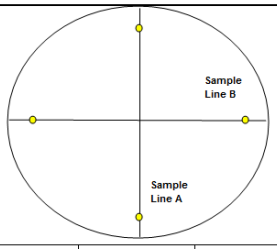
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Scissor 1 Booth 1 | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | | |
| **Number of Stacks** | | 1 | | | **1** | 14.60 |  | | | |
| **Stack Configuration** | | Round | | | **2** | 85.40 | | | | |
| **Dimensions (mtrs)** | | 0.60 | | | **3** | N/A | | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **4** | N/A | | | | |
| **Number of Sample Ports** | | 2 | | | **5** | N/A | | | | |
| **Number of Samples per Axis / Port** | | 2 | | | **6** | N/A | | | | |
| **Nozzle Diameter (mm)** | | 6.0 | | | **7** | N/A | | | | |
| **Nozzle Area (m²)** | | 0.00002826 | | | **8** | N/A | **Average Isokinetic Flow Rate (ltrs/min)** | | **Axis 1** | **Axis 2** |
| **Stack Area (m²)** | | 0.283 | | | | | | | 22.72 | 23.94 |
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | | **Atmos. Pressure (kPa)** | |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | | 101.8 | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | | **Static Pressure (pa)** | |
| **1** | 8.76 | 119 | 26.0 | 9.4 | 145 | 26.2 | 9.4 | | 30.0 | |
| **2** | 51.24 | 181 | 26.2 | 9.4 | 188 | 26.2 | 9.4 | | **1 Axis** | **2 Axis** |
| **3** | N/A | | | | | | | | **Velocity of flow (m/s)** | |
| **4** | N/A | | | | | | | | 13.40 | 14.12 |
| **5** | N/A | | | | | | | | **Volume Flow Rate (m³/s)** | |
| **6** | N/A | | | | | | | | 3.79 | 3.99 |
| **7** | N/A | | | | | | | | **Reduced Exit** | |
| **8** | N/A | | | | | | | | | |
| **Averages** | | 150 | 26.1 | | 167 | 26.2 | | | N/A | |
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | | | | | **299.10** | | | | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | | | | | | **11.15** | **to** | | **41.06** | |
| **Highest Velocity Reading (m/s) =** | | | | | | **15.4** | | | | |
| **Lowest Velocity Reading (m/s) =** | | | | | | **11.9** | | | | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | | | | | **1.30 : 1** | | | | |

| **On site Checklist** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | **<0.2** | **End of first run** | **<0.2** | | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.45** | | | **Manometer Leak Check** | | | **OK** |
| | | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** / **Run 2** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | | **101.2** / **N/A** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | | |

| **Site Equipment Used** | | | |
|---|---|---|---|
| **Pitot Reference** | **RED 0290** | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | **Sampling Pump Reference** | **RED 0385** |
| **Tape Measure Reference** | **RED 0123** | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0395** | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Scissor 1 Booth 1 | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-05 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 09:15 | to | 10:15 | | |
| Velocity (m/s) | 13.40 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 13640 | | | | |
| Average Stack Temp (°C) | 26.1 | | | | |
| Temp Range ± 5% (°C) | 11.15 | to | 41.06 | | |
| Lowest Velocity Reading (m/s) | 11.90 | | | | |
| Highest Velocity Reading (m/s) | 15.42 | | | | |
| Ratio (less than 3:1) | 1.30 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 26.1 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 20 | | | | |
| Carbon Dioxide % | 0.10 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1418 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.366 | | | | |
| Blank Filter Run weight gain (mg) | 0.010 | Blank Concentration ($mg/m^3$) | 0.015 | | |
| Blank Wash Run weight gain (mg) | 0.010 | | 0.015 | | |
| Weighing uncertainty of balance (mg) | 0.083 | This must be <5% of ELV | ELV = 50 | 2.5 | |
| Overall Blank value ($mg/m^3$) | 0.029 | This must be <10% of ELV | ELV = 50 | 5.0 | |
| Particulate weight collected on filter (mg) | 5.51 | | | | |
| Particulate weight collected in Wash (mg) | 0.19 | | | | |
| Total Particulate weight collected (mg) | 5.70 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 4.17 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 4.17 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.04 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Scissor 1 Booth 2 | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | |
| | | | | | **1** | 14.60 |  | | |
| **Number of Stacks** | | | 1 | | **2** | 85.40 | | | |
| **Stack Configuration** | | | Round | | **3** | N/A | | | |
| **Dimensions (mtrs)** | | | 0.60 | | **4** | N/A | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **5** | N/A | | | |
| **Number of Sample Ports** | | | 2 | | **6** | N/A | | | |
| **Number of Samples per Axis / Port** | | | 2 | | **7** | N/A | | | |
| **Nozzle Diameter (mm)** | | | 6.0 | | **8** | N/A | | | |
| **Nozzle Area (m²)** | | | 0.00002826 | | **Average Isokinetic Flow Rate (ltrs/min)** | | | **Axis 1** | **Axis 2** |
| **Stack Area (m²)** | | | 0.283 | | | | | 23.32 | 23.28 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | **Atmos. Pressure (kPa)** | |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | 101.8 | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | **Static Pressure (pa)** | |
| **1** | 8.76 | 139 | 27.1 | 8.9 | 165 | 27.2 | 8.9 | 23.0 | |
| **2** | 51.24 | 176 | 27.2 | 8.9 | 149 | 27.1 | 8.9 | **1 Axis** | **2 Axis** |
| **3** | N/A | | | | | | | **Velocity of flow (m/s)** | |
| **4** | N/A | | | | | | | 13.75 | 13.73 |
| **5** | N/A | | | | | | | **Volume Flow Rate (m³/s)** | |
| **6** | N/A | | | | | | | 3.89 | 3.88 |
| **7** | N/A | | | | | | | **Reduced Exit** | |
| **8** | N/A | | | | | | | | |
| **Averages** | | 158 | 27.2 | | 157 | 27.2 | | N/A | |

| | | | |
|---|---|---|---|
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | **300.15** | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | **12.14** | **to** | **42.16** |
| **Highest Velocity Reading (m/s) =** | | **15.0** | |
| **Lowest Velocity Reading (m/s) =** | | **12.9** | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | **1.16 : 1** | |

**On site Checklist**

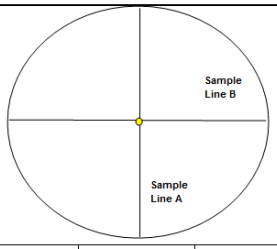
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | **<0.2** | **End of first run** | **<0.2** | | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.47** | | | **Manometer Leak Check** | | | **OK** |
| | | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** | **Run 2** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | | **95.5** | **N/A** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | | | |

**Site Equipment Used**

| | | | | |
|---|---|---|---|---|
| **Pitot Reference** | **RED 0290** | | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | | **Sampling Pump Reference** | **RED 0385** |
| **Tape Measure Reference** | **RED 0123** | | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0395** | | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Scissor 1 Booth 2 | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-07 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 10:20 | to | 11:20 | | |
| Velocity (m/s) | 13.75 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 13998 | | | | |
| Average Stack Temp (°C) | 27.2 | | | | |
| Temp Range ± 5% (°C) | 12.14 | to | 42.16 | | |
| Lowest Velocity Reading (m/s) | 12.88 | | | | |
| Highest Velocity Reading (m/s) | 14.95 | | | | |
| Ratio (less than 3:1) | 1.16 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 27.2 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 20 | | | | |
| Carbon Dioxide % | 0.20 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1321 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.272 | | | | |
| Blank Filter Run weight gain (mg) | 0.530 | Blank Concentration ($mg/m^3$) | 0.834 | | |
| Blank Wash Run weight gain (mg) | 0.000 | | 0.000 | | |
| Weighing uncertainty of balance (mg) | 0.077 | This must be <5% of ELV | ELV = 50 | 2.5 | |
| Overall Blank value ($mg/m^3$) | 0.834 | This must be <10% of ELV | ELV = 50 | 5.0 | |
| Particulate weight collected on filter (mg) | 2.78 | | | | |
| Particulate weight collected in Wash (mg) | 0.04 | | | | |
| Total Particulate weight collected (mg) | 2.82 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 2.22 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 2.22 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.02 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Scissor 1 Oven | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | |
| | | | | | **1** | 50.00 |  | | |
| **Number of Stacks** | | 1 | | | **2** | N/A | | | |
| **Stack Configuration** | | Round | | | **3** | N/A | | | |
| **Dimensions (mtrs)** | | 0.20 | | | **4** | N/A | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **5** | N/A | | | |
| **Number of Sample Ports** | | 1 | | | **6** | N/A | | | |
| **Number of Samples per Axis / Port** | | 1 | | | **7** | N/A | | | |
| **Nozzle Diameter (mm)** | | 8.0 | | | **8** | N/A | | | |
| **Nozzle Area (m²)** | | 0.00005024 | | | **Average Isokinetic Flow Rate (ltrs/min)** | | | **Axis 1** | **Axis 2** |
| **Stack Area (m²)** | | 0.031 | | | | | | 19.29 | N/A |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2011** | | | **Atmos. Pressure (kPa)** |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | 101.8 |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | **Static Pressure (pa)** |
| **1** | 10.00 | 28 | 92.3 | 7.0 | | | | 7.0 |
| **2** | N/A | | | | | | | **1 Axis** / **2 Axis** |
| **3** | N/A | | | | | | | **Velocity of flow (m/s)** |
| **4** | N/A | | | | | | | 6.40 / N/A |
| **5** | N/A | | | | | | | **Volume Flow Rate (m³/s)** |
| **6** | N/A | | | | | | | 0.20 / N/A |
| **7** | N/A | | | | | | | **Reduced Exit** |
| **8** | N/A | | | | | | | |
| **Averages** | | 28 | 92.3 | | | | | N/A |

| | | | |
|---|---|---|---|
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | **365.30** | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | **74.04** | **to** | **110.57** |
| **Highest Velocity Reading (m/s) =** | | **6.6** | |
| **Lowest Velocity Reading (m/s) =** | | **6.4** | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | **1.03 : 1** | |

**On site Checklist**

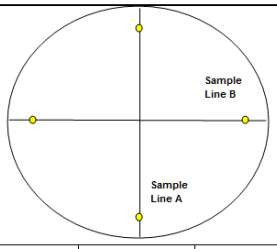
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | **<0.2** | **End of first run** | **<0.2** | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.39** | | **Manometer Leak Check** | | | **OK** |
| | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** / **Run 2** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | **110.0** / **N/A** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | |

**Site Equipment Used**

| | | | |
|---|---|---|---|
| **Pitot Reference** | **RED 0290** | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | **Sampling Pump Reference** | **RED 0385** |
| **Tape Measure Reference** | **RED 0123** | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0395** | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Scissor 1 Oven | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-09 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 11:24 | to | 12:24 | | |
| Velocity (m/s) | 6.40 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 724 | | | | |
| Average Stack Temp (°C) | 92.3 | | | | |
| Temp Range ± 5% (°C) | 74.04 | to | 110.57 | | |
| Lowest Velocity Reading (m/s) | 6.38 | | | | |
| Highest Velocity Reading (m/s) | 6.58 | | | | |
| Ratio (less than 3:1) | 1.03 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 92.3 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 20 | | | | |
| Carbon Dioxide % | 0.10 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1184 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.137 | | | | |
| Blank Filter Run weight gain (mg) | 0.010 | Blank Concentration ($mg/m^3$) | 0.018 | | |
| Blank Wash Run weight gain (mg) | 0.030 | | 0.053 | | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = 50 | 2.5 | |
| Overall Blank value ($mg/m^3$) | 0.070 | This must be <10% of ELV | ELV = 50 | 5.0 | |
| Particulate weight collected on filter (mg) | 0.15 | | | | |
| Particulate weight collected in Wash (mg) | 0.19 | | | | |
| Total Particulate weight collected (mg) | 0.34 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.30 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 0.30 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.0002 | | | | |

| | |
|---|---|
| **Client** | Terex United Knigdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Scisoor 2 Booth 1 | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | |
| | | | | | **1** | 14.60 |  | | |
| **Number of Stacks** | | 1 | | | **2** | 85.40 | | | |
| **Stack Configuration** | | Round | | | **3** | N/A | | | |
| **Dimensions (mtrs)** | | 0.60 | | | **4** | N/A | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **5** | N/A | | | |
| **Number of Sample Ports** | | 2 | | | **6** | N/A | | | |
| **Number of Samples per Axis / Port** | | 2 | | | **7** | N/A | | | |
| **Nozzle Diameter (mm)** | | 6.0 | | | **8** | N/A | | | |
| **Nozzle Area (m²)** | | 0.00002826 | | | **Average Isokinetic Flow Rate (ltrs/min)** | | | **Axis 1** | **Axis 2** |
| **Stack Area (m²)** | | 0.283 | | | | | | 22.84 | 23.59 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | **Atmos. Pressure (kPa)** | |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | 101.8 | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | **Static Pressure (pa)** | |
| **1** | 8.76 | 133 | 30.1 | 6.8 | 149 | 30.1 | 6.7 | 27.0 | |
| **2** | 51.24 | 166 | 30.1 | 6.8 | 170 | 30.1 | 6.7 | **1 Axis** | **2 Axis** |
| **3** | N/A | | | | | | | **Velocity of flow (m/s)** | |
| **4** | N/A | | | | | | | 13.47 | 13.91 |
| **5** | N/A | | | | | | | **Volume Flow Rate (m³/s)** | |
| **6** | N/A | | | | | | | 3.81 | 3.93 |
| **7** | N/A | | | | | | | **Reduced Exit** | |
| **8** | N/A | | | | | | | | |
| **Averages** | | 150 | 30.1 | | 160 | 30.1 | | N/A | |

| | | | |
|---|---|---|---|
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | **303.10** | | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | **14.95** | **to** | **45.26** |
| **Highest Velocity Reading (m/s) =** | **14.8** | | |
| **Lowest Velocity Reading (m/s) =** | **12.7** | | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | **1.17 : 1** | | |

**On site Checklist**

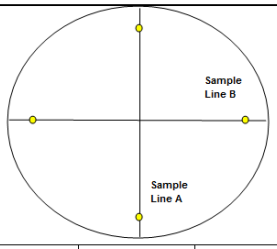
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | | **End of first run** | | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.46** | | **Manometer Leak Check** | | | **OK** |
| | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** / **Run 2** |
| **Passed minimum Velocity requirements (>5pa)** | | **YES** | | | | | **98.2** / **#DIV/0!** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | **NO** | | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | **NO** | | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | **YES** | | | | | |

**Site Equipment Used**

| | | | |
|---|---|---|---|
| **Pitot Reference** | **RED 0290** | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | **Sampling Pump Reference** | **RED 0258** |
| **Tape Measure Reference** | **RED 0123** | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0274** | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Scisoor 2 Booth 1 | | | | |
|---|---|---|---|---|---|
| | Terex United Knigdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-11 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 09:18 | to | 10:18 | | |
| Velocity (m/s) | 13.47 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 13708 | | | | |
| Average Stack Temp (°C) | 30.1 | | | | |
| Temp Range ± 5% (°C) | 14.95 | to | 45.26 | | |
| Lowest Velocity Reading (m/s) | 12.66 | | | | |
| Highest Velocity Reading (m/s) | 14.77 | | | | |
| Ratio (less than 3:1) | 1.17 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 30.1 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 20 | | | | |
| Carbon Dioxide % | 0.10 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1363 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.309 | | | | |
| Blank Filter Run weight gain (mg) | 0.050 | Blank Concentration ($mg/m^3$) | 0.076 | | |
| Blank Wash Run weight gain (mg) | 0.030 | | 0.046 | | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = | 50 | 2.5 |
| Overall Blank value ($mg/m^3$) | 0.122 | This must be <10% of ELV | ELV = | 50 | 5.0 |
| Particulate weight collected on filter (mg) | 0.49 | | | | |
| Particulate weight collected in Wash (mg) | 0.21 | | | | |
| Total Particulate weight collected (mg) | 0.70 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.53 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 0.53 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.01 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

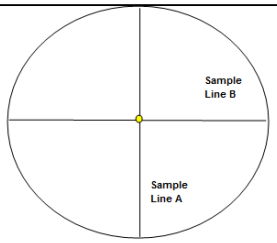
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Scissor 2 Booth 2 | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | | |
| **Number of Stacks** | | | 1 | | **1** | 14.60 |  | | | |
| **Stack Configuration** | | | Round | | **2** | 85.40 | | | | |
| **Dimensions (mtrs)** | | | 0.60 | | **3** | N/A | | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **4** | N/A | | | | |
| **Number of Sample Ports** | | | 2 | | **5** | N/A | | | | |
| **Number of Samples per Axis / Port** | | | 2 | | **6** | N/A | | | | |
| **Nozzle Diameter (mm)** | | | 6.0 | | **7** | N/A | | | | |
| **Nozzle Area (m²)** | | | 0.00002826 | | **8** | N/A | | | | |
| **Stack Area (m²)** | | | 0.283 | | **Average Isokinetic Flow Rate (ltrs/min)** | | | | **Axis 1** | **Axis 2** |
| | | | | | | | | | 22.26 | 23.72 |
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | | **Atmos. Pressure (kPa)** | |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | | 101.8 | |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | | **Static Pressure (pa)** | |
| **1** | 8.76 | 122 | 31.1 | 6.8 | 172 | 31.1 | 6.7 | | 44.0 | |
| **2** | 51.24 | 166 | 31.1 | 6.8 | 155 | 31.1 | 6.7 | | **1 Axis** | **2 Axis** |
| **3** | N/A | | | | | | | | **Velocity of flow (m/s)** | |
| **4** | N/A | | | | | | | | 13.13 | 13.99 |
| **5** | N/A | | | | | | | | **Volume Flow Rate (m³/s)** | |
| **6** | N/A | | | | | | | | 3.71 | 3.95 |
| **7** | N/A | | | | | | | | **Reduced Exit** | |
| **8** | N/A | | | | | | | | | |
| **Averages** | | 144 | 31.1 | | 164 | 31.1 | | | N/A | |
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | | | | | **304.10** | | | | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | | | | | | **15.90** | **to** | | **46.31** | |
| **Highest Velocity Reading (m/s) =** | | | | | | **14.9** | | | | |
| **Lowest Velocity Reading (m/s) =** | | | | | | **12.1** | | | | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | | | | | **1.22 : 1** | | | | |

| **On site Checklist** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | **<0.2** | **End of first run** | **<0.2** | | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.45** | | | **Manometer Leak Check** | | | **OK** |
| | | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** / **94.7** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | | **Run 2** / **N/A** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | | |

| **Site Equipment Used** | | | |
|---|---|---|---|
| **Pitot Reference** | **RED 0290** | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | **Sampling Pump Reference** | **RED 0258** |
| **Tape Measure Reference** | **RED 0123** | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0274** | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Scissor 2 Booth 2 | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-13 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 10:25 | to | 11:25 | | |
| Velocity (m/s) | 13.13 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 13362 | | | | |
| Average Stack Temp (°C) | 31.1 | | | | |
| Temp Range ± 5% (°C) | 15.90 | to | 46.31 | | |
| Lowest Velocity Reading (m/s) | 12.15 | | | | |
| Highest Velocity Reading (m/s) | 14.88 | | | | |
| Ratio (less than 3:1) | 1.22 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 31.1 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 10.4 | | | | |
| Carbon Dioxide % | 5.60 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 1323 | | | | |
| Corrected volume sampled - STP ($m^3$) | 1.269 | | | | |
| Blank Filter Run weight gain (mg) | 0.030 | Blank Concentration ($mg/m^3$) | 0.047 | | |
| Blank Wash Run weight gain (mg) | 0.020 | | 0.032 | | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = | 50 | 2.5 |
| Overall Blank value ($mg/m^3$) | 0.079 | This must be <10% of ELV | ELV = | 50 | 5.0 |
| Particulate weight collected on filter (mg) | 0.01 | | | | |
| Particulate weight collected in Wash (mg) | 0.08 | | | | |
| Total Particulate weight collected (mg) | 0.09 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.07 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 0.07 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.001 | | | | |

| | |
|---|---|
| **Client** | Terex United Kingdom Limited |
| **Site Address** | Coventry |
| **Job Number** | P-RED12-135 |
| **Date** | 23rd October 2012 |
| **Operator(s)** | E Berek & T Berek |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Stack Reference** | | Scissor 2 Oven | | | **Isokinetic Sample Positions (%) multiply by diameter to obtain sample points** | | **Sampling Plane Diagram** | | |
| | | | | | **1** | 50.00 |  | | |
| **Number of Stacks** | | 1 | | | **2** | N/A | | | |
| **Stack Configuration** | | Round | | | **3** | N/A | | | |
| **Dimensions (mtrs)** | | 0.20 | | | **4** | N/A | | | |
| **Outlet Diameter (if applicable) (metres)** | | | | | **5** | N/A | | | |
| **Number of Sample Ports** | | 2 | | | **6** | N/A | | | |
| **Number of Samples per Axis / Port** | | 1 | | | **7** | N/A | | | |
| **Nozzle Diameter (mm)** | | 8.0 | | | **8** | N/A | | | |
| **Nozzle Area (m²)** | | 0.00005024 | | | **Average Isokinetic Flow Rate (ltrs/min)** | | | **Axis 1** | **Axis 2** |
| **Stack Area (m²)** | | 0.031 | | | | | | 18.48 | N/A |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Pitot Coefficient** | **0.84** | **Pitot Calibration Due Date** | | | **31/03/2013** | | | **Atmos. Pressure (kPa)** |
| **Position** | **Distance** | **Axis 1** | **Temperature** | **Swirl Test** | **Axis 2** | **Temperature** | **Swirl Test** | 101.8 |
| **No.** | **(cms)** | **(pa)** | **(C)** | **(°)** | **(pa)** | **(C)** | **(°)** | **Static Pressure (pa)** |
| **1** | 10.00 | 26 | 88.0 | 6.2 | | | | 5.0 |
| **2** | N/A | | | | | | | **1 Axis** / **2 Axis** |
| **3** | N/A | | | | | | | **Velocity of flow (m/s)** |
| **4** | N/A | | | | | | | 6.13 / N/A |
| **5** | N/A | | | | | | | **Volume Flow Rate (m³/s)** |
| **6** | N/A | | | | | | | 0.19 / N/A |
| **7** | N/A | | | | | | | **Reduced Exit** |
| **8** | N/A | | | | | | | |
| **Averages** | | 26 | 88.0 | | | | | N/A |

| | | | |
|---|---|---|---|
| **Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =** | | **361.00** | |
| **Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =** | **69.95** | **to** | **106.05** |
| **Highest Velocity Reading (m/s) =** | | **6.3** | |
| **Lowest Velocity Reading (m/s) =** | | **6.1** | |
| **Ratio Highest/Lowest (Max permitted = 3:1)** | | **1.03 : 1** | |

**On site Checklist**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Initial Leak Check** | **<0.2** | **End of first run** | **<0.2** | **Start of 2nd run** | | **End of 2nd run** | |
| **Acceptable Leak Check < 2% Vol (l/min)** | | **0.37** | | **Manometer Leak Check** | | | **OK** |
| | | | | **Pitot Leak Check** | | | **OK** |
| **Range of Gas Temps** | | **OK** | | **Overall Isokinetic Ratio (%) (must be 95 to 115%)** | | | **Run 1** / **Run 2** |
| **Passed minimum Velocity requirements (>5pa)** | | | **YES** | | | | **95.6** / **N/A** |
| **Negative Local Flow Present, YES or NO (Yes = Fail)** | | | **NO** | **Are there sufficient rails and kick board? (YES , NO or N/A)** | | | **NO** |
| **Is the Platform area greater than 5m²? (YES, NO or N/A)** | | | **NO** | **Is the area infront of the sample line the length of the probe + 1 metre? (YES or NO)** | | | **YES** |
| **Passed Highest to lowest Velocity (3:1)** | | | **YES** | | | | |

**Site Equipment Used**

| | | | |
|---|---|---|---|
| **Pitot Reference** | **RED 0290** | **Manometer Reference** | **RED 0393** |
| **Thermometer Reference** | **RED 0351-RED 0352** | **Thermocouple Reference** | **RED 0362** |
| **Balance Reference** | **N/A** | **Sampling Pump Reference** | **RED 0258** |
| **Tape Measure Reference** | **RED 0123** | **Barometer Reference** | **RED 0094** |
| **DGM Thermocouple** | **RED 0274** | **Impinger Outlet Thermocouple** | **N/A** |
| **Calipers** | **RED 0300** | **Condenser Thermocouple** | **N/A** |

| Stack Reference ID | Scissor 2 Oven | | | | |
|---|---|---|---|---|---|
| | Terex United Kingdom Limited | | | | |
| | RUN 1 | | | | |
| Filter Reference No | G47-171012-15 | | | | |
| Date | 23rd October 2012 | | | | |
| Sample Period | 11:30 | to | 12:30 | | |
| Velocity (m/s) | 6.13 | | | | |
| Volume flow rate of Stack gas ($m^3$/hr) | 693 | | | | |
| Average Stack Temp (°C) | 88.0 | | | | |
| Temp Range ± 5% (°C) | 69.95 | to | 106.05 | | |
| Lowest Velocity Reading (m/s) | 6.11 | | | | |
| Highest Velocity Reading (m/s) | 6.30 | | | | |
| Ratio (less than 3:1) | 1.03 | : | 1 | | |
| Pre-conditioning temperature of Filter (°C) | 180 | | | | |
| Instack sampling - Max Filter temperature (°C) | 88.0 | | | | |
| Post-conditioning temperature Filter/Wash (°C) | 160 | | | | |
| Oxygen % | 20 | | | | |
| Carbon Dioxide % | 0.10 | | | | |
| Moisture (%) | 0.00 | | | | |
| Litres sampled | 992 | | | | |
| Corrected volume sampled - STP ($m^3$) | 0.951 | | | | |
| Blank Filter Run weight gain (mg) | 0.000 | Blank Concentration ($mg/m^3$) | 0.000 | | |
| Blank Wash Run weight gain (mg) | 0.020 | | 0.021 | | |
| Weighing uncertainty of balance (mg) | 0.074 | This must be <5% of ELV | ELV = 50 | 2.5 | |
| Overall Blank value ($mg/m^3$) | 0.021 | This must be <10% of ELV | ELV = 50 | 5.0 | |
| Particulate weight collected on filter (mg) | 0.01 | | | | |
| Particulate weight collected in Wash (mg) | 0.10 | | | | |
| Total Particulate weight collected (mg) | 0.11 | | | | |
| Total Particulate Concentration, dry gas at STP ($mg/m^3$) | 0.11 | | | | |
| Total Particulate Concentration, wet gas at STP ($mg/m^3$) | 0.11 | | | | |
| Total Particulate Concentration corrected for 11% Oxygen, dry gas ($mg/m^3$) | N/A | | | | |
| Total Particulate Mass Emission (g/hour) | 0.0001 | | | | |

# APPENDIX B

## VOC Raw Data

## Scissor 1 Booth 1 - VOC Monitoring

| Date | Time | VOC mg/m³ | Date | Time | VOC mg/m³ |
|---|---|---|---|---|---|
| 23-Oct-12 | 09:20:00 | 19.61 | 23-Oct-12 | 10:09:00 | 19.61 |
| 23-Oct-12 | 09:21:00 | 18.96 | 23-Oct-12 | 10:10:00 | 18.96 |
| 23-Oct-12 | 09:22:00 | 18.32 | 23-Oct-12 | 10:11:00 | 19.61 |
| 23-Oct-12 | 09:23:00 | 20.89 | 23-Oct-12 | 10:12:00 | 18.96 |
| 23-Oct-12 | 09:24:00 | 20.89 | 23-Oct-12 | 10:13:00 | 18.96 |
| 23-Oct-12 | 09:25:00 | 20.25 | 23-Oct-12 | 10:14:00 | 18.96 |
| 23-Oct-12 | 09:26:00 | 18.96 | 23-Oct-12 | 10:15:00 | 18.96 |
| 23-Oct-12 | 09:27:00 | 18.32 | 23-Oct-12 | 10:16:00 | 18.96 |
| 23-Oct-12 | 09:28:00 | 20.25 | 23-Oct-12 | 10:17:00 | 19.61 |
| 23-Oct-12 | 09:29:00 | 16.39 | 23-Oct-12 | 10:18:00 | 20.25 |
| 23-Oct-12 | 09:30:00 | 17.68 | 23-Oct-12 | 10:19:00 | 19.61 |
| 23-Oct-12 | 09:31:00 | 18.96 | 23-Oct-12 | 10:20:00 | 19.61 |
| 23-Oct-12 | 09:32:00 | 17.68 | | | |
| 23-Oct-12 | 09:33:00 | 20.25 | | | |
| 23-Oct-12 | 09:34:00 | 17.68 | **Average** | | **19.59** |
| 23-Oct-12 | 09:35:00 | 18.96 | | | |
| 23-Oct-12 | 09:36:00 | 18.32 | | | |
| 23-Oct-12 | 09:37:00 | 18.96 | | | |
| 23-Oct-12 | 09:38:00 | 18.32 | | | |
| 23-Oct-12 | 09:39:00 | 18.32 | | | |
| 23-Oct-12 | 09:40:00 | 18.96 | | | |
| 23-Oct-12 | 09:41:00 | 18.96 | | | |
| 23-Oct-12 | 09:42:00 | 20.89 | | | |
| 23-Oct-12 | 09:43:00 | 21.54 | | | |
| 23-Oct-12 | 09:44:00 | 20.89 | | | |
| 23-Oct-12 | 09:45:00 | 20.25 | | | |
| 23-Oct-12 | 09:46:00 | 20.25 | | | |
| 23-Oct-12 | 09:47:00 | 21.54 | | | |
| 23-Oct-12 | 09:48:00 | 20.25 | | | |
| 23-Oct-12 | 09:49:00 | 20.25 | | | |
| 23-Oct-12 | 09:50:00 | 20.89 | | | |
| 23-Oct-12 | 09:51:00 | 18.96 | | | |
| 23-Oct-12 | 09:52:00 | 19.61 | | | |
| 23-Oct-12 | 09:53:00 | 18.96 | | | |
| 23-Oct-12 | 09:54:00 | 19.61 | | | |
| 23-Oct-12 | 09:55:00 | 20.25 | | | |
| 23-Oct-12 | 09:56:00 | 19.61 | | | |
| 23-Oct-12 | 09:57:00 | 19.61 | | | |
| 23-Oct-12 | 09:58:00 | 19.61 | | | |
| 23-Oct-12 | 09:59:00 | 18.96 | | | |
| 23-Oct-12 | 10:00:00 | 18.96 | | | |
| 23-Oct-12 | 10:01:00 | 20.25 | | | |
| 23-Oct-12 | 10:02:00 | 20.89 | | | |
| 23-Oct-12 | 10:03:00 | 20.89 | | | |
| 23-Oct-12 | 10:04:00 | 21.54 | | | |
| 23-Oct-12 | 10:05:00 | 22.82 | | | |
| 23-Oct-12 | 10:06:00 | 21.54 | | | |
| 23-Oct-12 | 10:07:00 | 20.25 | | | |
| 23-Oct-12 | 10:08:00 | 20.25 | | | |

The data represented in this table is expressed at 1 minute intervals but the data used in the chart is produced using 5 second intervals

## Scissor 1 Booth 2 - VOC Monitoring

| Date | Time | VOC mg/m³ | Date | Time | VOC mg/m³ |
|---|---|---|---|---|---|
| 23-Oct-12 | 10:25:15 | 17.44 | 23-Oct-12 | 11:14:15 | 12.78 |
| 23-Oct-12 | 10:26:15 | 16.79 | 23-Oct-12 | 11:15:15 | 15.59 |
| 23-Oct-12 | 10:27:15 | 14.71 | 23-Oct-12 | 11:16:15 | 12.13 |
| 23-Oct-12 | 10:28:15 | 12.62 | 23-Oct-12 | 11:17:15 | 11.65 |
| 23-Oct-12 | 10:29:15 | 12.29 | 23-Oct-12 | 11:18:15 | 21.21 |
| 23-Oct-12 | 10:30:15 | 14.06 | 23-Oct-12 | 11:19:15 | 15.83 |
| 23-Oct-12 | 10:31:15 | 12.29 | 23-Oct-12 | 11:20:15 | 11.17 |
| 23-Oct-12 | 10:32:15 | 11.81 | 23-Oct-12 | 11:21:15 | 11.01 |
| 23-Oct-12 | 10:33:15 | 12.46 | 23-Oct-12 | 11:22:15 | 11.97 |
| 23-Oct-12 | 10:34:15 | 11.17 | 23-Oct-12 | 11:23:15 | 12.46 |
| 23-Oct-12 | 10:35:15 | 10.37 | 23-Oct-12 | 11:24:15 | 19.13 |
| 23-Oct-12 | 10:36:15 | 17.44 | 23-Oct-12 | 11:25:15 | 16.88 |
| 23-Oct-12 | 10:37:15 | 9.56 | | | |
| 23-Oct-12 | 10:38:15 | 9.24 | | | |
| 23-Oct-12 | 10:39:15 | 9.40 | **Average** | | **13.41** |
| 23-Oct-12 | 10:40:15 | 8.92 | | | |
| 23-Oct-12 | 10:41:15 | 12.13 | | | |
| 23-Oct-12 | 10:42:15 | 12.94 | | | |
| 23-Oct-12 | 10:43:15 | 11.33 | | | |
| 23-Oct-12 | 10:44:15 | 11.01 | | | |
| 23-Oct-12 | 10:45:15 | 11.33 | | | |
| 23-Oct-12 | 10:46:15 | 12.29 | | | |
| 23-Oct-12 | 10:47:15 | 12.78 | | | |
| 23-Oct-12 | 10:48:15 | 10.85 | | | |
| 23-Oct-12 | 10:49:15 | 11.17 | | | |
| 23-Oct-12 | 10:50:15 | 16.63 | | | |
| 23-Oct-12 | 10:51:15 | 15.19 | | | |
| 23-Oct-12 | 10:52:15 | 15.83 | | | |
| 23-Oct-12 | 10:53:15 | 13.58 | | | |
| 23-Oct-12 | 10:54:15 | 12.62 | | | |
| 23-Oct-12 | 10:55:15 | 13.42 | | | |
| 23-Oct-12 | 10:56:15 | 16.15 | | | |
| 23-Oct-12 | 10:57:15 | 13.26 | | | |
| 23-Oct-12 | 10:58:15 | 18.88 | | | |
| 23-Oct-12 | 10:59:15 | 14.38 | | | |
| 23-Oct-12 | 11:00:15 | 13.02 | | | |
| 23-Oct-12 | 11:01:15 | 13.98 | | | |
| 23-Oct-12 | 11:02:15 | 22.82 | | | |
| 23-Oct-12 | 11:03:15 | 17.20 | | | |
| 23-Oct-12 | 11:04:15 | 13.42 | | | |
| 23-Oct-12 | 11:05:15 | 12.78 | | | |
| 23-Oct-12 | 11:06:15 | 16.39 | | | |
| 23-Oct-12 | 11:07:15 | 16.23 | | | |
| 23-Oct-12 | 11:08:15 | 13.90 | | | |
| 23-Oct-12 | 11:09:15 | 12.29 | | | |
| 23-Oct-12 | 11:10:15 | 11.49 | | | |
| 23-Oct-12 | 11:11:15 | 10.37 | | | |
| 23-Oct-12 | 11:12:15 | 9.80 | | | |
| 23-Oct-12 | 11:13:15 | 9.56 | | | |

The data represented in this table is expressed at 1 minute intervals but the data used in the chart is produced using 5 second intervals

## Scissor 2 Booth 1 - VOC Monitoring

| Date | Time | VOC mg/m³ | Date | Time | VOC mg/m³ |
|---|---|---|---|---|---|
| 23-Oct-12 | 09:15:15 | 21.86 | 23-Oct-12 | 10:04:15 | 21.97 |
| 23-Oct-12 | 09:16:15 | 21.64 | 23-Oct-12 | 10:05:15 | 22.18 |
| 23-Oct-12 | 09:17:15 | 21.75 | 23-Oct-12 | 10:06:15 | 21.86 |
| 23-Oct-12 | 09:18:15 | 21.86 | 23-Oct-12 | 10:07:15 | 21.54 |
| 23-Oct-12 | 09:19:15 | 21.43 | 23-Oct-12 | 10:08:15 | 21.86 |
| 23-Oct-12 | 09:20:15 | 21.43 | 23-Oct-12 | 10:09:15 | 21.64 |
| 23-Oct-12 | 09:21:15 | 21.64 | 23-Oct-12 | 10:10:15 | 21.86 |
| 23-Oct-12 | 09:22:15 | 21.64 | 23-Oct-12 | 10:11:15 | 21.43 |
| 23-Oct-12 | 09:23:15 | 21.86 | 23-Oct-12 | 10:12:15 | 21.64 |
| 23-Oct-12 | 09:24:15 | 21.43 | 23-Oct-12 | 10:13:15 | 21.43 |
| 23-Oct-12 | 09:25:15 | 21.75 | 23-Oct-12 | 10:14:15 | 21.75 |
| 23-Oct-12 | 09:26:15 | 21.75 | | | |
| 23-Oct-12 | 09:27:15 | 21.64 | | | |
| 23-Oct-12 | 09:28:15 | 21.43 | | | |
| 23-Oct-12 | 09:29:15 | 21.54 | **Average** | | **21.46** |
| 23-Oct-12 | 09:30:15 | 21.32 | | | |
| 23-Oct-12 | 09:31:15 | 20.85 | | | |
| 23-Oct-12 | 09:32:15 | 16.26 | | | |
| 23-Oct-12 | 09:33:15 | 19.06 | | | |
| 23-Oct-12 | 09:34:15 | 20.57 | | | |
| 23-Oct-12 | 09:35:15 | 21.97 | | | |
| 23-Oct-12 | 09:36:15 | 22.29 | | | |
| 23-Oct-12 | 09:37:15 | 22.29 | | | |
| 23-Oct-12 | 09:38:15 | 22.18 | | | |
| 23-Oct-12 | 09:39:15 | 22.29 | | | |
| 23-Oct-12 | 09:40:15 | 21.32 | | | |
| 23-Oct-12 | 09:41:15 | 21.43 | | | |
| 23-Oct-12 | 09:42:15 | 21.43 | | | |
| 23-Oct-12 | 09:43:15 | 21.64 | | | |
| 23-Oct-12 | 09:44:15 | 21.43 | | | |
| 23-Oct-12 | 09:45:15 | 21.32 | | | |
| 23-Oct-12 | 09:46:15 | 21.21 | | | |
| 23-Oct-12 | 09:47:15 | 21.32 | | | |
| 23-Oct-12 | 09:48:15 | 21.21 | | | |
| 23-Oct-12 | 09:49:15 | 21.00 | | | |
| 23-Oct-12 | 09:50:15 | 21.00 | | | |
| 23-Oct-12 | 09:51:15 | 20.78 | | | |
| 23-Oct-12 | 09:52:15 | 22.07 | | | |
| 23-Oct-12 | 09:53:15 | 21.32 | | | |
| 23-Oct-12 | 09:54:15 | 21.86 | | | |
| 23-Oct-12 | 09:55:15 | 20.78 | | | |
| 23-Oct-12 | 09:56:15 | 20.78 | | | |
| 23-Oct-12 | 09:57:15 | 21.21 | | | |
| 23-Oct-12 | 09:58:15 | 21.21 | | | |
| 23-Oct-12 | 09:59:15 | 21.32 | | | |
| 23-Oct-12 | 10:00:15 | 21.43 | | | |
| 23-Oct-12 | 10:01:15 | 21.75 | | | |
| 23-Oct-12 | 10:02:15 | 21.75 | | | |
| 23-Oct-12 | 10:03:15 | 21.86 | | | |

The data represented in this table is expressed at 1 minute intervals but the data used in the chart is produced using 5 second intervals

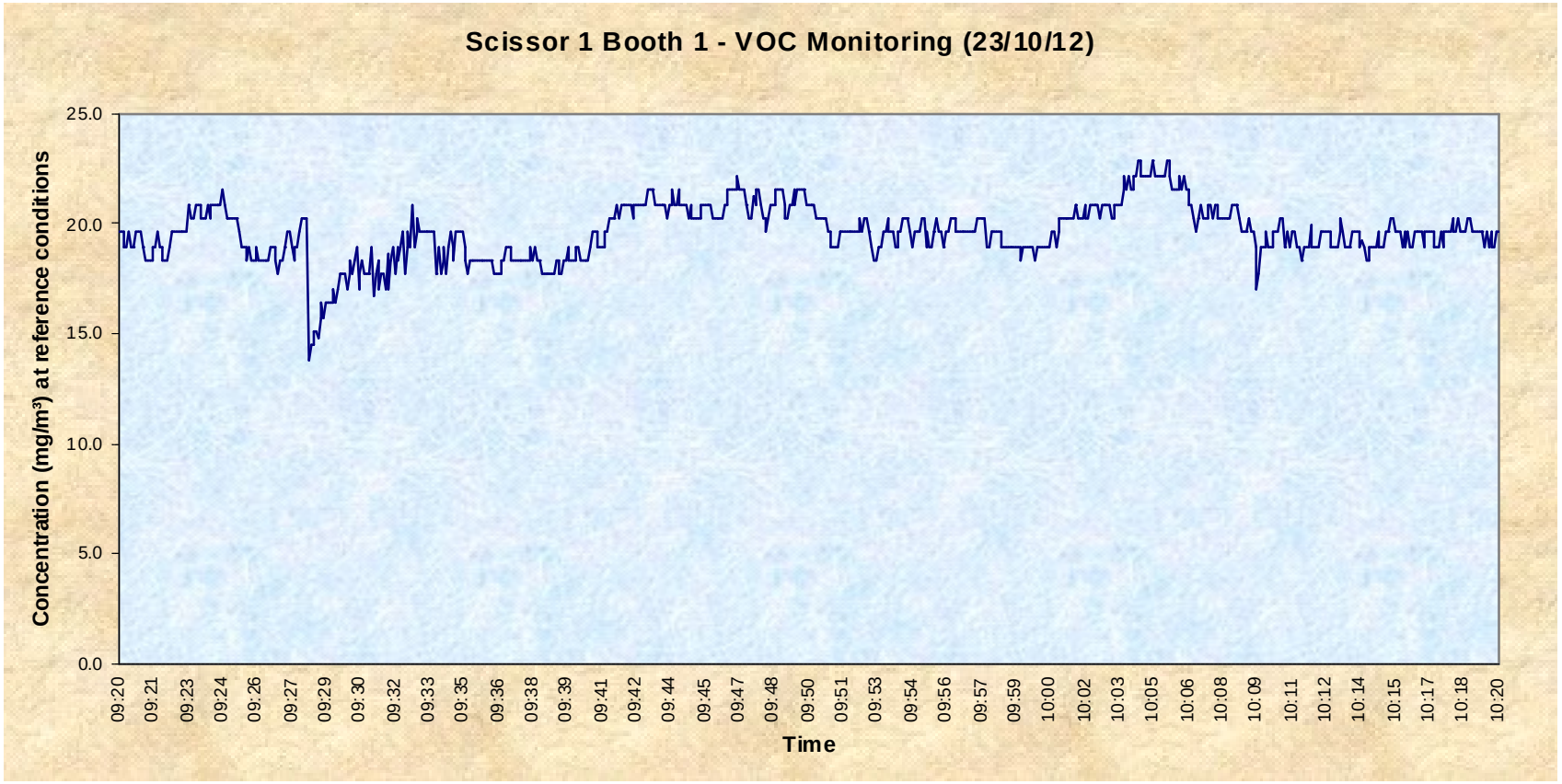
## Scissor 2 Booth 2 - VOC Monitoring

| Date | Time | VOC mg/m³ | Date | Time | VOC mg/m³ |
|---|---|---|---|---|---|
| 23-Oct-12 | 10:30:20 | 12.25 | 23-Oct-12 | 11:19:20 | 13.63 |
| 23-Oct-12 | 10:31:20 | 12.25 | 23-Oct-12 | 11:20:20 | 13.63 |
| 23-Oct-12 | 10:32:20 | 12.06 | 23-Oct-12 | 11:21:20 | 13.23 |
| 23-Oct-12 | 10:33:20 | 12.06 | 23-Oct-12 | 11:22:20 | 13.43 |
| 23-Oct-12 | 10:34:20 | 12.45 | 23-Oct-12 | 11:23:20 | 13.23 |
| 23-Oct-12 | 10:35:20 | 13.04 | 23-Oct-12 | 11:24:20 | 13.23 |
| 23-Oct-12 | 10:36:20 | 12.84 | 23-Oct-12 | 11:25:20 | 13.23 |
| 23-Oct-12 | 10:37:20 | 12.84 | 23-Oct-12 | 11:26:20 | 12.06 |
| 23-Oct-12 | 10:38:20 | 12.84 | 23-Oct-12 | 11:27:20 | 12.65 |
| 23-Oct-12 | 10:39:20 | 12.65 | 23-Oct-12 | 11:28:20 | 12.45 |
| 23-Oct-12 | 10:40:20 | 12.45 | 23-Oct-12 | 11:29:20 | 12.25 |
| 23-Oct-12 | 10:41:20 | 13.04 | 23-Oct-12 | 11:30:20 | 12.25 |
| 23-Oct-12 | 10:42:20 | 13.23 | | | |
| 23-Oct-12 | 10:43:20 | 13.23 | | | |
| 23-Oct-12 | 10:44:20 | 13.23 | **Average** | | **13.16** |
| 23-Oct-12 | 10:45:20 | 13.04 | | | |
| 23-Oct-12 | 10:46:20 | 13.04 | | | |
| 23-Oct-12 | 10:47:20 | 13.04 | | | |
| 23-Oct-12 | 10:48:20 | 12.45 | | | |
| 23-Oct-12 | 10:49:20 | 12.45 | | | |
| 23-Oct-12 | 10:50:20 | 12.65 | | | |
| 23-Oct-12 | 10:51:20 | 12.65 | | | |
| 23-Oct-12 | 10:52:20 | 12.65 | | | |
| 23-Oct-12 | 10:53:20 | 12.84 | | | |
| 23-Oct-12 | 10:54:20 | 12.65 | | | |
| 23-Oct-12 | 10:55:20 | 12.45 | | | |
| 23-Oct-12 | 10:56:20 | 13.04 | | | |
| 23-Oct-12 | 10:57:20 | 13.23 | | | |
| 23-Oct-12 | 10:58:20 | 13.43 | | | |
| 23-Oct-12 | 10:59:20 | 13.63 | | | |
| 23-Oct-12 | 11:00:20 | 13.82 | | | |
| 23-Oct-12 | 11:01:20 | 13.23 | | | |
| 23-Oct-12 | 11:02:20 | 13.43 | | | |
| 23-Oct-12 | 11:03:20 | 13.82 | | | |
| 23-Oct-12 | 11:04:20 | 14.41 | | | |
| 23-Oct-12 | 11:05:20 | 14.80 | | | |
| 23-Oct-12 | 11:06:20 | 15.20 | | | |
| 23-Oct-12 | 11:07:20 | 14.61 | | | |
| 23-Oct-12 | 11:08:20 | 9.90 | | | |
| 23-Oct-12 | 11:09:20 | 14.80 | | | |
| 23-Oct-12 | 11:10:20 | 14.80 | | | |
| 23-Oct-12 | 11:11:20 | 14.61 | | | |
| 23-Oct-12 | 11:12:20 | 14.02 | | | |
| 23-Oct-12 | 11:13:20 | 14.02 | | | |
| 23-Oct-12 | 11:14:20 | 14.22 | | | |
| 23-Oct-12 | 11:15:20 | 14.22 | | | |
| 23-Oct-12 | 11:16:20 | 13.82 | | | |
| 23-Oct-12 | 11:17:20 | 13.63 | | | |
| 23-Oct-12 | 11:18:20 | 14.02 | | | |

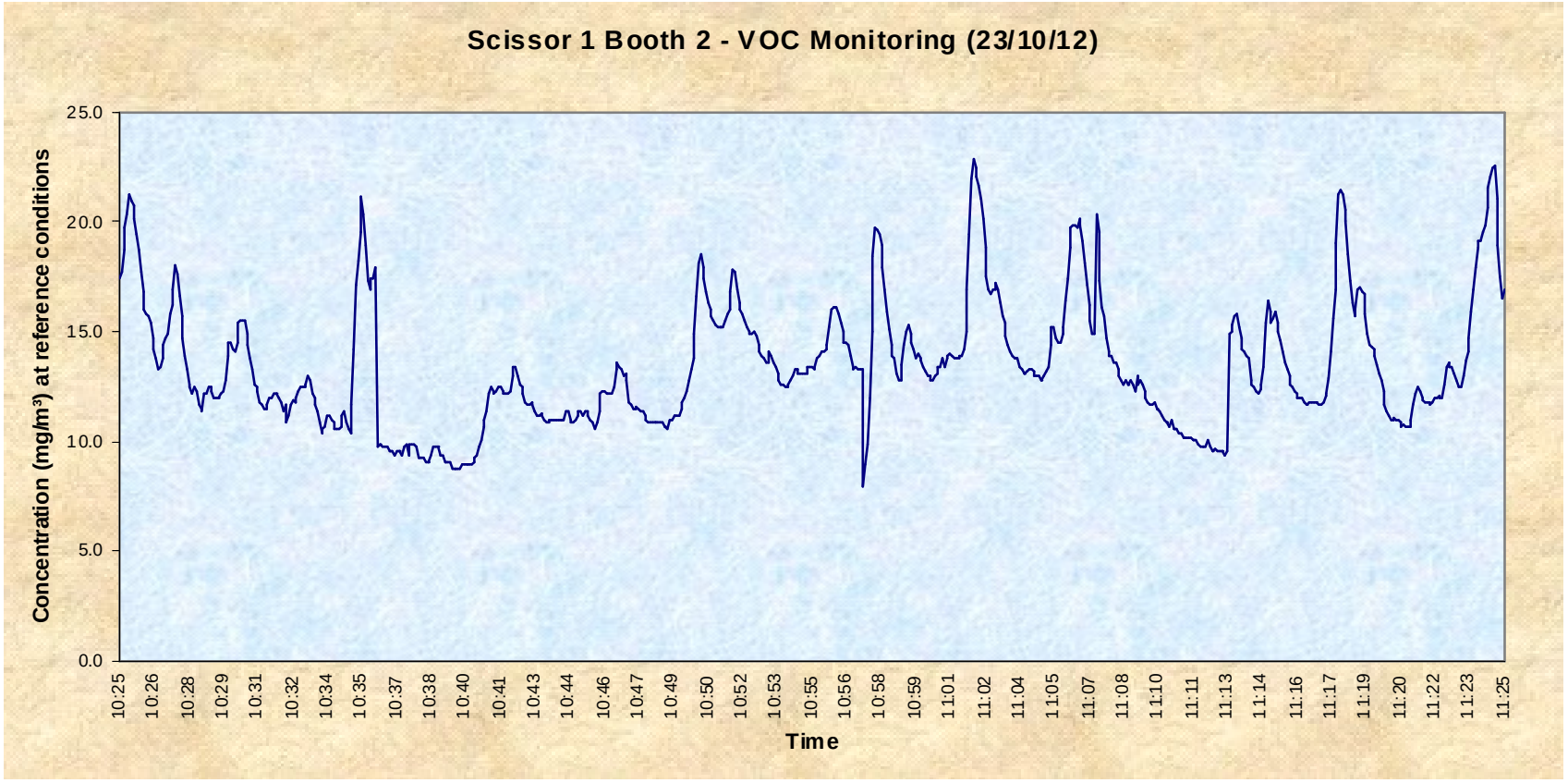
The data represented in this table is expressed at 1 minute intervals but the data used in the chart is produced using 5 second intervals

# APPENDIX C

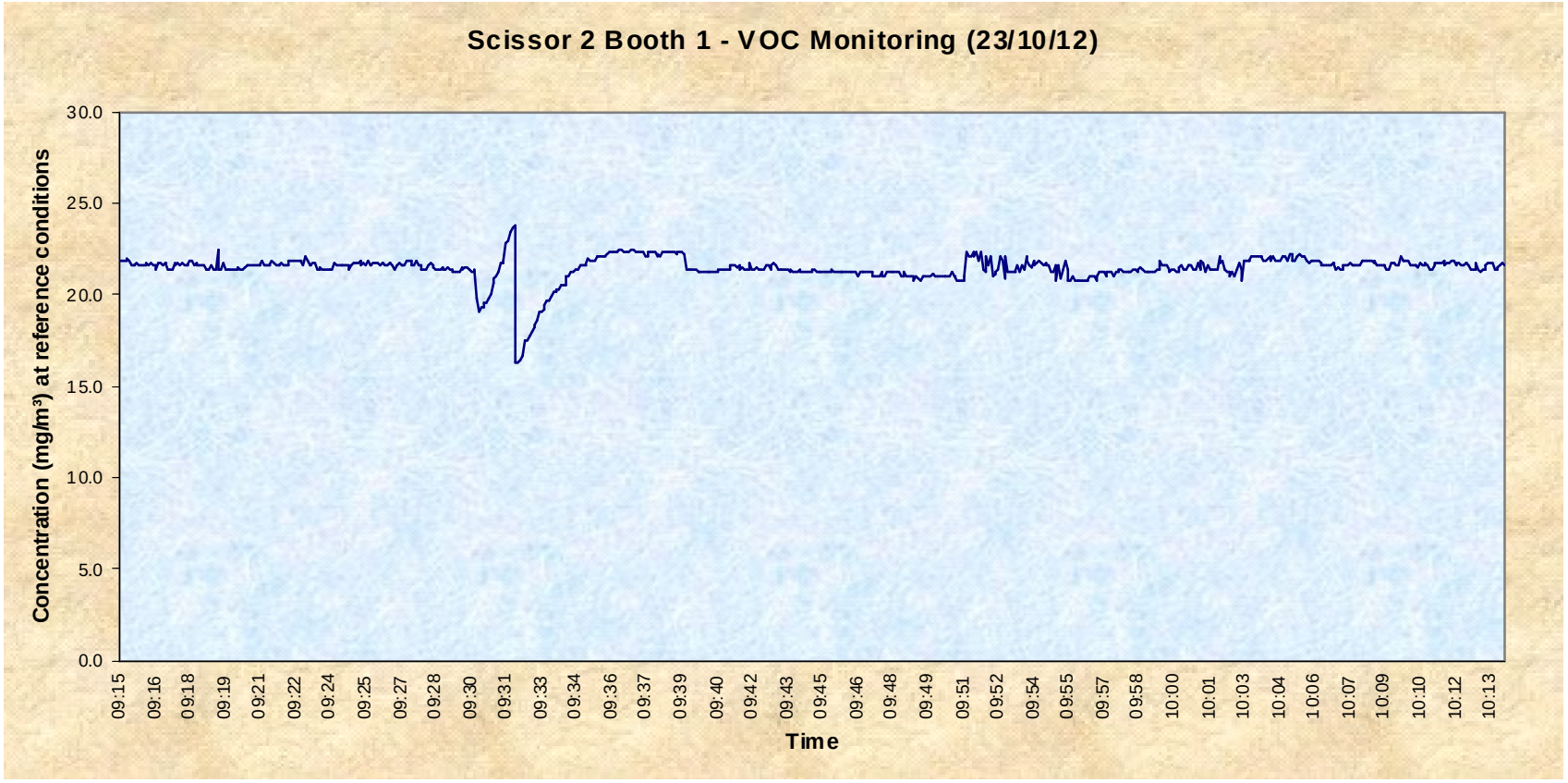
## VOC Charts



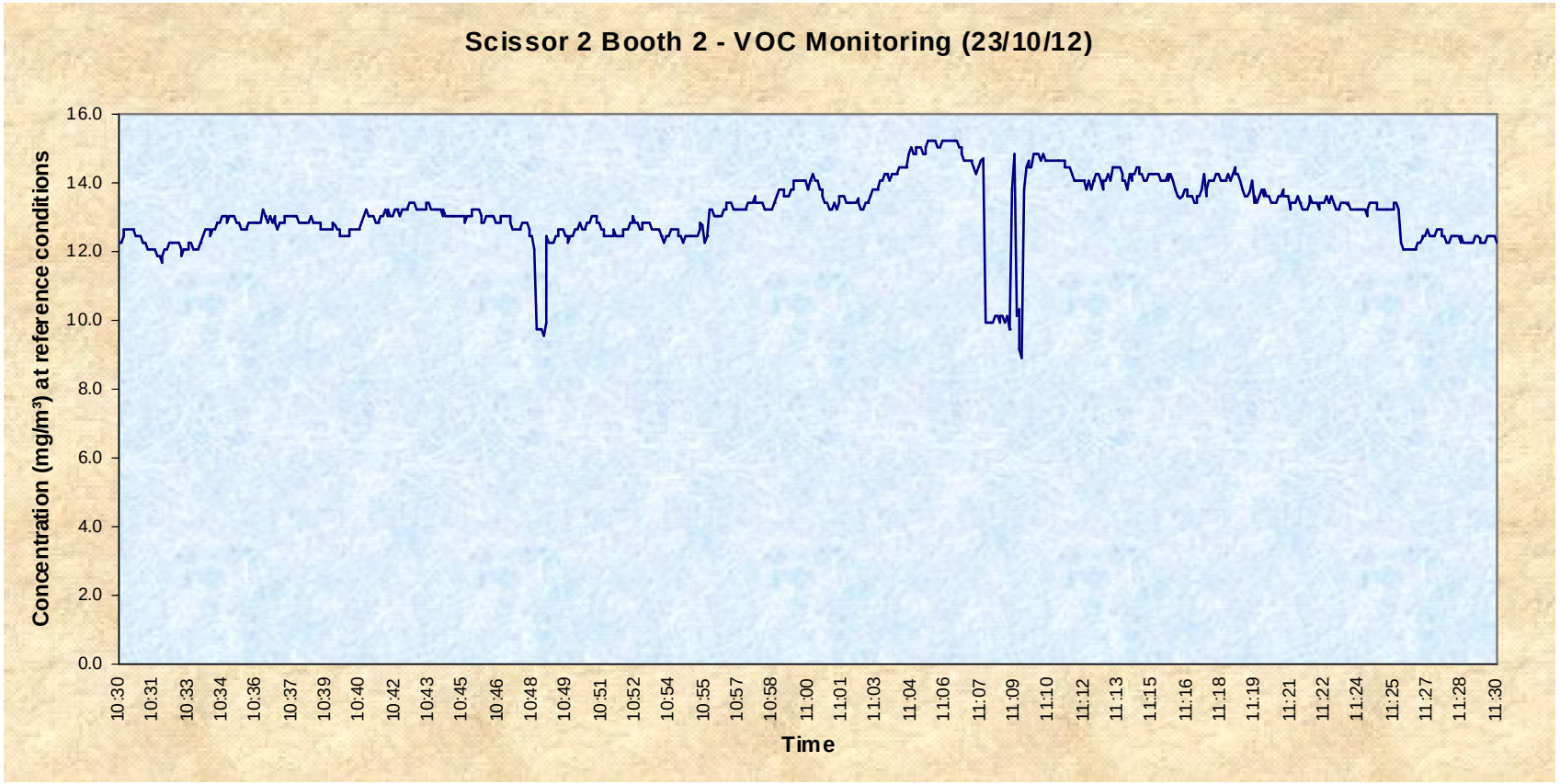

| Average Run Time | | | Volatile Organic Compound (ppm) | | | Volatile Organic Compound (mg/m³) | | |
|---|---|---|---|---|---|---|---|---|
| | | | Mean | Max | Min | Mean | Max | Min |
| | | | | | | | | |
| 9:20 | to | 9:50 | 12.02 | 13.80 | 8.60 | 19.32 | 22.18 | 13.82 |
| 9:50 | to | 10:20 | 12.37 | 14.20 | 10.60 | 19.87 | 22.82 | 17.04 |
| | | | | | | | | |




| Average Run Time | | | Volatile Organic Compound (ppm) | | | Volatile Organic Compound (mg/m³) | | |
|---|---|---|---|---|---|---|---|---|
| | | | Mean | Max | Min | Mean | Max | Min |
| | | | | | | | | |
| 10:25 | to | 10:55 | 7.89 | 13.25 | 5.45 | 12.68 | 21.29 | 8.76 |
| 10:55 | to | 11:25 | 8.80 | 14.20 | 4.95 | 14.15 | 22.82 | 7.96 |
| | | | | | | | | |




| Average Run Time | | | Volatile Organic Compound (ppm) | | | Volatile Organic Compound (mg/m³) | | |
|---|---|---|---|---|---|---|---|---|
| | | | Mean | Max | Min | Mean | Max | Min |
| 9:15 | to | 9:45 | 13.33 | 14.85 | 10.12 | 21.43 | 23.86 | 16.26 |
| 9:45 | to | 10:15 | 13.36 | 13.94 | 12.93 | 21.48 | 22.40 | 20.78 |




| Average Run Time | | | Volatile Organic Compound (ppm) | | | Volatile Organic Compound (mg/m³) | | |
|---|---|---|---|---|---|---|---|---|
| | | | Mean | Max | Min | Mean | Max | Min |
| | | | | | | | | |
| 10:30 | to | 11:00 | 7.96 | 8.72 | 5.92 | 12.79 | 14.02 | 9.51 |
| 11:00 | to | 11:30 | 8.43 | 9.46 | 5.55 | 13.55 | 15.20 | 8.92 |
| | | | | | | | | |

# APPENDIX D

## Isocyanate Results

| Stack Reference ID | Topcoat Spray Booth 1 (ISOCYANATE) | | |
|---|---|---|---|
| | Terex United Kingdom Limited | | |
| | RUN 1 | | |
| Filter Reference No | 12/135/65 | | |
| Date | 24th October 2012 | | |
| Sample Period | 10:00 | to | 11:00 |
| Velocity (m/s) | 7.39 | | |
| Volumetric flowrate of Stack gas ($m^3$/hr) | 53483 | | |
| Average Stack Temp (°C) | 19.1 | | |
| Temperature Range - ± 5% (°C) | 4.50 | to | 33.71 |
| Lowest Velocity Reading (m/s) | 6.82 | | |
| Highest Velocity Reading (m/s) | 9.03 | | |
| Ratio (less than 3:1) | 1.32 | : | 1 |
| Oxygen % | 11.4 | | |
| Carbon Dioxide % | 5.60 | | |
| Moisture (%) | 0.00 | | |
| Litres sampled | 1197 | | |
| Corrected volume sampled - STP ($m^3$) | 1.155 | | |
| MDI collected on filter (ug) | <0.07 | | |
| MDI collected on filter - Blank (ug) | <0.07 | | |
| MDI Concentration, *STP, dry gas ($mg/m^3$) | <0.001 | | |
| MDI Concentration, *STP, wet gas ($mg/m^3$) | <0.001 | | |
| Total MDI Mass Emission (g/hour) | <0.004 | | |

| Stack Reference ID | Topcoat Spray Booth 2 (ISOCYANATE) | | |
|---|---|---|---|
| | Terex United Kingdom Limited | | |
| | RUN 1 | | |
| Filter Reference No | 12/135/65 | | |
| Date | 24th October 2012 | | |
| Sample Period | 11:05 | to | 12:05 |
| Velocity (m/s) | 6.80 | | |
| Volumetric flowrate of Stack gas ($m^3$/hr) | 49207 | | |
| Average Stack Temp (°C) | 18.8 | | |
| Temperature Range - ± 5% (°C) | 4.21 | to | 33.39 |
| Lowest Velocity Reading (m/s) | 6.00 | | |
| Highest Velocity Reading (m/s) | 7.78 | | |
| Ratio (less than 3:1) | 1.30 | : | 1 |
| Oxygen % | 11.4 | | |
| Carbon Dioxide % | 5.60 | | |
| Moisture (%) | 0.00 | | |
| Litres sampled | 982 | | |
| Corrected volume sampled - STP ($m^3$) | 0.947 | | |
| MDI collected on filter (ug) | <0.07 | | |
| MDI collected on filter - Blank (ug) | <0.07 | | |
| MDI Concentration, *STP, dry gas ($mg/m^3$) | <0.001 | | |
| MDI Concentration, *STP, wet gas ($mg/m^3$) | <0.001 | | |
| Total MDI Mass Emission (g/hour) | <0.004 | | |

| Stack Reference ID | Topcoat Flash off (ISOCYANATE) | | |
|---|---|---|---|
| | Terex United Kingdom Limited | | |
| | RUN 1 | | |
| Filter Reference No | 12/135/66 | | |
| Date | 24th October 2012 | | |
| Sample Period | 12:10 | to | 13:10 |
| Velocity (m/s) | 14.40 | | |
| Volumetric flowrate of Stack gas ($m^3$/hr) | 32974 | | |
| Average Stack Temp (°C) | 56.0 | | |
| Temperature Range - ± 5% (°C) | 39.55 | to | 72.45 |
| Lowest Velocity Reading (m/s) | 14.24 | | |
| Highest Velocity Reading (m/s) | 15.43 | | |
| Ratio (less than 3:1) | 1.08 | : | 1 |
| Oxygen % | 20.0 | | |
| Carbon Dioxide % | 0.20 | | |
| Moisture (%) | 0.00 | | |
| Litres sampled | 1203 | | |
| Corrected volume sampled - STP ($m^3$) | 1.159 | | |
| MDI collected on filter (ug) | <0.07 | | |
| MDI collected on filter - Blank (ug) | <0.07 | | |
| MDI Concentration, *STP, dry gas ($mg/m^3$) | <0.001 | | |
| MDI Concentration, *STP, wet gas ($mg/m^3$) | <0.001 | | |
| Total MDI Mass Emission (g/hour) | <0.004 | | |

| Stack Reference ID | Topcoat Curing Oven (ISOCYANATE) | | |
|---|---|---|---|
| | Terex United Kingdom Limited | | |
| | RUN 1 | | |
| Filter Reference No | 12/135/63 | | |
| Date | 24th October 2012 | | |
| Sample Period | 08:55 | to | 09:55 |
| Velocity (m/s) | 12.23 | | |
| Volumetric flowrate of Stack gas ($m^3$/hr) | 34581 | | |
| Average Stack Temp (°C) | 37.3 | | |
| Temperature Range - ± 5% (°C) | 21.79 | to | 52.82 |
| Lowest Velocity Reading (m/s) | 10.06 | | |
| Highest Velocity Reading (m/s) | 13.06 | | |
| Ratio (less than 3:1) | 1.30 | : | 1 |
| Oxygen % | 20.0 | | |
| Carbon Dioxide % | 0.20 | | |
| Moisture (%) | 0.00 | | |
| Litres sampled | 1051 | | |
| Corrected volume sampled - STP ($m^3$) | 1.015 | | |
| MDI collected on filter (ug) | <0.07 | | |
| MDI collected on filter - Blank (ug) | <0.07 | | |
| MDI Concentration, *STP, dry gas ($mg/m^3$) | <0.001 | | |
| MDI Concentration, *STP, wet gas ($mg/m^3$) | <0.001 | | |
| Total MDI Mass Emission (g/hour) | <0.004 | | |

| Stack Reference ID | Spray Bake No 1 (ISOCYANATE) | | |
|---|---|---|---|
| | Terex United Kingdom Limited | | |
| | RUN 1 | | |
| Filter Reference No | 12/135/61 | | |
| Date | 23rd October 2012 | | |
| Sample Period | 08:10 | to | 09:10 |
| Velocity (m/s) | 14.14 | | |
| Volumetric flowrate of Stack gas ($m^3$/hr) | 25586 | | |
| Average Stack Temp (°C) | 28.1 | | |
| Temperature Range - ± 5% (°C) | 13.00 | to | 43.10 |
| Lowest Velocity Reading (m/s) | 13.62 | | |
| Highest Velocity Reading (m/s) | 15.18 | | |
| Ratio (less than 3:1) | 1.11 | : | 1 |
| Oxygen % | 20.0 | | |
| Carbon Dioxide % | 0.20 | | |
| Moisture (%) | 0.00 | | |
| Litres sampled | 1356 | | |
| Corrected volume sampled - STP ($m^3$) | 1.311 | | |
| MDI collected on filter (ug) | <0.07 | | |
| MDI collected on filter - Blank (ug) | <0.07 | | |
| MDI Concentration, *STP, dry gas ($mg/m^3$) | <0.001 | | |
| MDI Concentration, *STP, wet gas ($mg/m^3$) | <0.001 | | |
| Total MDI Mass Emission (g/hour) | <0.004 | | |

| Stack Reference ID | Spray Bake No 2 (ISOCYANATE) | | |
|---|---|---|---|
| | Terex United Kingdom Limited | | |
| | RUN 1 | | |
| Filter Reference No | 12/135/62 | | |
| Date | 23rd October 2012 | | |
| Sample Period | 08:05 | to | 09:05 |
| Velocity (m/s) | 15.14 | | |
| Volumetric flowrate of Stack gas ($m^3$/hr) | 27392 | | |
| Average Stack Temp (°C) | 30.1 | | |
| Temperature Range - ± 5% (°C) | 14.90 | to | 45.20 |
| Lowest Velocity Reading (m/s) | 12.66 | | |
| Highest Velocity Reading (m/s) | 15.61 | | |
| Ratio (less than 3:1) | 1.23 | : | 1 |
| Oxygen % | 20.0 | | |
| Carbon Dioxide % | 0.20 | | |
| Moisture (%) | 0.00 | | |
| Litres sampled | 1469 | | |
| Corrected volume sampled - STP ($m^3$) | 1.417 | | |
| MDI collected on filter (ug) | <0.07 | | |
| MDI collected on filter - Blank (ug) | <0.07 | | |
| MDI Concentration, *STP, dry gas ($mg/m^3$) | <0.001 | | |
| MDI Concentration, *STP, wet gas ($mg/m^3$) | <0.001 | | |
| Total MDI Mass Emission (g/hour) | <0.004 | | |