Our Ref: P-RED14-001/EB/R1/Rev0
Client Ref:

27th April 2015

Ian Livingston
Terex United Kingdom Limited
Central Boulevard
Prologis Park
Coventry
CV6 4BX

Dear Ian

Re: Emissions Monitoring

Please find enclosed a copy of your report for the monitoring carried out during January 2014.

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** **Tony Berek – Env Consultant** **Vicki Gavin – Env Consultant**
Report prepared by:	**Elena Berek - Director**
Signature:	[redacted]
Date:	16th February 2014
Report reviewed by:	**Philip Butler - Director**
Signature:	[redacted]
Date:	16th February 2014
Report authorised by:	Philip Butler
Signature:	[redacted]
Date:	16th February 2014

JANUARY 2014

EMISSIONS MONITORING

REPORT

Ian Livingston
Terex United Kingdom Limited
Central Boulevard
Prologis Park
Coventry CV6 4BX

Tel: 02476 339634

Prepared By

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Report Number P-RED14-001/EB/R1/Rev0

16th February 2014

Contents

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 22nd and 23rd January 2014.

All results pertain to the dates monitored only.

A summary of results is shown below:-

Emission point reference Stack Nº	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	0.52 ± 0.14	--	--	7.4	53,883
Primer Spray Booth 2	1.28 ± 0.25	--	--	7.7	55,712
Primer Flash-off	0.54 ± 0.14	--	--	8.2	14,906
Topcoat Spray Booth 1	0.93 ± 0.13	--	<0.02	6.4	46,099
Topcoat Spray Booth 2	1.02 ± 0.13	--	<0.02	7.0	50,748
Topcoat Flash-off	0.19 ± 0.13	--	<0.02	11.7	33,013
Topcoat Curing Oven	0.62 ± 0.13	--	<0.02	12.3	89,113
Preparation Booth 1	0.95 ± 0.24	--	--	12.3	17,073
Preparation Booth 2	0.35 ± 0.14	--	--	12.3	17,007
Spray Bake Booth 1	--	--	<0.02	12.5	22,677
Spray Bake Booth 2	--	--	<0.02	12.2	22,041
Scissor 1 Booth 1	0.59 ± 0.15	30.9 ± 1.6 (26.2)	--	8.6	11,950
Scissor 1 Booth 2	0.52 ± 0.14	16.4 ± 0.7 (12.0)	--	8.9	12,292
Scissor 1 Oven	0.91 ± 0.29	--	--	6.7	755
Scissor 2 Booth 1	1.12 ± 0.27	36.6 ± 1.7 (28.9)	--	7.9	10,891
Scissor 2 Booth 2	0.86 ± 0.13	23.0 ± 1.3 (21.7)	--	7.7	10,699
Scissor 2 Oven	1.10 ± 0.30	--	--	5.5	627

*** 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-RED14-001/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 BS EN 13284	Volatile Organic Compounds BS EN 13526	Isocyanates 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 – Coating of Metal and Plastic.

1.3 The emission limits are listed below:

Process Guidance Note PG6/23: 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	0.52 ± 0.14	mg/m^3	273K, 101.3kPa	22/01/14	1140 – 1240	BS EN 13284-1	Normal
Primer Spray Booth 2	Total Particulate Matter	50	1.28 ± 0.25	mg/m^3	273K, 101.3kPa	22/01/14	1245 – 1345	BS EN 13284-1	Normal
Primer Flash-off	Total Particulate Matter	50	0.54 ± 0.14	mg/m^3	273K, 101.3kPa	23/01/14	1255 – 1355	BS EN 13284-1	Normal
Top Coat Spray Booth 1	Total Particulate Matter	50	0.93 ± 0.13	mg/m^3	273K, 101.3kPa	23/01/14	0947 – 1047	BS EN 13284-1	Normal
	Isocyanates	0.1	<0.02	mg/m^3		23/01/14	0845 – 0945	USEPA 36	
Top Coat Spray Booth 2	Total Particulate Matter	50	1.02 ± 0.13	mg/m^3	273K, 101.3kPa	23/01/14	1152 – 1252	BS EN 13284-1	Normal
	Isocyanates	0.1	<0.02	mg/m^3		23/01/14	1050 - 1150	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	0.19 ± 0.13	mg/m^3	273K, 101.3kPa	22/01/14	0930 -1030	BS EN 13284-1	Normal
	Isocyanates	0.1	<0.02	mg/m^3		22/01/14	1035 – 1135	USEPA 36	
Topcoat Curing Oven	Total Particulate Matter	50	0.62 ± 0.13	mg/m^3	273K, 101.3kPa	22/01/14	1400 – 1500	BS EN 13284-1	Normal
Preparation Booth 1	Total Particulate Matter	50	0.95 ± 0.24	mg/m^3	273K, 101.3kPa	22/01/14	0925 – 1025	BS EN 13284-1	Normal
Preparation Booth 2	Total Particulate Matter	50	0.35 ± 0.14	mg/m^3	273K, 101.3kPa	22/01/14	1135 – 1235	BS EN 13284-1	Normal
Spray Bake Booth 1	Isocyanates	0.1	<0.02	mg/m^3	273K, 101.3kPa	22/01/14	1030 – 1130	USEPA 36	Normal
Spray Bake Booth 2	Isocyanates	0.1	<0.02	mg/m^3	273K, 101.3kPa	22/01/14	1240 – 1340	USEPA 36	Normal
Scissor 1 Booth 1	Total Particulate Matter	50	0.59 ± 0.15	mg/m^3	273K, 101.3kPa	23/01/14	0850 – 0950	BS EN 13284-1	Normal
	Volatile Organic Compounds	150	30.9 ± 1.6	mg/m^3			1000 - 1100	BS EN 12619	
Scissor 1 Booth 2	Total Particulate Matter	50	0.52 ± 0.14	mg/m^3	273K, 101.3kPa	23/01/14	0850 - 0950	BS EN 13284-1	Normal
	Volatile Organic Compounds	150	16.4 ± 0.7	mg/m^3			1102 - 1202	BS EN 12619	

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	0.91 ± 0.29	mg/m^3	273K, 101.3kPa	23/01/14	1302 – 1402	BS EN 13284-1	Normal
Scissor 2 Booth 1	Total Particulate Matter	50	1.12 ± 0.27	mg/m^3	273K, 101.3kPa	23/01/14	1055 – 1155	BS EN 13284-1	Normal
	Volatile Organic Compounds	150	36.6 ± 1.7	mg/m^3			1210 – 1310	BS EN 13526	Normal
Scissor 2 Booth 2	Total Particulate Matter	50	0.86 ± 0.13	mg/m^3	273K, 101.3kPa	23/01/14	1200 – 1300	BS EN 13284-1	Normal
	Volatile Organic Compounds	150	23.0 ± 1.3	mg/m^3			1350 – 1450	BS EN 13526	Normal
Scissor 2 Oven	Total Particulate Matter	50	1.10 ± 0.30	mg/m^3	273K, 101.3kPa	23/01/14	1405 - 1505	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 12619: 2013)

2.2.2 Monitoring to determine VOC emission concentrations was in accordance with BS EN 12619: 2013.

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 were zeroed and calibrated with a test gas (80 ppm and or 800ppm propane) prior to each sampling run. VOC sampling was undertaken over a period of at least 60 minutes to cover any process variation.

2.2.5 All data was logged onto a Grant Squirrel data logger set at 5 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

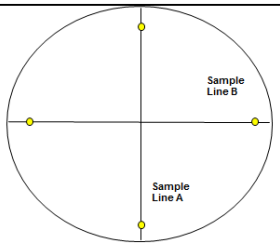
4.1 Redwing Environmental Ltd confirms that in preparing this report all reasonable skill and care has been exercised.

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, Isocyanate & Velocity Results

Client	Terex
Site Address	Coventry
Job Number	P-RED14-001
Date	22nd January 2014
Operator(s)	Vicki Gavin & Tony Berek

Stack Reference		primer 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		1			**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							21.43	23.45
Pitot Coefficient	0.84	**Pitot Calibration Due Date**			**March 2014**				**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**		100.9	
No.	**(cms)**	**(pa)**	**(C)**	**Pass (Y/N)**	**(pa)**	**(C)**	**Pass (Y/N)**		**Static Pressure (pa)**	
1	10.72	56	18.0	4.0	61	18.0	4		-17.0	
2	40.00	43	18.0	3.0	44	18.0	4		**1 Axis**	**2 Axis**
3	120.00	32	18.0	3.0	37	18.0	4		**Velocity of flow (m/s)**	
4	149.28	42	18.0	4.0	65	18.0	4		7.11	7.78
5	N/A								**Volume Flow Rate (m³/s)**	
6	N/A								14.30	15.64
7	N/A								**Reduced Exit**	
8	N/A									
Averages		43	18.0		52	18.0			N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		291.00	
Range of gas temperature readings ± 5% (°C) = (0.95Tp-273) to (1.05Tp-273) =	3.45	to	32.55
Highest Velocity Reading (m/s) =		9.0	
Lowest Velocity Reading (m/s) =		6.1	
Ratio Highest/Lowest (Max permitted = 3:1)		1.47 : 1	

On site Checklist

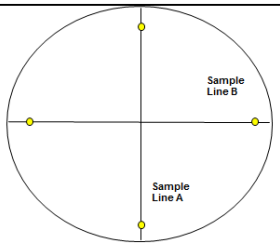
Range of Gas Temps		OK			Manometer Leak Check	OK	
Initial Leak Check	<0.2	Final leak check	<0.2		Pitot Leak Check	OK	
Acceptable Leak Check < 2% Vol (l/min)		0.43			Overall Isokinetic Ratio (%) (must be 95 to 115%)	**Run 1**	**Run 2**
Passed minimum Velocity requirements (>5pa)			YES			102.9	N/A
Negative Local Flow Present, YES or NO (Yes = Fail)			NO		Are there sufficient rails and kick board? (YES , NO or N/A)		YES
Is the Platform area greater than 5m²? (YES, NO or N/A)			YES		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 0237		Manometer Reference	RED 0400
Thermometer Reference	RED 0354		Thermocouple Reference	RED 0344
Balance Reference			Sampling Pump Reference	RED 0385
Tape Measure Reference	RED 0123		Barometer Reference	RED 0402

Stack Reference ID	primer booth 1				
	Terex				
	RUN 1				
Filter Reference No	G47-200114-03				
Date	22nd January 2014				
Sample Period	11:40	to	12:40		
Velocity (m/s)	7.44				
Volumetric flowrate of Stack gas (m^3/hr)	53883				
Average Stack Temp (°C)	18.0				
Temperature Range - ± 5% (°C)	3.45	to	32.55		
Lowest Velocity Reading (m/s)	6.11				
Highest Velocity Reading (m/s)	8.99				
Ratio (less than 3:1)	1.47	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	18.1				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	18.6				
Carbon Dioxide %	1.40				
Moisture (%)	4.16				
Litres sampled	1450				
Corrected volume sampled - STP (m^3)	1.388				
Blank Filter Run weight gain (mg)	0.000	Blank Concentration (mg/m^3)	0.000		
Blank Wash Run weight gain (mg)	0.040		0.029		
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)	0.50				
Particulate weight collected in Wash (mg)	0.25				
Total Particulate weight collected (mg)	0.75				
Total Particulate Concentration, *STP, dry gas (mg/m^3)	0.54				
Total Particulate Concentration, *STP, wet gas (mg/m^3)	0.52				
Total Particulate Concentration corrected for Oxygen, *STP, dry gas (mg/m^3)	N/A				
Total Particulate Mass Emission (kg/hour)	0.027				

Client	Terex
Site Address	Coventry
Job Number	P-RED14-001
Date	22nd January 2014
Operator(s)	Vicki Gavin & Tony Berek

Stack Reference		primer 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		1			**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							22.97	23.43
Pitot Coefficient	0.84	**Pitot Calibration Due Date**			**March 2014**				**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**		100.9	
No.	**(cms)**	**(pa)**	**(C)**	**Pass (Y/N)**	**(pa)**	**(C)**	**Pass (Y/N)**		**Static Pressure (pa)**	
1	10.72	65	17.6	4.0	57	17.6	4		-22.0	
2	40.00	45	17.6	5.0	62	17.6	5		**1 Axis**	**2 Axis**
3	120.00	46	17.7	5.0	45	17.6	5		**Velocity of flow (m/s)**	
4	149.28	43	17.6	4.0	43	17.6	4		7.62	7.77
5	N/A								**Volume Flow Rate (m³/s)**	
6	N/A								15.32	15.63
7	N/A								**Reduced Exit**	
8	N/A									
Averages		50	17.6		52	17.6			N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		290.61	
Range of gas temperature readings ± 5% (°C) = (0.95Tp-273) to (1.05Tp-273) =	3.08	to	32.14
Highest Velocity Reading (m/s) =		9.0	
Lowest Velocity Reading (m/s) =		7.1	
Ratio Highest/Lowest (Max permitted = 3:1)		1.27 : 1	

On site Checklist

Range of Gas Temps		OK			Manometer Leak Check	OK	
Initial Leak Check	<0.2	Final leak check	<0.2		Pitot Leak Check	OK	
Acceptable Leak Check < 2% Vol (l/min)		0.46			Overall Isokinetic Ratio (%) (must be 95 to 115%)	**Run 1**	**Run 2**
Passed minimum Velocity requirements (>5pa)			YES			98.7	N/A
Negative Local Flow Present, YES or NO (Yes = Fail)			NO		Are there sufficient rails and kick board? (YES , NO or N/A)		YES
Is the Platform area greater than 5m²? (YES, NO or N/A)			YES		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 0237		Manometer Reference	RED 0400
Thermometer Reference	RED 0354		Thermocouple Reference	RED 0344
Balance Reference			Sampling Pump Reference	RED 0385
Tape Measure Reference	RED 0123		Barometer Reference	RED 0402

Stack Reference ID	primer booth 1				
	Terex				
	RUN 1				
Filter Reference No	G47-200114-05				
Date	22nd January 2014				
Sample Period	12:45	to	13:45		
Velocity (m/s)	7.70				
Volumetric flowrate of Stack gas (m^3/hr)	55712				
Average Stack Temp (°C)	17.6				
Temperature Range - ± 5% (°C)	3.08	to	32.14		
Lowest Velocity Reading (m/s)	7.08				
Highest Velocity Reading (m/s)	8.98				
Ratio (less than 3:1)	1.27	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	18.1				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	18.6				
Carbon Dioxide %	1.40				
Moisture (%)	4.16				
Litres sampled	1397				
Corrected volume sampled - STP (m^3)	1.337				
Blank Filter Run weight gain (mg)	0.010	Blank Concentration (mg/m^3)	0.007		
Blank Wash Run weight gain (mg)	0.040		0.030		
Weighing uncertainty of balance (mg)	0.075	This must be <5% of ELV	ELV =	50	2.5
Overall Blank value (mg/m^3)	0.037	This must be <10% of ELV	ELV =	50	5.0
Particulate weight collected on filter (mg)	0.10				
Particulate weight collected in Wash (mg)	1.69				
Total Particulate weight collected (mg)	1.79				
Total Particulate Concentration, *STP, dry gas (mg/m^3)	1.34				
Total Particulate Concentration, *STP, wet gas (mg/m^3)	1.28				
Total Particulate Concentration corrected for Oxygen, *STP, dry gas (mg/m^3)	N/A				
Total Particulate Mass Emission (kg/hour)	0.000				

Client	Terex
Site Address	Coventry
Job Number	P-RED14-001
Date	23rd January 2014
Operator(s)	Vicki Gavin & Tony 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		1			6	N/A				
Number of Samples per Axis / Port		2			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)		0.503							25.72	23.94
Pitot Coefficient	0.84	**Pitot Calibration Due Date**			March 2014				**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**		99.9	
No.	**(cms)**	**(pa)**	**(C)**	**Pass (Y/N)**	**(pa)**	**(C)**	**Pass (Y/N)**		**Static Pressure (pa)**	
1	11.68	66	26.0	5.0	48	26.0	5		-11.0	
2	68.32	54	26.0	4.0	56	26.0	3		**1 Axis**	**2 Axis**
3	#VALUE!								**Velocity of flow (m/s)**	
4	#VALUE!								8.53	7.94
5	N/A								**Volume Flow Rate (m³/s)**	
6	N/A								4.29	3.99
7	N/A								**Reduced Exit**	
8	N/A									
Averages		60	26.0		52	26.0			N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		299.00	
Range of gas temperature readings ± 5% (°C) = (0.95Tp-273) to (1.05Tp-273) =	11.05	to	40.95
Highest Velocity Reading (m/s) =		9.2	
Lowest Velocity Reading (m/s) =		7.6	
Ratio Highest/Lowest (Max permitted = 3:1)			1.21 : 1

On site Checklist

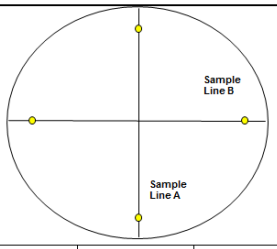
Range of Gas Temps		OK			Manometer Leak Check	OK	
Initial Leak Check	<0.2	Final leak check	<0.2		Pitot Leak Check	OK	
Acceptable Leak Check < 2% Vol (l/min)		0.51			Overall Isokinetic Ratio (%) (must be 95 to 115%)	**Run 1**	**Run 2**
Passed minimum Velocity requirements (>5pa)			YES			102.7	N/A
Negative Local Flow Present, YES or NO (Yes = Fail)			NO		Are there sufficient rails and kick board? (YES , NO or N/A)		YES
Is the Platform area greater than 5m²? (YES, NO or N/A)			YES		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 0237		Manometer Reference	RED 0400
Thermometer Reference	RED 0354		Thermocouple Reference	RED 0344
Balance Reference			Sampling Pump Reference	RED 0385
Tape Measure Reference	RED 0123		Barometer Reference	RED 0402

Stack Reference ID	Primer Flash Off				
	Terex				
	RUN 1				
Filter Reference No	G47-200114-13				
Date	23rd January 2014				
Sample Period	12:55	to	13:55		
Velocity (m/s)	8.24				
Volumetric flowrate of Stack gas (m^3/hr)	14906				
Average Stack Temp (°C)	26.0				
Temperature Range - ± 5% (°C)	11.05	to	40.95		
Lowest Velocity Reading (m/s)	7.63				
Highest Velocity Reading (m/s)	9.22				
Ratio (less than 3:1)	1.21	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	26.3				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	18.6				
Carbon Dioxide %	1.40				
Moisture (%)	2.95				
Litres sampled	1523				
Corrected volume sampled - STP (m^3)	1.454				
Blank Filter Run weight gain (mg)	0.010	Blank Concentration (mg/m^3)	0.007		
Blank Wash Run weight gain (mg)	0.040		0.028		
Weighing uncertainty of balance (mg)	0.074	This must be <5% of ELV	ELV =	50	2.5
Overall Blank value (mg/m^3)	0.034	This must be <10% of ELV	ELV =	50	5.0
Particulate weight collected on filter (mg)	0.15				
Particulate weight collected in Wash (mg)	0.66				
Total Particulate weight collected (mg)	0.81				
Total Particulate Concentration, *STP, dry gas (mg/m^3)	0.56				
Total Particulate Concentration, *STP, wet gas (mg/m^3)	0.54				
Total Particulate Concentration corrected for Oxygen, *STP, dry gas (mg/m^3)	N/A				
Total Particulate Mass Emission (kg/hour)	0.008				

Client	TEREX
Site Address	COVENTRY
Job Number	P-RED14-001
Date	23rd January 2014
Operator(s)	V Gavin & T Berek

Stack Reference		SCISSOR 1 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)		8.0			**8**	N/A			
Nozzle Area (m²)		0.00005024			**Average Isokinetic Flow Rate (ltrs/min)**			**Axis 1**	**Axis 2**
Stack Area (m²)		0.385						26.05	25.95

Pitot Coefficient	**0.84**	**Pitot Calibration Due Date**			**15/03/14**			**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**	99.8	
No.	**(cms)**	**(pa)**	**(C)**	**(°)**	**(pa)**	**(C)**	**(°)**	**Static Pressure (pa)**	
1	10.22	60	18.2	2.0	64	18.2	6	-41.0	
2	59.78	66	18.2	5.0	61	18.2	4	**1 Axis**	**2 Axis**
3	N/A							**Velocity of flow (m/s)**	
4	N/A							8.64	8.61
5	N/A							**Volume Flow Rate (m³/s)**	
6	N/A							3.33	3.31
7	N/A							**Reduced Exit**	
8	N/A								
Averages		63	18.2		63	18.2		N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		**291.20**	
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =	**3.64**	**to**	**32.76**
Highest Velocity Reading (m/s) =		**9.1**	
Lowest Velocity Reading (m/s) =		**8.4**	
Ratio Highest/Lowest (Max permitted = 3:1)		**1.08 : 1**	

On site Checklist

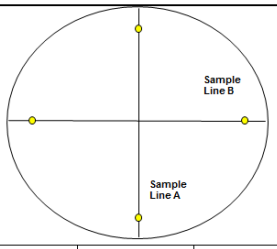
Initial Leak Check	**0**	**End of first run**	**0.2**	**Start of 2nd run**		**End of 2nd run**	
Acceptable Leak Check < 2% Vol (l/min)		**0.52**		**Manometer Leak Check**			**OK**
				Pitot Leak Check			**OK**
Range of Gas Temps		**OK**		**Overall Isokinetic Ratio (%) (must be 95 to 115%)**			**Run 1** / **100.3**	**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 0289**	**Manometer Reference**	**RED 0404**
Thermometer Reference	**RED 0351-RED 0352**	**Thermocouple Reference**	**RED 0292**
Balance Reference	**N/A**	**Sampling Pump Reference**	**RED 0196**
Tape Measure Reference	**RED 0121**	**Barometer Reference**	**RED 0403**
DGM Thermocouple	**RED 0196T**	**Impinger Outlet Thermocouple**	**N/A**
Calipers	**RED 0300**	**Condenser Thermocouple**	**N/A**

Stack Reference ID	SCISSOR 1 BOOTH 1				
	TEREX				
	RUN 1				
Filter Reference No	G47-200114-19				
Date	23rd January 2014				
Sample Period	08:50	to	09:50		
Velocity (m/s)	8.63				
Volume flow rate of Stack gas (m^3/hr)	11950				
Average Stack Temp (°C)	18.2				
Temp Range ± 5% (°C)	3.64	to	32.76		
Lowest Velocity Reading (m/s)	8.42				
Highest Velocity Reading (m/s)	9.11				
Ratio (less than 3:1)	1.08	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	18.4				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	18.8				
Carbon Dioxide %	0.90				
Moisture (%)	0.00				
Litres sampled	1518				
Corrected volume sampled - STP (m^3)	1.466				
Blank Filter Run weight gain (mg)	0.010	Blank Concentration (mg/m^3)	0.007		
Blank Wash Run weight gain (mg)	0.210		0.143		
Weighing uncertainty of balance (mg)	0.074	This must be <5% of ELV	ELV =	50	2.5
Overall Blank value (mg/m^3)	0.150	This must be <10% of ELV	ELV =	50	5.0
Particulate weight collected on filter (mg)	0.04				
Particulate weight collected in Wash (mg)	0.82				
Total Particulate weight collected (mg)	0.86				
Total Particulate Concentration, dry gas at STP (mg/m^3)	0.59				
Total Particulate Concentration, wet gas at STP (mg/m^3)	0.59				
Total Particulate Concentration corrected for 11% Oxygen, dry gas (mg/m^3)	N/A				
Total Particulate Mass Emission (kg/hour)	0.007				

Client	TEREX
Site Address	COVENTRY
Job Number	P-RED14-001
Date	23rd January 2014
Operator(s)	V Gavin & 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)		0.70			**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)		8.0			**8**	N/A				
Nozzle Area (m²)		0.00005024			**Average Isokinetic Flow Rate (ltrs/min)**			**Axis 1**	**Axis 2**	
Stack Area (m²)		0.385						26.59	26.90	

Pitot Coefficient	**0.84**	**Pitot Calibration Due Date**			**15/03/14**			**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**	99.8	
No.	**(cms)**	**(pa)**	**(C)**	**(°)**	**(pa)**	**(C)**	**(°)**	**Static Pressure (pa)**	
1	10.22	67	18.4	3.0	68	18.4	3	-36.0	
2	59.78	64	18.4	3.0	66	18.4	3	**1 Axis**	**2 Axis**
3	N/A							**Velocity of flow (m/s)**	
4	N/A							8.82	8.92
5	N/A							**Volume Flow Rate (m³/s)**	
6	N/A							3.40	3.43
7	N/A							**Reduced Exit**	
8	N/A								
Averages		66	18.4		67	18.4		N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		**291.40**	
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =	**3.83**	**to**	**32.97**
Highest Velocity Reading (m/s) =		**9.2**	
Lowest Velocity Reading (m/s) =		**8.7**	
Ratio Highest/Lowest (Max permitted = 3:1)			**1.06 : 1**

On site Checklist

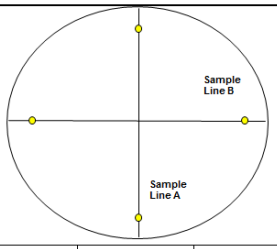
Initial Leak Check	**0**	**End of first run**	**0.2**	**Start of 2nd run**		**End of 2nd run**	
Acceptable Leak Check < 2% Vol (l/min)		**0.53**		**Manometer Leak Check**			**OK**
				Pitot Leak Check			**OK**
Range of Gas Temps		**OK**		**Overall Isokinetic Ratio (%) (must be 95 to 115%)**			**Run 1** / **95.8**
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 0289**	**Manometer Reference**	**RED 0404**
Thermometer Reference	**RED 0351-RED 0352**	**Thermocouple Reference**	**RED 0292**
Balance Reference	**N/A**	**Sampling Pump Reference**	**RED 0196**
Tape Measure Reference	**RED 0121**	**Barometer Reference**	**RED 0403**
DGM Thermocouple	**RED 0196T**	**Impinger Outlet Thermocouple**	**N/A**
Calipers	**RED 0300**	**Condenser Thermocouple**	**N/A**

Stack Reference ID	SCISSOR 1 BOOTH 2				
	TEREX				
	RUN 1				
Filter Reference No	G47-200114-21				
Date	23rd January 2014				
Sample Period	08:50	to	09:50		
Velocity (m/s)	8.87				
Volume flow rate of Stack gas (m^3/hr)	12292				
Average Stack Temp (°C)	18.4				
Temp Range ± 5% (°C)	3.83	to	32.97		
Lowest Velocity Reading (m/s)	8.70				
Highest Velocity Reading (m/s)	9.25				
Ratio (less than 3:1)	1.06	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	18.5				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	18.9				
Carbon Dioxide %	0.60				
Moisture (%)	0.00				
Litres sampled	1530				
Corrected volume sampled - STP (m^3)	1.467				
Blank Filter Run weight gain (mg)	0.000	Blank Concentration (mg/m^3)	0.000		
Blank Wash Run weight gain (mg)	0.050		0.034		
Weighing uncertainty of balance (mg)	0.074	This must be <5% of ELV	ELV = 50	2.5	
Overall Blank value (mg/m^3)	0.034	This must be <10% of ELV	ELV = 50	5.0	
Particulate weight collected on filter (mg)	0.06				
Particulate weight collected in Wash (mg)	0.71				
Total Particulate weight collected (mg)	0.77				
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 (kg/hour)	0.525				

Client	TEREX
Site Address	COVENTRY
Job Number	P-RED14-001
Date	23rd January 2014
Operator(s)	V Gavin & 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			**n**				**Axis 1**	**Axis 2**
Stack Area (m²)		0.031							20.11	N/A

Pitot Coefficient	**0.84**	**Pitot Calibration Due Date**			**15/03/14**			**Atmos. Pressure (kPa)**
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**	99.8
No.	**(cms)**	**(pa)**	**(C)**	**(°)**	**(pa)**	**(C)**	**(°)**	**Static Pressure (pa)**
1	10.00	30	91.2	7.0				3.0
2	#VALUE!							**1 Axis** / **2 Axis**
3	N/A							**Velocity of flow (m/s)**
4	N/A							6.67 / N/A
5	N/A							**Volume Flow Rate (m³/s)**
6	N/A							0.21 / N/A
7	N/A							**Reduced Exit**
8	N/A							
Averages		30	91.2					N/A

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		**364.20**	
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =	**72.99**	**to**	**109.41**
Highest Velocity Reading (m/s) =		**6.9**	
Lowest Velocity Reading (m/s) =		**6.7**	
Ratio Highest/Lowest (Max permitted = 3:1)			**1.03 : 1**

On site Checklist

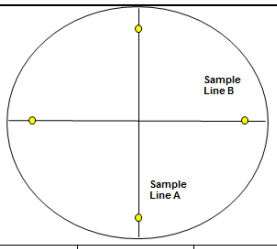
Initial Leak Check	**<0.2**	**End of first run**	**<0.2**	**Start of 2nd run**	**N/A**	**End of 2nd run**	**N/A**
Acceptable Leak Check < 2% Vol (l/min)		**0.40**		**Manometer Leak Check**			**OK**
				Pitot Leak Check			**OK**
Range of Gas Temps		**OK**		**Overall Isokinetic Ratio (%) (must be 95 to 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 0289**	**Manometer Reference**	**RED 0404**
Thermometer Reference	**RED 0351-RED 0352**	**Thermocouple Reference**	**RED 0292**
Balance Reference	**N/A**	**Sampling Pump Reference**	**RED 0196**
Tape Measure Reference	**RED 0121**	**Barometer Reference**	**RED 0403**
DGM Thermocouple	**RED 0196T**	**Impinger Outlet Thermocouple**	**N/A**
Calipers	**RED 0300**	**Condenser Thermocouple**	**N/A**

Stack Reference ID	SCISSOR 1 OVEN				
	TEREX				
	RUN 1				
Filter Reference No	G47-200114-27				
Date	23rd January 2014				
Sample Period	13:02	to	14:02		
Velocity (m/s)	6.67				
Volume flow rate of Stack gas (m^3/hr)	755				
Average Stack Temp (°C)	91.2				
Temp Range ± 5% (°C)	72.99	to	109.41		
Lowest Velocity Reading (m/s)	6.66				
Highest Velocity Reading (m/s)	6.87				
Ratio (less than 3:1)	1.03	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	91.7				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	19.5				
Carbon Dioxide %	0.60				
Moisture (%)	0.00				
Litres sampled	1010				
Corrected volume sampled - STP (m^3)	0.956				
Blank Filter Run weight gain (mg)	0.010	Blank Concentration (mg/m^3)	0.010		
Blank Wash Run weight gain (mg)	0.050		0.052		
Weighing uncertainty of balance (mg)	0.074	This must be <5% of ELV	ELV = 50	2.5	
Overall Blank value (mg/m^3)	0.063	This must be <10% of ELV	ELV = 50	5.0	
Particulate weight collected on filter (mg)	0.07				
Particulate weight collected in Wash (mg)	0.80				
Total Particulate weight collected (mg)	0.87				
Total Particulate Concentration, dry gas at STP (mg/m^3)	0.91				
Total Particulate Concentration, wet gas at STP (mg/m^3)	0.91				
Total Particulate Concentration corrected for 11% Oxygen, dry gas (mg/m^3)	N/A				
Total Particulate Mass Emission (kg/hour)	0.910				

Client	TEREX
Site Address	COVENTRY
Job Number	P-RED14-001
Date	23rd January 2014
Operator(s)	V Gavin & T Berek

Stack Reference		SCISSOR 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)		0.70			**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)		8.0			**8**	N/A			
Nozzle Area (m²)		0.00005024			**Average Isokinetic Flow Rate (ltrs/min)**			**Axis 1**	**Axis 2**
Stack Area (m²)		0.385						24.04	23.36

Pitot Coefficient	**0.84**	**Pitot Calibration Due Date**			**15/03/14**			**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**	99.8	
No.	**(cms)**	**(pa)**	**(C)**	**(°)**	**(pa)**	**(C)**	**(°)**	**Static Pressure (pa)**	
1	10.22	52	18.3	4.0	50	18.3	4	26.0	
2	59.78	55	18.3	4.0	51	18.3	3	**1 Axis**	**2 Axis**
3	N/A							**Velocity of flow (m/s)**	
4	N/A							7.97	7.75
5	N/A							**Volume Flow Rate (m³/s)**	
6	N/A							3.07	2.98
7	N/A							**Reduced Exit**	
8	N/A								
Averages		54	18.3		51	18.3		N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =			**291.30**
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =	**3.74**	**to**	**32.87**
Highest Velocity Reading (m/s) =			**8.3**
Lowest Velocity Reading (m/s) =			**7.7**
Ratio Highest/Lowest (Max permitted = 3:1)			**1.08 : 1**

On site Checklist

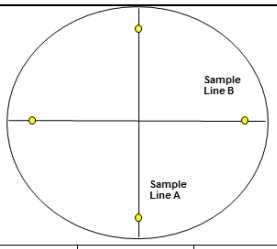
Initial Leak Check	**0**	**End of first run**	**0.2**	**Start of 2nd run**	**N/A**	**End of 2nd run**	**N/A**
Acceptable Leak Check < 2% Vol (l/min)		**0.48**		**Manometer Leak Check**			**OK**
				Pitot Leak Check			**OK**
Range of Gas Temps		**OK**		**Overall Isokinetic Ratio (%) (must be 95 to 115%)**			**Run 1** / **Run 2**
Passed minimum Velocity requirements (>5pa)			**YES**				**100.7** / **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 0289**	**Manometer Reference**	**RED 0404**
Thermometer Reference	**RED 0351-RED 0352**	**Thermocouple Reference**	**RED 0292**
Balance Reference	**N/A**	**Sampling Pump Reference**	**RED 0196**
Tape Measure Reference	**RED 0121**	**Barometer Reference**	**RED 0403**
DGM Thermocouple	**RED 0196T**	**Impinger Outlet Thermocouple**	**N/A**
Calipers	**RED 0300**	**Condenser Thermocouple**	**N/A**

Stack Reference ID	SCISSOR 2 BOOTH 1				
	TEREX				
	RUN 1				
Filter Reference No	G47-200114-23				
Date	23rd January 2014				
Sample Period	10:55	to	11:55		
Velocity (m/s)	7.86				
Volume flow rate of Stack gas (m^3/hr)	10891				
Average Stack Temp (°C)	18.3				
Temp Range ± 5% (°C)	3.74	to	32.87		
Lowest Velocity Reading (m/s)	7.69				
Highest Velocity Reading (m/s)	8.32				
Ratio (less than 3:1)	1.08	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	18.4				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	19.2				
Carbon Dioxide %	0.40				
Moisture (%)	0.00				
Litres sampled	1448				
Corrected volume sampled - STP (m^3)	1.388				
Blank Filter Run weight gain (mg)	0.000	Blank Concentration (mg/m^3)	0.000		
Blank Wash Run weight gain (mg)	0.010		0.007		
Weighing uncertainty of balance (mg)	0.075	This must be <5% of ELV	ELV = 50	2.5	
Overall Blank value (mg/m^3)	0.007	This must be <20% of ELV	ELV = 50	10.0	
Particulate weight collected on filter (mg)	0.02				
Particulate weight collected in Wash (mg)	1.53				
Total Particulate weight collected (mg)	1.55				
Total Particulate Concentration, dry gas at STP (mg/m^3)	1.12				
Total Particulate Concentration, wet gas at STP (mg/m^3)	1.12				
Total Particulate Concentration corrected for 11% Oxygen, dry gas (mg/m^3)	N/A				
Total Particulate Mass Emission (kg/hour)	0.012				

Client	TEREX
Site Address	COVENTRY
Job Number	P-RED14-001
Date	23rd January 2014
Operator(s)	V Gavin & T Berek

Stack Reference		SCISSOR 2 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)		8.0			**8**	N/A				
Nozzle Area (m²)		0.00005024			**Average Isokinetic Flow Rate (ltrs/min)**				**Axis 1**	**Axis 2**
Stack Area (m²)		0.385							23.28	23.28

Pitot Coefficient	**0.84**	**Pitot Calibration Due Date**			**15/03/14**			**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**	99.8	
No.	**(cms)**	**(pa)**	**(C)**	**(°)**	**(pa)**	**(C)**	**(°)**	**Static Pressure (pa)**	
1	10.22	51	18.3	5.0	52	18.3	5	21.0	
2	59.78	51	18.3	6.0	50	18.3	4	**1 Axis**	**2 Axis**
3	N/A							**Velocity of flow (m/s)**	
4	N/A							7.72	7.72
5	N/A							**Volume Flow Rate (m³/s)**	
6	N/A							2.97	2.97
7	N/A							**Reduced Exit**	
8	N/A								
Averages		51	18.3		51	18.3		N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		**291.30**	
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =	**3.74**	**to**	**32.87**
Highest Velocity Reading (m/s) =		**8.1**	
Lowest Velocity Reading (m/s) =		**7.7**	
Ratio Highest/Lowest (Max permitted = 3:1)		**1.05 : 1**	

On site Checklist

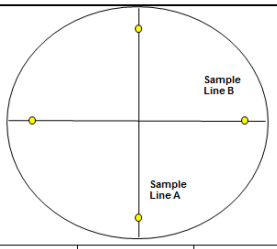
Initial Leak Check	**0**	**End of first run**	**0.2**	**Start of 2nd run**		**End of 2nd run**	
Acceptable Leak Check < 2% Vol (l/min)		**0.47**		**Manometer Leak Check**			**OK**
				Pitot Leak Check			**OK**
Range of Gas Temps		**OK**		**Overall Isokinetic Ratio (%) (must be 95 to 115%)**			**Run 1** / **Run 2**
Passed minimum Velocity requirements (>5pa)			**YES**				**100.0** / **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 0289**	**Manometer Reference**	**RED 0404**
Thermometer Reference	**RED 0351-RED 0352**	**Thermocouple Reference**	**RED 0292**
Balance Reference	**N/A**	**Sampling Pump Reference**	**RED 0196**
Tape Measure Reference	**RED 0121**	**Barometer Reference**	**RED 0403**
DGM Thermocouple	**RED 0196T**	**Impinger Outlet Thermocouple**	**N/A**
Calipers	**RED 0300**	**Condenser Thermocouple**	**N/A**

Stack Reference ID	SCISSOR 2 BOOTH 2				
	TEREX				
	RUN 1				
Filter Reference No	G47-200114-25				
Date	23rd January 2014				
Sample Period	12:00	to	13:00		
Velocity (m/s)	7.72				
Volume flow rate of Stack gas (m^3/hr)	10699				
Average Stack Temp (°C)	18.3				
Temp Range ± 5% (°C)	3.74	to	32.87		
Lowest Velocity Reading (m/s)	7.69				
Highest Velocity Reading (m/s)	8.09				
Ratio (less than 3:1)	1.05	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	18.4				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	10.4				
Carbon Dioxide %	5.60				
Moisture (%)	0.00				
Litres sampled	1403				
Corrected volume sampled - STP (m^3)	1.342				
Blank Filter Run weight gain (mg)	0.050	Blank Concentration (mg/m^3)	0.037		
Blank Wash Run weight gain (mg)	0.020		0.015		
Weighing uncertainty of balance (mg)	0.074	This must be <5% of ELV	ELV =	50	2.5
Overall Blank value (mg/m^3)	0.052	This must be <10% of ELV	ELV =	50	5.0
Particulate weight collected on filter (mg)	0.15				
Particulate weight collected in Wash (mg)	1.00				
Total Particulate weight collected (mg)	1.15				
Total Particulate Concentration, dry gas at STP (mg/m^3)	0.86				
Total Particulate Concentration, wet gas at STP (mg/m^3)	0.86				
Total Particulate Concentration corrected for 11% Oxygen, dry gas (mg/m^3)	N/A				
Total Particulate Mass Emission (kg/hour)	0.009				

Client	TEREX
Site Address	COVENTRY
Job Number	P-RED14-001
Date	23rd January 2014
Operator(s)	V Gavin & 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			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					16.71	N/A

Pitot Coefficient	**0.84**	**Pitot Calibration Due Date**			**15/03/14**			**Atmos. Pressure (kPa)**
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**	99.8
No.	**(cms)**	**(pa)**	**(C)**	**(°)**	**(pa)**	**(C)**	**(°)**	**Static Pressure (pa)**
1	10.00	21	85.7	4.0				5.0
2	#VALUE!							**1 Axis** / **2 Axis**
3	N/A							**Velocity of flow (m/s)**
4	N/A							5.54 / N/A
5	N/A							**Volume Flow Rate (m³/s)**
6	N/A							0.17 / N/A
7	N/A							**Reduced Exit**
8	N/A							
Averages		21	85.7					N/A

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =			**358.70**
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =	**67.77**	**to**	**103.64**
Highest Velocity Reading (m/s) =			**5.7**
Lowest Velocity Reading (m/s) =			**5.5**
Ratio Highest/Lowest (Max permitted = 3:1)			**1.03 : 1**

On site Checklist

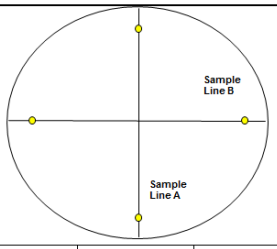
Initial Leak Check	**0**	**End of first run**	**0**	**Start of 2nd run**		**End of 2nd run**	
Acceptable Leak Check < 2% Vol (l/min)		**0.33**		**Manometer Leak Check**			**OK**
				Pitot Leak Check			**OK**
Range of Gas Temps		**OK**		**Overall Isokinetic Ratio (%) (must be 95 to 115%)**			**Run 1** / **Run 2**
Passed minimum Velocity requirements (>5pa)			**YES**				100.3 / #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 0289**	**Manometer Reference**	**RED 0404**
Thermometer Reference	**RED 0351-RED 0352**	**Thermocouple Reference**	**RED 0292**
Balance Reference	**N/A**	**Sampling Pump Reference**	**RED 0196**
Tape Measure Reference	**RED 0121**	**Barometer Reference**	**RED 0403**
DGM Thermocouple	**RED 0196T**	**Impinger Outlet Thermocouple**	**N/A**
Calipers	**RED 0300**	**Condenser Thermocouple**	**N/A**

Stack Reference ID	SCISSOR 2 OVEN				
	TEREX				
	RUN 1				
Filter Reference No	G47-200114-29				
Date	23rd January 2014				
Sample Period	14:05	to	15:05		
Velocity (m/s)	5.54				
Volume flow rate of Stack gas (m^3/hr)	627				
Average Stack Temp (°C)	85.7				
Temp Range ± 5% (°C)	67.77	to	103.64		
Lowest Velocity Reading (m/s)	5.53				
Highest Velocity Reading (m/s)	5.70				
Ratio (less than 3:1)	1.03	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	86.4				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	19.3				
Carbon Dioxide %	0.40				
Moisture (%)	0.00				
Litres sampled	1012				
Corrected volume sampled - STP (m^3)	0.955				
Blank Filter Run weight gain (mg)	0.010	Blank Concentration (mg/m^3)	0.010		
Blank Wash Run weight gain (mg)	0.030		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)	0.042	This must be <10% of ELV	ELV = 50	5.0	
Particulate weight collected on filter (mg)	0.15				
Particulate weight collected in Wash (mg)	0.87				
Total Particulate weight collected (mg)	1.02				
Total Particulate Concentration, dry gas at STP (mg/m^3)	1.07				
Total Particulate Concentration, wet gas at STP (mg/m^3)	1.07				
Total Particulate Concentration corrected for 11% Oxygen, dry gas (mg/m^3)	N/A				
Total Particulate Mass Emission (kg/hour)	0.001				

Client	TEREX
Site Address	COVENTRY
Job Number	P-RED14-001
Date	22nd January 2014
Operator(s)	V Gavin & T Berek

Stack Reference		Spray Bake 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)		0.80			**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)		6.0			**8**	N/A				
Nozzle Area (m²)		0.00002826			**Average Isokinetic Flow Rate (ltrs/min)**			**Axis 1**	**Axis 2**	
Stack Area (m²)		0.503						21.17	21.33	

Pitot Coefficient	**0.84**	**Pitot Calibration Due Date**			**15/03/14**			**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	129	26.8	4.0	133	26.8	4	24.0	
2	68.32	131	26.9	3.0	131	27.1	5	**1 Axis**	**2 Axis**
3	N/A							**Velocity of flow (m/s)**	
4	N/A							12.48	12.58
5	N/A							**Volume Flow Rate (m³/s)**	
6	N/A							6.28	6.32
7	N/A							**Reduced Exit**	
8	N/A								
Averages		130	26.9		132	27.0		N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		**299.85**	
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =	**11.86**	**to**	**41.84**
Highest Velocity Reading (m/s) =		**13.0**	
Lowest Velocity Reading (m/s) =		**12.4**	
Ratio Highest/Lowest (Max permitted = 3:1)			**1.05 : 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** / **Run 2**
Passed minimum Velocity requirements (>5pa)	**YES**						**100.0** / **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 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	Spray Bake Booth 1				
	TEREX				
	RUN 1				
Filter Reference No	ISOCYANATES NCO				
Date	22nd January 2014				
Sample Period	10:30	to	11:30		
Velocity (m/s)	12.53				
Volume flow rate of Stack gas (m^3/hr)	22677				
Average Stack Temp (°C)	26.9				
Temp Range ± 5% (°C)	11.86	to	41.84		
Lowest Velocity Reading (m/s)	12.40				
Highest Velocity Reading (m/s)	12.99				
Ratio (less than 3:1)	1.05	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	27.8				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	18.8				
Carbon Dioxide %	0.60				
Moisture (%)	0.00				
Litres sampled	1257				
Corrected volume sampled - STP (m^3)	1.225				
Blank Filter Run weight gain (mg)	0.000	Blank Concentration (mg/m^3)	0.000		
Blank Wash Run weight gain (mg)	0.000		0.000		
Weighing uncertainty of balance (mg)	0.074	This must be <5% of ELV	ELV = 0.1	0.01	
Overall Blank value (mg/m^3)	0.000	This must be <10% of ELV	ELV = 0.1	0.01	
Isocyanate weight collected on filter (mg)	0.02				
Total Isocyanate Concentration, dry gas at STP (mg/m^3)	0.02				
Total Isocyanate Concentration, wet gas at STP (mg/m^3)	0.02				
Total Isocyanate Mass Emission (kg/hour)	0.0004				

Client	TEREX
Site Address	COVENTRY
Job Number	P-RED14-001
Date	22nd January 2014
Operator(s)	V Gavin & T Berek

Stack Reference		SPRAYBAKE BOOTH 2 (NCO)			**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)		6.0			**8**	N/A				
Nozzle Area (m²)		0.00002826			**Average Isokinetic Flow Rate (ltrs/min)**			**Axis 1**	**Axis 2**	
Stack Area (m²)		0.503						20.65	20.65	
Pitot Coefficient	**0.84**	**Pitot Calibration Due Date**			**15/03/14**			**Atmos. Pressure (kPa)**		
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**	100.9		
No.	**(cms)**	**(pa)**	**(C)**	**(°)**	**(pa)**	**(C)**	**(°)**	**Static Pressure (pa)**		
1	11.68	124	26.0	5.0	128	25.9	3	24.0		
2	68.32	126	25.9	4.0	122	26.2	5	**1 Axis**	**2 Axis**	
3	N/A							**Velocity of flow (m/s)**		
4	N/A							12.18	12.18	
5	N/A							**Volume Flow Rate (m³/s)**		
6	N/A							6.12	6.12	
7	N/A							**Reduced Exit**		
8	N/A									
Averages		125	26.0		125	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) =		**12.8**	
Lowest Velocity Reading (m/s) =		**12.1**	
Ratio Highest/Lowest (Max permitted = 3:1)			**1.06 : 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)		**0.41**		**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**				**102.2** / **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 0395**	**Impinger Outlet Thermocouple**	**N/A**
Calipers	**RED 0300**	**Condenser Thermocouple**	**N/A**

Stack Reference ID	SPRAYBAKE BOOTH 2 (NCO)				
	TEREX				
	RUN 1				
Filter Reference No	ISOCYANATES NCO				
Date	22nd January 2014				
Sample Period	12:40	to	13:40		
Velocity (m/s)	12.18				
Volume flow rate of Stack gas (m^3/hr)	22041				
Average Stack Temp (°C)	26.0				
Temp Range ± 5% (°C)	11.00	to	40.90		
Lowest Velocity Reading (m/s)	12.10				
Highest Velocity Reading (m/s)	12.78				
Ratio (less than 3:1)	1.06	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	26.7				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	10.4				
Carbon Dioxide %	5.60				
Moisture (%)	0.00				
Litres sampled	1286				
Corrected volume sampled - STP (m^3)	1.236				
Blank Filter Run weight gain (mg)	0.000	Blank Concentration (mg/m^3)	0.000		
Blank Wash Run weight gain (mg)	0.000		0.000		
Weighing uncertainty of balance (mg)	0.074	This must be <5% of ELV	ELV =	0.1	0.01
Overall Blank value (mg/m^3)	0.000	This must be <10% of ELV	ELV =	0.1	0.01
Isocyanate weight collected on filter (mg)	0.02				
Total Isocyanate weight collected (mg)	0.02				
Total Isocyanate Concentration, dry gas at STP (mg/m^3)	0.02				
Total Isocyanate Concentration, wet gas at STP (mg/m^3)	0.02				
Total Isocyanate Mass Emission (kg/hour)	0.0004				

Client	Terex
Site Address	Coventry
Job Number	P-RED14-001
Date	22nd January 2014
Operator(s)	Vicki Gavin & Tony Berek

Stack Reference		Topcoat Flashoff			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		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)		0.785							19.41	20.18
Pitot Coefficient	0.84	**Pitot Calibration Due Date**			March 2014				**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**		100.9	
No.	**(cms)**	**(pa)**	**(C)**	**Pass (Y/N)**	**(pa)**	**(C)**	**Pass (Y/N)**		**Static Pressure (pa)**	
1	14.60	102	55.0	5.0	112	55.0	6		-80.0	
2	85.40	97	55.0	5.0	103	55.0	3		**1 Axis**	**2 Axis**
3	N/A								**Velocity of flow (m/s)**	
4	N/A								11.45	11.90
5	N/A								**Volume Flow Rate (m³/s)**	
6	N/A								8.99	9.35
7	N/A								**Reduced Exit**	
8	N/A									
Averages		100	55.0		108	55.0			N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		328.00	
Range of gas temperature readings ± 5% (°C) = (0.95Tp-273) to (1.05Tp-273) =	38.60	to	71.40
Highest Velocity Reading (m/s) =		12.5	
Lowest Velocity Reading (m/s) =		11.3	
Ratio Highest/Lowest (Max permitted = 3:1)		1.11 : 1	

On site Checklist

Range of Gas Temps		OK			Manometer Leak Check	OK	
Initial Leak Check	<0.2	Final leak check	<0.2		Pitot Leak Check	OK	
Acceptable Leak Check < 2% Vol (l/min)		0.39			Overall Isokinetic Ratio (%) (must be 95 to 115%)	**Run 1**	**Run 2**
Passed minimum Velocity requirements (>5pa)			YES			106.3	98.2
Negative Local Flow Present, YES or NO (Yes = Fail)			NO		Are there sufficient rails and kick board? (YES , NO or N/A)		YES
Is the Platform area greater than 5m²? (YES, NO or N/A)			YES		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 0237		Manometer Reference	RED 0400
Thermometer Reference	RED 0354		Thermocouple Reference	RED 0344
Balance Reference			Sampling Pump Reference	RED 0385
Tape Measure Reference	RED 0123		Barometer Reference	RED 0402

Stack Reference ID	Topcoat Flashoff					
	Terex					
	RUN 1			RUN 2		
Filter Reference No	G47-200114-01			NCO Run		
Date	22nd January 2014			22nd January 2014		
Sample Period	09:30	to	10:30	10:35	to	11:35
Velocity (m/s)	11.68					
Volumetric flowrate of Stack gas (m³/hr)	33013					
Average Stack Temp (°C)	55.0					
Temperature Range - ± 5% (°C)	38.60		to		71.40	
Lowest Velocity Reading (m/s)	11.30					
Highest Velocity Reading (m/s)	12.52					
Ratio (less than 3:1)	1.11		:		1	
Pre-conditioning temperature of Filter (°C)	180			180		
Instack sampling - Max Filter temperature (°C)	55.0			55.0		
Post-conditioning temperature Filter/Wash (°C)	160			160		
Oxygen %	18.6			18.6		
Carbon Dioxide %	1.40			1.40		
Moisture (%)	4.16					
Litres sampled	1190			1155		
Corrected volume sampled - STP (m³)	1.153			1.110		
Blank Filter Run weight gain (mg)	0.020		Blank Concentration (mg/m³)		0.018	
Blank Wash Run weight gain (mg)	0.010				0.009	
Weighing uncertainty of balance (mg)	0.074	This must be <5% of ELV		ELV = 50		2.5
Overall Blank value (mg/m³)	0.027	This must be <10% of ELV		ELV = 50		5.0
Particulate weight collected on filter (mg)	0.08			0.02		
Particulate weight collected in Wash (mg)	0.15			0.00		
Total Particulate weight collected (mg)	0.23			0.02		
Total Particulate Concentration, *STP, dry gas (mg/m³)	0.20			0.02		
Total Particulate Concentration, *STP, wet gas (mg/m³)	0.19			0.02		
Total Particulate Concentration corrected for Oxygen, *STP, dry gas (mg/m³)	N/A			N/A		
Total Particulate Mass Emission (kg/hour)	0.006			0.001		

Client	Terex
Site Address	Coventry
Job Number	P-RED14-001
Date	23rd January 2014
Operator(s)	Vicki Gavin & Tony Berek

Stack Reference		Topcoat 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)		1.60			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		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							19.48	18.92
Pitot Coefficient	0.84	**Pitot Calibration Due Date**			March 2014				**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**		99.9	
No.	**(cms)**	**(pa)**	**(C)**	**Pass (Y/N)**	**(pa)**	**(C)**	**Pass (Y/N)**		**Static Pressure (pa)**	
1	23.36	37	16.8	4.0	32	16.9	4		-13.0	
2	136.64	34	16.8	4.0	35	16.8	4		**1 Axis**	**2 Axis**
3	#VALUE!								**Velocity of flow (m/s)**	
4	#VALUE!								6.46	6.28
5	N/A								**Volume Flow Rate (m³/s)**	
6	N/A								12.99	12.62
7	N/A								**Reduced Exit**	
8	N/A									
Averages		36	16.8		34	16.9			N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		289.83	
Range of gas temperature readings ± 5% (°C) = (0.95Tp-273) to (1.05Tp-273) =	2.33	to	31.32
Highest Velocity Reading (m/s) =		6.8	
Lowest Velocity Reading (m/s) =		6.1	
Ratio Highest/Lowest (Max permitted = 3:1)		1.11 : 1	

On site Checklist

Range of Gas Temps		OK			Manometer Leak Check	OK	
Initial Leak Check	<0.2	Final leak check	<0.2		Pitot Leak Check	OK	
Acceptable Leak Check < 2% Vol (l/min)		0.39			Overall Isokinetic Ratio (%) (must be 95 to 115%)	**Run 1**	**Run 2**
Passed minimum Velocity requirements (>5pa)			YES			101.8	104.1
Negative Local Flow Present, YES or NO (Yes = Fail)			NO		Are there sufficient rails and kick board? (YES , NO or N/A)		YES
Is the Platform area greater than 5m²? (YES, NO or N/A)			YES		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 0237		Manometer Reference	RED 0400
Thermometer Reference	RED 0354		Thermocouple Reference	RED 0344
Balance Reference			Sampling Pump Reference	RED 0385
Tape Measure Reference	RED 0123		Barometer Reference	RED 0402

Stack Reference ID	Topcoat 1					
	Terex					
	RUN 1			RUN 2		
Filter Reference No	NCO Run			G47-200114-09		
Date	23rd January 2014			23rd January 2014		
Sample Period	08:45	to	09:45	09:47	to	10:47
Velocity (m/s)	6.37					
Volumetric flowrate of Stack gas (m^3/hr)	46099					
Average Stack Temp (°C)	16.8					
Temperature Range - ± 5% (°C)	2.33		to		31.32	
Lowest Velocity Reading (m/s)	6.13					
Highest Velocity Reading (m/s)	6.80					
Ratio (less than 3:1)	1.11		:		1	
Pre-conditioning temperature of Filter (°C)	180			180		
Instack sampling - Max Filter temperature (°C)	16.8			16.8		
Post-conditioning temperature Filter/Wash (°C)	160			160		
Oxygen %	18.6			18.6		
Carbon Dioxide %	1.40			1.40		
Moisture (%)	2.95					
Litres sampled	1155			1159		
Corrected volume sampled - STP (m^3)	1.119			1.114		
Blank Filter Run weight gain (mg)	0.010		Blank Concentration (mg/m^3)	0.009		
Blank Wash Run weight gain (mg)	0.050			0.045		
Weighing uncertainty of balance (mg)	0.074	This must be <5% of ELV		ELV = 50	2.5	
Overall Blank value (mg/m^3)	0.054	This must be <10% of ELV		ELV = 50	5.0	
Particulate weight collected on filter (mg)	0.02			0.21		
Particulate weight collected in Wash (mg)	0.00			0.86		
Total Particulate weight collected (mg)	0.02			1.07		
Total Particulate Concentration, *STP, dry gas (mg/m^3)	0.02			0.96		
Total Particulate Concentration, *STP, wet gas (mg/m^3)	0.02			0.93		
Total Particulate Concentration corrected for Oxygen, *STP, dry gas (mg/m^3)	N/A			N/A		
Total Particulate Mass Emission (kg/hour)	0.001			0.044		

Client	Terex
Site Address	Coventry
Job Number	P-RED14-001
Date	23rd January 2014
Operator(s)	Vicki Gavin & Tony Berek

Stack Reference		Topcoat 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)		1.60			**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		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							21.32	20.94
Pitot Coefficient	0.84	**Pitot Calibration Due Date**			**March 2014**				**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**		99.9	
No.	**(cms)**	**(pa)**	**(C)**	**Pass (Y/N)**	**(pa)**	**(C)**	**Pass (Y/N)**		**Static Pressure (pa)**	
1	23.36	41	17.2	4.0	43	17.2	4		-17.0	
2	136.64	44	17.2	4.0	39	17.2	4		**1 Axis**	**2 Axis**
3	N/A								**Velocity of flow (m/s)**	
4	N/A								7.07	6.95
5	N/A								**Volume Flow Rate (m³/s)**	
6	N/A								14.22	13.97
7	N/A								**Reduced Exit**	
8	N/A									
Averages		43	17.2		41	17.2			N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		290.20	
Range of gas temperature readings ± 5% (°C) = (0.95Tp-273) to (1.05Tp-273) =	2.69	to	31.71
Highest Velocity Reading (m/s) =		7.4	
Lowest Velocity Reading (m/s) =		6.8	
Ratio Highest/Lowest (Max permitted = 3:1)		1.10 : 1	

On site Checklist

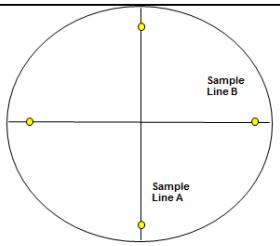
Range of Gas Temps		OK			Manometer Leak Check	OK	
Initial Leak Check	<0.2	Final leak check	<0.2		Pitot Leak Check	OK	
Acceptable Leak Check < 2% Vol (l/min)		0.43			Overall Isokinetic Ratio (%) (must be 95 to 115%)	**Run 1**	**Run 2**
Passed minimum Velocity requirements (>5pa)			YES			100.3	103.4
Negative Local Flow Present, YES or NO (Yes = Fail)			NO		Are there sufficient rails and kick board? (YES , NO or N/A)		YES
Is the Platform area greater than 5m²? (YES, NO or N/A)			YES		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 0237		Manometer Reference	RED 0400
Thermometer Reference	RED 0354		Thermocouple Reference	RED 0344
Balance Reference			Sampling Pump Reference	RED 0385
Tape Measure Reference	RED 0123		Barometer Reference	RED 0402

Stack Reference ID	Topcoat 2					
	Terex					
	RUN 1			RUN 2		
Filter Reference No	NCO Run			G47-200114-11		
Date	23rd January 2014			23rd January 2014		
Sample Period	10:50	to	11:50	11:52	to	12:52
Velocity (m/s)	7.01					
Volumetric flowrate of Stack gas (m³/hr)	50748					
Average Stack Temp (°C)	17.2					
Temperature Range - ± 5% (°C)	2.69		to		31.71	
Lowest Velocity Reading (m/s)	6.77					
Highest Velocity Reading (m/s)	7.42					
Ratio (less than 3:1)	1.10		:		1	
Pre-conditioning temperature of Filter (°C)	180			180		
Instack sampling - Max Filter temperature (°C)	17.2			17.2		
Post-conditioning temperature Filter/Wash (°C)	160			160		
Oxygen %	18.6			18.6		
Carbon Dioxide %	1.40			1.40		
Moisture (%)	2.95					
Litres sampled	1235			1216		
Corrected volume sampled - STP (m³)	1.182			1.161		
Blank Filter Run weight gain (mg)	0.020		Blank Concentration (mg/m³)	0.017		
Blank Wash Run weight gain (mg)	0.020			0.017		
Weighing uncertainty of balance (mg)	0.075	This must be <5% of ELV		ELV = 50	2.5	
Overall Blank value (mg/m³)	0.034	This must be <10% of ELV		ELV = 50	5.0	
Particulate weight collected on filter (mg)	0.02			0.04		
Particulate weight collected in Wash (mg)	0.00			1.18		
Total Particulate weight collected (mg)	0.02			1.22		
Total Particulate Concentration, *STP, dry gas (mg/m³)	0.02			1.05		
Total Particulate Concentration, *STP, wet gas (mg/m³)	0.02			1.02		
Total Particulate Concentration corrected for Oxygen, *STP, dry gas (mg/m³)	N/A			N/A		
Total Particulate Mass Emission (kg/hour)	0.001			0.052		

Client	Terex
Site Address	Coventry
Job Number	P-RED14-001
Date	22nd January 2014
Operator(s)	Vicki Gavin & Tony Berek

Stack Reference		Topcoat 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)		1.60			**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		4			**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)		2.011							20.21	21.54
Pitot Coefficient	0.84	**Pitot Calibration Due Date**			**March 2014**				**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**		100.9	
No.	**(cms)**	**(pa)**	**(C)**	**Pass (Y/N)**	**(pa)**	**(C)**	**Pass (Y/N)**		**Static Pressure (pa)**	
1	23.36	104	60.5	3.0	119	60.5	3		30.0	
2	136.64	108	60.5	3.0	122	60.5	3		**1 Axis**	**2 Axis**
3	#VALUE!								**Velocity of flow (m/s)**	
4	#VALUE!								11.92	12.71
5	N/A								**Volume Flow Rate (m³/s)**	
6	N/A								23.96	25.55
7	N/A								**Reduced Exit**	
8	N/A									
Averages		106	60.5		121	60.5			N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		333.50	
Range of gas temperature readings ± 5% (°C) = (0.95Tp-273) to (1.05Tp-273) =	43.83	to	77.18
Highest Velocity Reading (m/s) =		13.2	
Lowest Velocity Reading (m/s) =		11.8	
Ratio Highest/Lowest (Max permitted = 3:1)		1.12 : 1	

On site Checklist

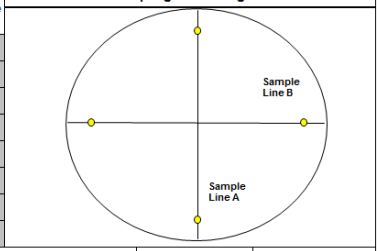
Range of Gas Temps		OK			Manometer Leak Check	OK	
Initial Leak Check	<0.2	Final leak check	<0.2		Pitot Leak Check	OK	
Acceptable Leak Check < 2% Vol (l/min)		0.40			Overall Isokinetic Ratio (%) (must be 95 to 115%)	**Run 1**	**Run 2**
Passed minimum Velocity requirements (>5pa)			YES			**96.6**	**100.8**
Negative Local Flow Present, YES or NO (Yes = Fail)			NO		Are there sufficient rails and kick board? (YES , NO or N/A)		YES
Is the Platform area greater than 5m²? (YES, NO or N/A)			YES		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 0237		Manometer Reference	RED 0400
Thermometer Reference	RED 0354		Thermocouple Reference	RED 0344
Balance Reference			Sampling Pump Reference	RED 0385
Tape Measure Reference	RED 0123		Barometer Reference	RED 0402

Stack Reference ID	Topcoat Curing Oven					
	Terex					
	RUN 1			RUN 2		
Filter Reference No	NCO Run			G47-200114-07		
Date	22nd January 2014			22nd January 2014		
Sample Period	13:50	to	14:50	14:00	to	15:00
Velocity (m/s)	12.31					
Volumetric flowrate of Stack gas (m^3/hr)	89113					
Average Stack Temp (°C)	60.5					
Temperature Range - ± 5% (°C)	43.83		to			77.18
Lowest Velocity Reading (m/s)	11.80					
Highest Velocity Reading (m/s)	13.18					
Ratio (less than 3:1)	1.12		:			1
Pre-conditioning temperature of Filter (°C)	180			180		
Instack sampling - Max Filter temperature (°C)	60.5			60.5		
Post-conditioning temperature Filter/Wash (°C)	160			160		
Oxygen %	18.6			18.6		
Carbon Dioxide %	1.40			1.40		
Moisture (%)	4.16					
Litres sampled	1200			1353		
Corrected volume sampled - STP (m^3)	1.149			1.302		
Blank Filter Run weight gain (mg)	0.010		Blank Concentration (mg/m^3)	0.008		
Blank Wash Run weight gain (mg)	0.010			0.008		
Weighing uncertainty of balance (mg)	0.074	This must be <5% of ELV		ELV = 50		2.5
Overall Blank value (mg/m^3)	0.016	This must be <10% of ELV		ELV = 50		5.0
Particulate weight collected on filter (mg)	0.02			0.08		
Particulate weight collected in Wash (mg)	0.00			0.76		
Total Particulate weight collected (mg)	0.02			0.84		
Total Particulate Concentration, *STP, dry gas (mg/m^3)	0.02			0.64		
Total Particulate Concentration, *STP, wet gas (mg/m^3)	0.02			0.62		
Total Particulate Concentration corrected for Oxygen, *STP, dry gas (mg/m^3)	N/A			N/A		
Total Particulate Mass Emission (kg/hour)	0.001			0.053		

Client	TEREX
Site Address	COVENTRY
Job Number	P-RED14-001
Date	22nd January 2014
Operator(s)	V Gavin & 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						21.10	20.69

Pitot Coefficient	**0.84**	**Pitot Calibration Due Date**			**15/03/14**			**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**	100.9	
No.	**(cms)**	**(pa)**	**(C)**	**(°)**	**(pa)**	**(C)**	**(°)**	**Static Pressure (pa)**	
1	10.22	127	23.4	4.0	123	23.4	5	22.0	
2	59.78	132	23.4	5.0	126	23.4	5	**1 Axis**	**2 Axis**
3	N/A							**Velocity of flow (m/s)**	
4	N/A							12.44	12.20
5	N/A							**Volume Flow Rate (m³/s)**	
6	N/A							4.79	4.70
7	N/A							**Reduced Exit**	
8	N/A								
Averages		130	23.4		125	23.4		N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =			**296.40**
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =	**8.58**	**to**	**38.22**
Highest Velocity Reading (m/s) =			**12.9**
Lowest Velocity Reading (m/s) =			**12.1**
Ratio Highest/Lowest (Max permitted = 3:1)			**1.07 : 1**

On site Checklist

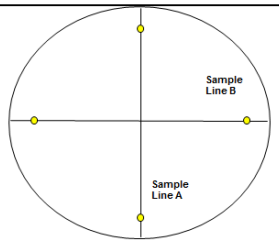
Initial Leak Check		**End of first run**		**Start of 2nd run**		**End of 2nd run**	
Acceptable Leak Check < 2% Vol (l/min)	**0.42**			**Manometer Leak Check**			**OK**
				Pitot Leak Check			**OK**
Range of Gas Temps	**OK**			**Overall Isokinetic Ratio (%) (must be 95 to 115%)**			**Run 1** / **100.8**	**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)**			**N/A**
Is the Platform area greater than 5m²? (YES, NO or N/A)	**N/A**			**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 0289**	**Manometer Reference**	**RED 0404**
Thermometer Reference	**RED 0351-RED 0352**	**Thermocouple Reference**	**RED 0292**
Balance Reference	**N/A**	**Sampling Pump Reference**	**RED 0196**
Tape Measure Reference	**RED 0121**	**Barometer Reference**	**RED 0403**
DGM Thermocouple	**RED 0196T**	**Impinger Outlet Thermocouple**	**N/A**
Calipers	**RED 0300**	**Condenser Thermocouple**	**N/A**

Stack Reference ID	Preparation Booth 1				
	TEREX				
	RUN 1				
Filter Reference No	G47-200114-15				
Date	22nd January 2014				
Sample Period	09:25	to	10:25		
Velocity (m/s)	12.32				
Volume flow rate of Stack gas (m^3/hr)	17073				
Average Stack Temp (°C)	23.4				
Temp Range ± 5% (°C)	8.58	to	38.22		
Lowest Velocity Reading (m/s)	12.10				
Highest Velocity Reading (m/s)	12.92				
Ratio (less than 3:1)	1.07	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	24.9				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	19.1				
Carbon Dioxide %	0.50				
Moisture (%)	0.00				
Litres sampled	1254				
Corrected volume sampled - STP (m^3)	1.217				
Blank Filter Run weight gain (mg)	0.000	Blank Concentration (mg/m^3)	0.000		
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)	0.000	This must be <10% of ELV	ELV = 50	5.0	
Particulate weight collected on filter (mg)	0.03				
Particulate weight collected in Wash (mg)	1.13				
Total Particulate weight collected (mg)	1.16				
Total Particulate Concentration, dry gas at STP (mg/m^3)	0.95				
Total Particulate Concentration, wet gas at STP (mg/m^3)	0.95				
Total Particulate Concentration corrected for 11% Oxygen, dry gas (mg/m^3)	N/A				
Total Particulate Mass Emission (kg/hour)	0.016				

Client	TEREX
Site Address	COVENTRY
Job Number	P-RED14-001
Date	22nd January 2014
Operator(s)	V Gavin & T Berek

Stack Reference		Preparation 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)			0.70		**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)			0.385						20.81	20.81

Pitot Coefficient	**0.84**	**Pitot Calibration Due Date**			**15/3/14**			**Atmos. Pressure (kPa)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Swirl Test**	**Axis 2**	**Temperature**	**Swirl Test**	100.9	
No.	**(cms)**	**(pa)**	**(C)**	**(°)**	**(pa)**	**(C)**	**(°)**	**Static Pressure (pa)**	
1	10.22	124	26.0	5.0	128	26.1	3	30.0	
2	59.78	126	26.1	4.0	122	26.2	5	**1 Axis**	**2 Axis**
3	N/A							**Velocity of flow (m/s)**	
4	N/A							12.28	12.28
5	N/A							**Volume Flow Rate (m³/s)**	
6	N/A							4.72	4.72
7	N/A							**Reduced Exit**	
8	N/A								
Averages		125	26.1		125	26.2		N/A	

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		**299.05**	
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =	**11.10**	**to**	**41.00**
Highest Velocity Reading (m/s) =		**12.8**	
Lowest Velocity Reading (m/s) =		**12.1**	
Ratio Highest/Lowest (Max permitted = 3:1)			**1.06 : 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)		**0.42**		**Manometer Leak Check**			**OK**
				Pitot Leak Check			**OK**
Range of Gas Temps		**OK**		**Overall Isokinetic Ratio (%) (must be 95 to 115%)**			**Run 1** / **101.8**	**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 0395**	**Impinger Outlet Thermocouple**	**N/A**
Calipers	**RED 0300**	**Condenser Thermocouple**	**N/A**

Stack Reference ID	Preparation Booth 2				
	TEREX				
	RUN 1				
Filter Reference No	G47-200114-17				
Date	22nd January 2014				
Sample Period	11:35	to	12:35		
Velocity (m/s)	12.28				
Volume flow rate of Stack gas (m^3/hr)	17007				
Average Stack Temp (°C)	26.1				
Temp Range ± 5% (°C)	11.10	to	41.00		
Lowest Velocity Reading (m/s)	12.10				
Highest Velocity Reading (m/s)	12.78				
Ratio (less than 3:1)	1.06	:	1		
Pre-conditioning temperature of Filter (°C)	180				
Instack sampling - Max Filter temperature (°C)	26.3				
Post-conditioning temperature Filter/Wash (°C)	160				
Oxygen %	18.9				
Carbon Dioxide %	0.70				
Moisture (%)	0.00				
Litres sampled	1296				
Corrected volume sampled - STP (m^3)	1.245				
Blank Filter Run weight gain (mg)	0.020	Blank Concentration (mg/m^3)	0.016		
Blank Wash Run weight gain (mg)	0.010		0.008		
Weighing uncertainty of balance (mg)	0.074	This must be <5% of ELV	ELV =	50	2.5
Overall Blank value (mg/m^3)	0.024	This must be <10% of ELV	ELV =	50	5.0
Particulate weight collected on filter (mg)	0.04				
Particulate weight collected in Wash (mg)	0.40				
Total Particulate weight collected (mg)	0.44				
Total Particulate Concentration, dry gas at STP (mg/m^3)	0.35				
Total Particulate Concentration, wet gas at STP (mg/m^3)	0.35				
Total Particulate Concentration corrected for 11% Oxygen, dry gas (mg/m^3)	N/A				
Total Particulate Mass Emission (kg/hour)	0.006				

APPENDIX B

VOC Raw Data

Scissor 1 Booth 1 - VOC Monitoring

Date	Time	VOC mg/m³
22-Jan-14	10:00:32	24.75
22-Jan-14	10:01:32	24.43
22-Jan-14	10:02:32	23.46
22-Jan-14	10:03:32	22.50
22-Jan-14	10:04:32	21.21
22-Jan-14	10:05:32	19.93
22-Jan-14	10:06:32	20.25
22-Jan-14	10:07:32	18.00
22-Jan-14	10:08:32	17.04
22-Jan-14	10:09:32	16.07
22-Jan-14	10:10:32	15.11
22-Jan-14	10:11:32	38.25
22-Jan-14	10:12:32	14.14
22-Jan-14	10:13:32	12.54
22-Jan-14	10:14:32	13.82
22-Jan-14	10:15:32	11.25
22-Jan-14	10:16:32	10.29
22-Jan-14	10:17:32	9.64
22-Jan-14	10:18:32	10.61
22-Jan-14	10:19:32	8.68
22-Jan-14	10:20:32	92.25
22-Jan-14	10:21:32	90.64
22-Jan-14	10:22:32	47.57
22-Jan-14	10:23:32	94.50
22-Jan-14	10:24:32	19.61
22-Jan-14	10:25:32	9.32
22-Jan-14	10:26:32	7.39
22-Jan-14	10:27:32	82.93
22-Jan-14	10:28:32	77.46
22-Jan-14	10:29:32	61.07
22-Jan-14	10:30:32	25.07
22-Jan-14	10:31:32	9.00
22-Jan-14	10:32:32	5.46
22-Jan-14	10:33:32	4.18
22-Jan-14	10:34:32	3.21
22-Jan-14	10:35:32	2.25
22-Jan-14	10:36:32	2.57
22-Jan-14	10:37:32	63.00
22-Jan-14	10:38:32	81.64
22-Jan-14	10:39:32	83.57
22-Jan-14	10:40:32	75.21
22-Jan-14	10:41:32	10.61
22-Jan-14	10:42:32	3.21
22-Jan-14	10:43:32	1.29
22-Jan-14	10:44:32	0.96
22-Jan-14	10:45:32	0.00
22-Jan-14	10:46:32	0.00
22-Jan-14	10:47:32	62.36
22-Jan-14	10:48:32	89.04
22-Jan-14	10:49:32	75.21
22-Jan-14	10:50:32	72.00
22-Jan-14	10:51:32	8.36
22-Jan-14	10:52:32	0.96
22-Jan-14	10:53:32	0.00
22-Jan-14	10:54:32	0.00
22-Jan-14	10:55:32	0.00
22-Jan-14	10:56:32	0.00
22-Jan-14	10:57:32	0.00
22-Jan-14	10:58:32	0.00
22-Jan-14	10:59:32	4.18
22-Jan-14	11:00:32	27.00

Average **26.24**

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
22-Jan-14	11:02:28	23.14
22-Jan-14	11:03:28	21.21
22-Jan-14	11:04:28	15.27
22-Jan-14	11:05:28	2.89
22-Jan-14	11:06:28	0.00
22-Jan-14	11:07:28	0.00
22-Jan-14	11:08:28	1.29
22-Jan-14	11:09:28	22.18
22-Jan-14	11:10:28	31.18
22-Jan-14	11:11:28	8.68
22-Jan-14	11:12:28	3.86
22-Jan-14	11:13:28	1.61
22-Jan-14	11:14:28	0.96
22-Jan-14	11:15:28	0.00
22-Jan-14	11:16:28	0.00
22-Jan-14	11:17:28	0.00
22-Jan-14	11:18:28	0.32
22-Jan-14	11:19:28	41.14
22-Jan-14	11:20:28	2.89
22-Jan-14	11:21:28	0.00
22-Jan-14	11:22:28	0.00
22-Jan-14	11:23:28	35.68
22-Jan-14	11:24:28	67.82
22-Jan-14	11:25:28	42.11
22-Jan-14	11:26:28	77.14
22-Jan-14	11:27:28	10.29
22-Jan-14	11:28:28	1.93
22-Jan-14	11:29:28	0.00
22-Jan-14	11:30:28	0.00
22-Jan-14	11:31:28	73.61
22-Jan-14	11:32:28	22.50
22-Jan-14	11:33:28	49.50
22-Jan-14	11:34:28	0.64
22-Jan-14	11:35:28	9.64
22-Jan-14	11:36:28	9.64
22-Jan-14	11:37:28	1.61
22-Jan-14	11:38:28	3.54
22-Jan-14	11:39:28	7.39
22-Jan-14	11:40:28	6.11
22-Jan-14	11:41:28	20.25
22-Jan-14	11:42:28	5.46
22-Jan-14	11:43:28	7.07
22-Jan-14	11:44:28	6.43
22-Jan-14	11:45:28	7.07
22-Jan-14	11:46:28	8.36
22-Jan-14	11:47:28	7.71
22-Jan-14	11:48:28	7.07
22-Jan-14	11:49:28	6.43
22-Jan-14	11:50:28	5.79

Date	Time	VOC mg/m³
22-Jan-14	11:51:28	5.46
22-Jan-14	11:52:28	4.82
22-Jan-14	11:53:28	4.82
22-Jan-14	11:54:28	3.86
22-Jan-14	11:55:28	5.79
22-Jan-14	11:56:28	4.18
22-Jan-14	11:57:28	4.50
22-Jan-14	11:58:28	4.50
22-Jan-14	11:59:28	6.43
22-Jan-14	12:00:28	5.14
22-Jan-14	12:01:28	4.50
22-Jan-14	12:02:28	4.18
Average		**11.97**

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
22-Jan-14	12:10:03	7.07
22-Jan-14	12:11:03	11.57
22-Jan-14	12:12:03	17.36
22-Jan-14	12:13:03	19.93
22-Jan-14	12:14:03	18.32
22-Jan-14	12:15:03	21.21
22-Jan-14	12:16:03	25.39
22-Jan-14	12:17:03	47.25
22-Jan-14	12:18:03	37.29
22-Jan-14	12:19:03	24.11
22-Jan-14	12:20:03	21.86
22-Jan-14	12:21:03	19.61
22-Jan-14	12:22:03	22.50
22-Jan-14	12:23:03	22.50
22-Jan-14	12:24:03	48.54
22-Jan-14	12:25:03	27.64
22-Jan-14	12:26:03	19.61
22-Jan-14	12:27:03	18.64
22-Jan-14	12:28:03	17.36
22-Jan-14	12:29:03	17.68
22-Jan-14	12:30:03	16.71
22-Jan-14	12:31:03	17.36
22-Jan-14	12:32:03	16.71
22-Jan-14	12:33:03	24.11
22-Jan-14	12:34:03	16.39
22-Jan-14	12:35:03	16.39
22-Jan-14	12:36:03	16.07
22-Jan-14	12:37:03	16.07
22-Jan-14	12:38:03	15.75
22-Jan-14	12:39:03	14.46
22-Jan-14	12:40:03	13.82
22-Jan-14	12:41:03	12.86
22-Jan-14	12:42:03	14.14
22-Jan-14	12:43:03	13.50
22-Jan-14	12:44:03	11.25
22-Jan-14	12:45:03	11.57
22-Jan-14	12:46:03	10.93
22-Jan-14	12:47:03	17.36
22-Jan-14	12:48:03	21.54
22-Jan-14	12:49:03	25.39
22-Jan-14	12:50:03	33.43
22-Jan-14	12:51:03	41.46
22-Jan-14	12:52:03	39.21
22-Jan-14	12:53:03	44.36
22-Jan-14	12:54:03	45.96
22-Jan-14	12:55:03	54.96
22-Jan-14	12:56:03	50.79
22-Jan-14	12:57:03	50.46
22-Jan-14	12:58:03	51.11
22-Jan-14	12:59:03	52.07
22-Jan-14	13:00:03	49.82
22-Jan-14	13:01:03	48.21
22-Jan-14	13:02:03	49.82
22-Jan-14	13:03:03	46.61
22-Jan-14	13:04:03	49.18
22-Jan-14	13:05:03	42.75
22-Jan-14	13:06:03	45.00
22-Jan-14	13:07:03	45.96
22-Jan-14	13:08:03	47.89
22-Jan-14	13:09:03	44.04

Average	28.94

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

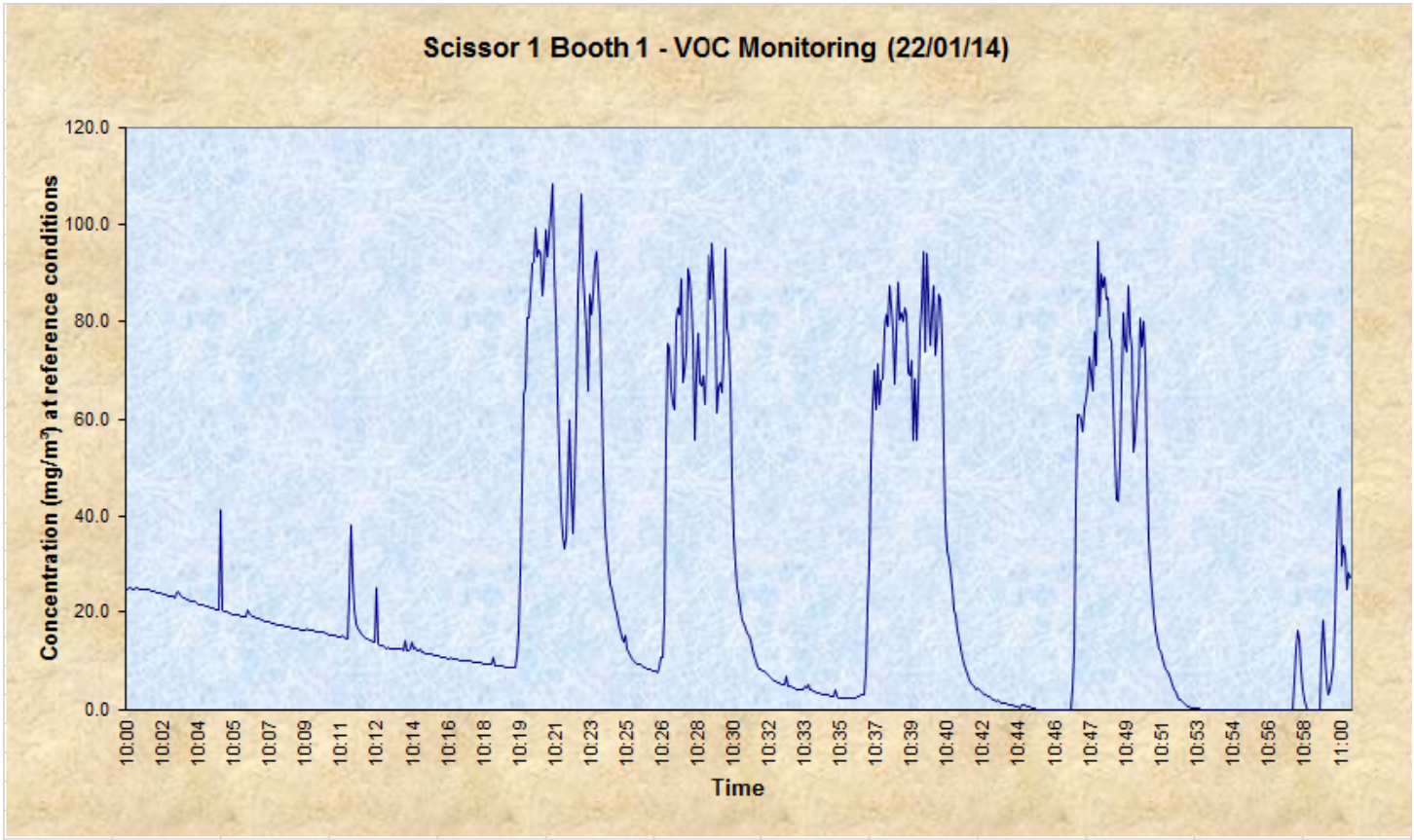
Date	Time	VOC mg/m³
22-Jan-14	13:50:26	10.61
22-Jan-14	13:51:26	90.32
22-Jan-14	13:52:26	51.11
22-Jan-14	13:53:26	13.50
22-Jan-14	13:54:26	3.21
22-Jan-14	13:55:26	1.61
22-Jan-14	13:56:26	0.96
22-Jan-14	13:57:26	1.93
22-Jan-14	13:58:26	0.00
22-Jan-14	13:59:26	0.32
22-Jan-14	14:00:26	0.00
22-Jan-14	14:01:26	0.00
22-Jan-14	14:02:26	0.00
22-Jan-14	14:03:26	0.00
22-Jan-14	14:04:26	0.00
22-Jan-14	14:05:26	57.54
22-Jan-14	14:06:26	90.96
22-Jan-14	14:07:26	82.93
22-Jan-14	14:08:26	117.64
22-Jan-14	14:09:26	106.71
22-Jan-14	14:10:26	78.11
22-Jan-14	14:11:26	14.79
22-Jan-14	14:12:26	0.64
22-Jan-14	14:13:26	0.00
22-Jan-14	14:14:26	5.79
22-Jan-14	14:15:26	5.46
22-Jan-14	14:16:26	3.54
22-Jan-14	14:17:26	2.25
22-Jan-14	14:18:26	9.32
22-Jan-14	14:19:26	25.71
22-Jan-14	14:20:26	39.21
22-Jan-14	14:21:26	22.50
22-Jan-14	14:22:26	26.04
22-Jan-14	14:23:26	24.43
22-Jan-14	14:24:26	27.00
22-Jan-14	14:25:26	27.32
22-Jan-14	14:26:26	27.64
22-Jan-14	14:27:26	26.04
22-Jan-14	14:28:26	25.07
22-Jan-14	14:29:26	24.75
22-Jan-14	14:30:26	23.79
22-Jan-14	14:31:26	23.14
22-Jan-14	14:32:26	22.50
22-Jan-14	14:33:26	21.86
22-Jan-14	14:34:26	22.82
22-Jan-14	14:35:26	20.25
22-Jan-14	14:36:26	21.21
22-Jan-14	14:37:26	20.57
22-Jan-14	14:38:26	18.32
22-Jan-14	14:39:26	18.32
22-Jan-14	14:40:26	17.04
22-Jan-14	14:41:26	17.36
22-Jan-14	14:42:26	16.71
22-Jan-14	14:43:26	16.39
22-Jan-14	14:44:26	14.79
22-Jan-14	14:45:26	11.89
22-Jan-14	14:46:26	11.25
22-Jan-14	14:47:26	12.54
22-Jan-14	14:48:26	12.54
22-Jan-14	14:49:26	13.18
22-Jan-14	14:50:26	21.21

Average **21.71**

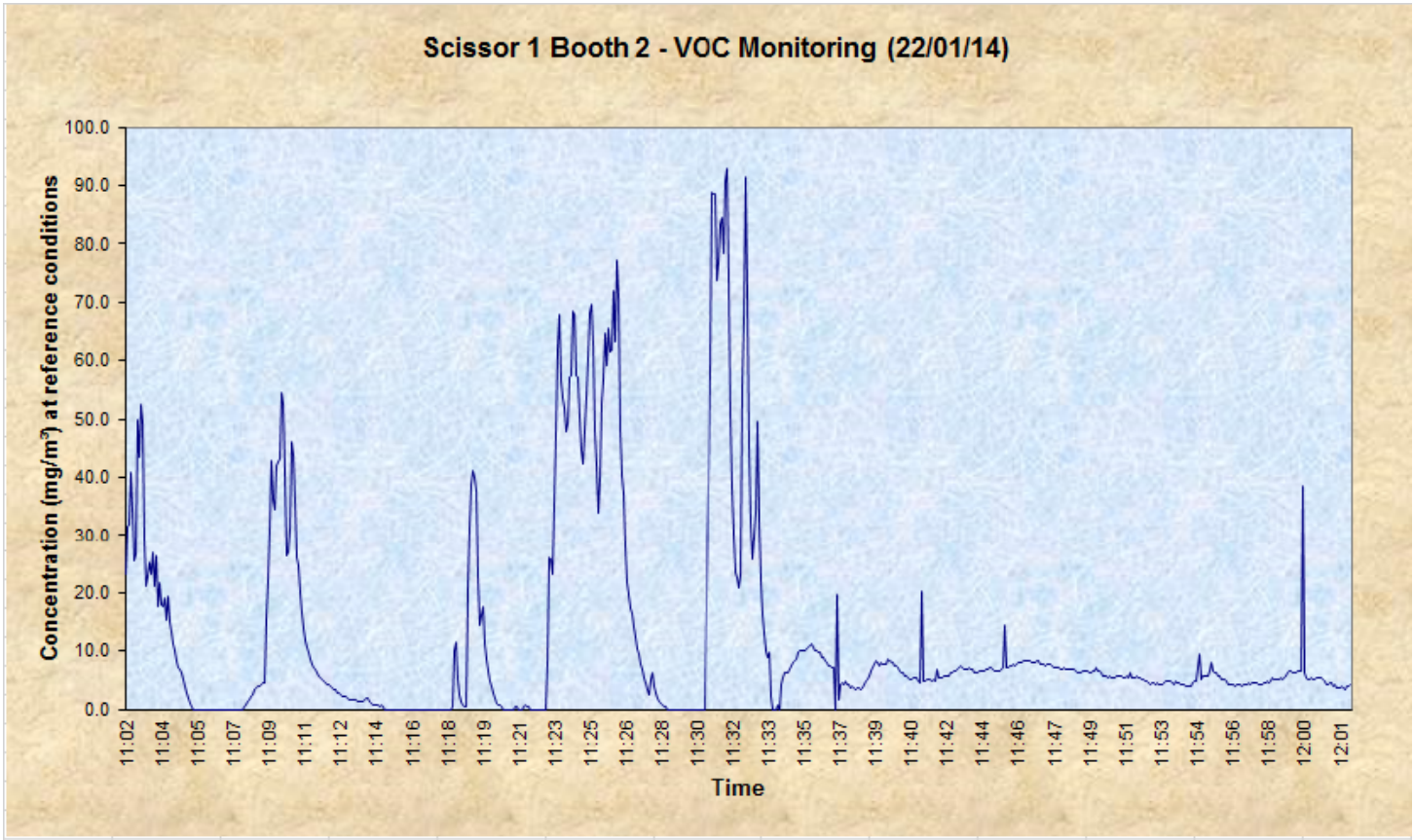
The data represented in this table is expressed at 1 minute intervals but the data used in the chart is produced using 5 second intervals

APPENDIX C

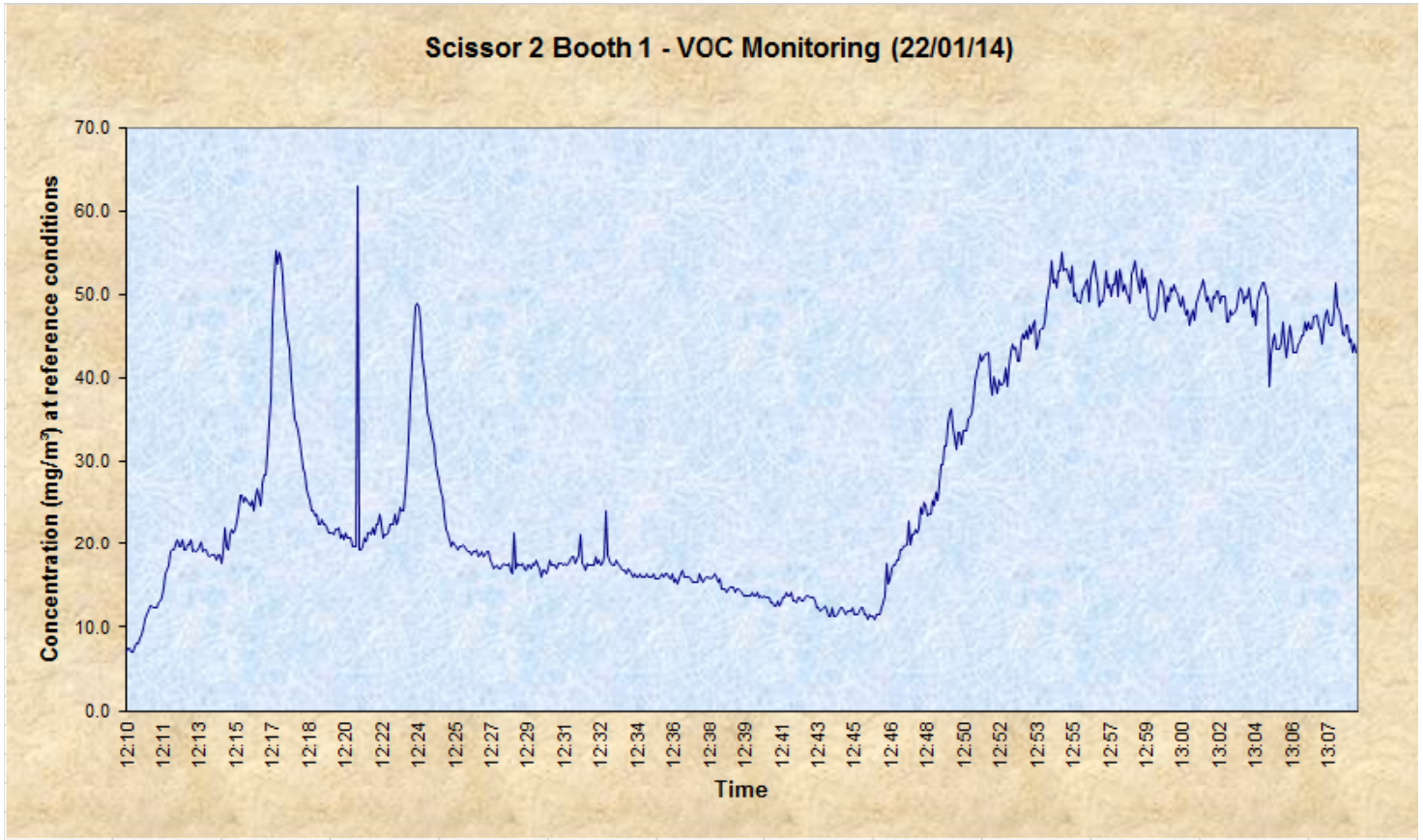
VOC Charts



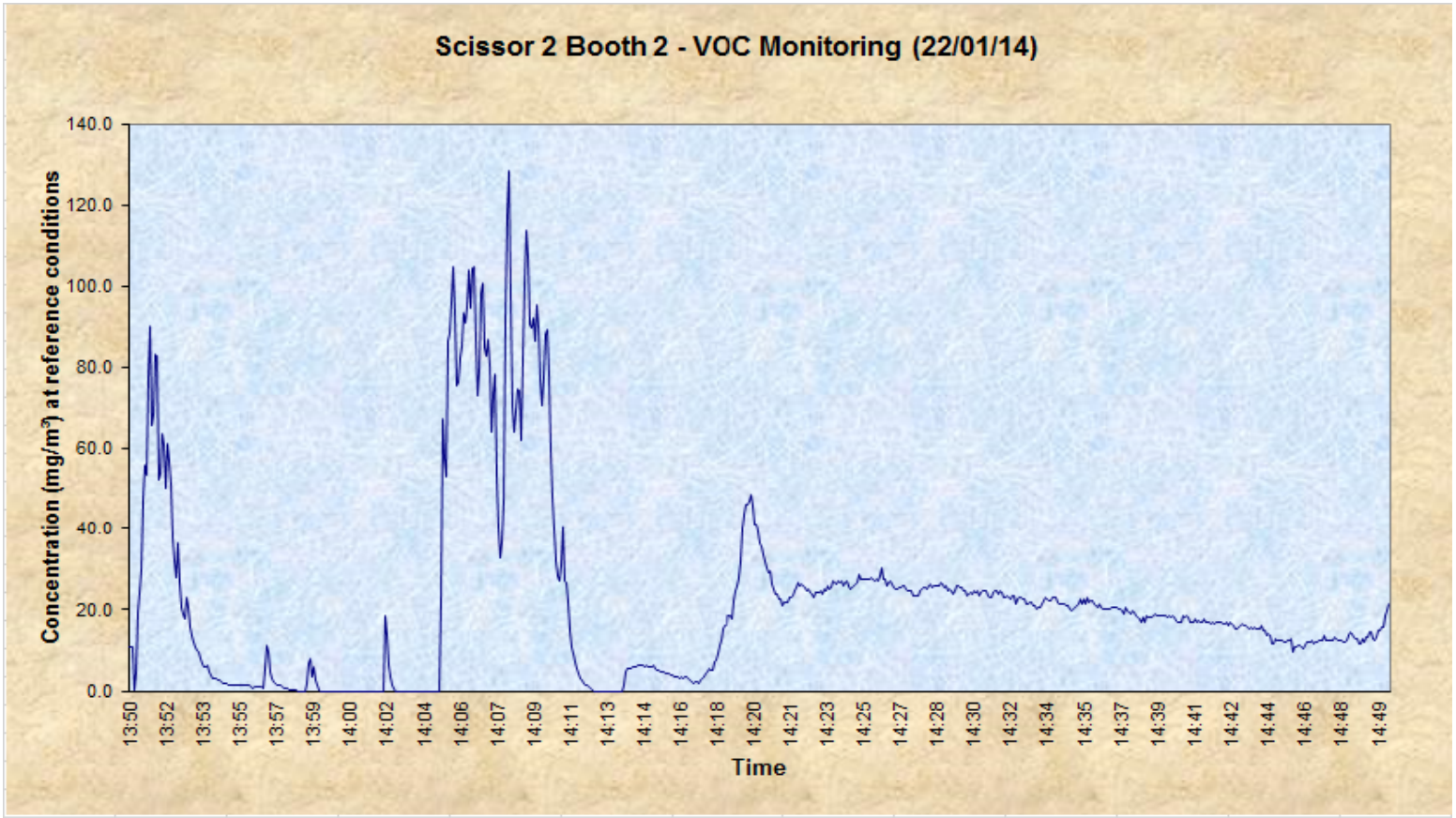
Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
10:00	to	10:30	19.22	67.40	4.60	30.89	108.32	7.39
10:30	to	11:00	13.43	60.00	0.00	21.59	96.43	0.00



Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
11:02	to	11:32	10.17	57.80	0.00	16.35	92.89	0.00
11:32	to	12:02	4.74	56.80	0.00	7.62	91.29	0.00



Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
12:10	to	12:40	13.03	39.20	4.40	20.95	63.00	7.07
12:40	to	13:10	22.79	34.20	6.80	36.63	54.96	10.93



Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
13:50	to	14:20	14.31	79.80	0.00	22.99	128.25	0.00
14:20	to	14:50	12.74	24.40	6.00	20.47	39.21	9.64