OCTOBER 2009

EMISSIONS MONITORING

REPORT

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Terex Compact Equipment
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Prologis Park
Coventry CV6 4BX

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Contents

1.0 INTRODUCTION

1.1 The exhausts listed below were monitored with respect to quotation **Q-RED09-095/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 36
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	✓	✓	✓
Paint Kitchen	×	✓	×

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

EXECUTIVE SUMMARY (Page 1 of 1)

The following document details the emissions to air monitoring survey undertaken by Elena Berek and Philip Butler of Redwing Environmental Ltd at Terex Compact Equipment on the 19th to the 21st October 2009.

All results pertain to the dates monitored only.

A summary of results is shown below:-

Emission point reference Stack N°	Total Particulate Matter at reference conditions (mg/m^3)	* Highest 30 minute mean VOC at reference conditions (mg/m^3)	Isocyanate Concentration at reference conditions (mg/m^3)	Velocity corrected to reference conditions (m/s)	Volume flow corrected to reference conditions (m^3/hr)
Primer Spray Booth 1	Run 1 – 0.8 Run 2 – 2.7	7.5 (6.4)	--	8.0	73,275
Primer Spray Booth 2	Run 1 – 0.9 Run 2 – 1.0	28.7 (28.4)	--	9.6	88,047
Primer Flash-off	Run 1 – 2.1 Run 2 – 3.0	10.7 (9.6)	--	5.4	9,730
Topcoat Spray Booth 1	Run 1 – 1.4 Run 2 – 1.4	22.3 (14.6)	<0.003	8.1	74,268
Topcoat Spray Booth 2	Run 1 – 2.2 Run 2 – 1.3	74.9 (71.0)	<0.003	6.2	56,912
Topcoat Flash-off	Run 1 – 1.0 Run 2 – 2.4	13.6 (11.4)	<0.003	9.9	22,728
Topcoat Curing Oven	Run 1 – 2.0 Run 2 – 0.9	50.8 (43.3)	<0.003	14.3	12,219
Paint Kitchen	--	24.2 (24.2)	--	N/A	N/A

*** 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)

1.3 The emission limits are listed below:

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

EMISSION LIMITS

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

1.4 The velocity and temperature profile were within the required parameters of 9:1 (pascals) or 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	Run 1 – 0.8 Run 2 – 2.7	mg/m^3	273K, 101.3kPa	21/10/09	1100 – 1132 1145 – 1217	BS EN 13284-1	Normal
	Volatile Organic Compounds	150	6.4	mg/m^3			1110 – 1210	BS EN 13526	
Primer Spray Booth 2	Total Particulate Matter	50	Run 1 – 0.9 Run 2 – 1.0	mg/m^3	273K, 101.3kPa	21/10/09	1200 – 1232 1240 – 1312	BS EN 13284-1	Normal
	Volatile Organic Compounds	150	28.4	mg/m^3			1215 – 1315	BS EN 13526	
Primer Flash-off	Total Particulate Matter	50	Run 1 – 2.1 Run 2 – 3.0	mg/m^3	273K, 101.3kPa	19/10/09	1115 – 1147 1200 – 1232	BS EN 13284-1	Normal
	Volatile Organic Compounds	150	9.6	mg/m^3			1131 – 1231	BS EN 13526	
Top Coat Spray Booth 1	Total Particulate Matter	50	Run 1 – 1.4 Run 2 – 1.4	mg/m^3	273K, 101.3kPa	19/10/09	1325 – 1357 1404 – 1436	BS EN 13284-1	Normal
	Volatile Organic Compounds	150	14.6	mg/m^3			14.6	BS EN 13526	
	Isocyanates	0.1	<0.0002	mg/m^3		19/10/09	1030 - 1130	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
Top Coat Spray Booth 2	Total Particulate Matter	50	Run 1 – 2.2 Run 2 – 1.3	mg/m^3	273K, 101.3kPa	20/10/09	1010 – 1042 1100 – 1132	BS EN 13284-1	Normal
	Volatile Organic Compounds	150	71.0	mg/m^3			1019 - 1119	BS EN 13526	
	Isocyanates	0.1	<0.0002	mg/m^3		19/10/09	1145 - 1245	USEPA 36	
Topcoat Flash-off	Total Particulate Matter	50	Run 1 – 1.0 Run 2 – 2.4	mg/m^3	273K, 101.3kPa	21/10/09	0945 – 1017 1025 - 1057	BS EN 13284-1	Normal
	Volatile Organic Compounds	150	11.4	mg/m^3			0956 - 1056	BS EN 13526	
	Isocyanates	0.1	<0.0002	mg/m^3		19/10/09	1305 - 1405	USEPA 36	
Topcoat Curing Oven	Total Particulate Matter	50	Run 1 – 2.0 Run 2 – 0.9	mg/m^3	273K, 101.3kPa	20/10/09	1115 – 1147 1155 - 1227	BS EN 13284-1	Normal
	Volatile Organic Compounds	150	43.3	mg/m^3			1125 - 1225	BS EN 13526	
	Isocyanates	0.1	<0.0002	mg/m^3		19/10/09	1415 - 1515	USEPA 36	
Paint Kitchen	Volatile Organic Compounds	150	24.2	mg/m^3	273K, 101.3kPa	20/10/09	1418 - 1518	BS EN 13526	Normal

2 Supporting Information (Held by Redwing Environmental Ltd)

2.1 General Information

2.1.1 Redwing Environmental Ltd staff details

Vicki Gavin – MCerts Level 1 TE1
Registration number MM 02 018

Tony Berek – MCerts Level 1
Registration number MM 06 702

2.2 Redwing Environmental Ltd method details

2.2.1 Volatile organic compounds (BS EN 13526: 2001)

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

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

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

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

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

2.3 Stack Velocity, Pressure and Temperature Measurements

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

2.4 Leak tests for extractive techniques

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

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

2.5 Particulate matter BS EN 13284-1: 2002

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

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

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

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

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

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

Uncertainty: ± 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 (MDHS 25/3)

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 draft US EPA Method 207-1.

2.6.3 The method used was the non-isokinetic method. A sample probe was placed inside the stack; the sample probe was then attached to two midget impingers. The first impinger contained 10mls of 1,2 methoxy-phenyl piperazine and the second impinger was empty.

2.6.4 The impingers were then attached to a calibrated sample pump; the pump was left to run for approximately 2 hours. The pump was then recalibrated and the total volume of the sample gas calculated. In the event of the solution evaporating, the sample volume is made up to 10mls using dry toluene.

2.6.5 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. The methods followed will be listed as our Technical Procedures and will be put forward for UKAS accreditation. 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 and ISO 17025:2005.

3.3 All references made to MCerts are based on the certification held by the site personnel only.

4.0 Disclaimer

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

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

APPENDIX A

Particulate & Velocity Results

Client	Terex Compact Equipment						
Site Address	Prologis Park, Coventry						
Job Number	P-RED09-095/EB/R1/Rev0						
Date	19/10/2009			**Port Depth (cm)**			
Operator(s)	Elena Berek & Philip Butler						
				Isokinetic Sampling Method		**ISO 9096**	**BS EN 13284** ☒
Stack Reference		**Top Cast Booth 1 Exhaust**		**Isokinetic Sample Points (cms)**		**Isokinetic Flow (l/min)**	
						Axis 1	**Axis 2**
				1	7.92	20.42	21.63
Number of Stacks			1	2	26.28	19.68	21.14
Configuration (Round / Rectangular)			Round	3	53.28	20.79	20.42
Dimensions (mtrs)			1.80	4	126.72	21.63	21.63
Outlet Diameter (if applicable) (mtrs/sec)				5	153.72	21.49	21.49
Number of Sample Ports			2	6	172.08	22.51	22.83
Number of Samples per Axis / Port			6	7	N/A	N/A	N/A
Nozzle Diameter (mm)			8.0	8	N/A	N/A	N/A
Nozzle Area (m²)			0.00005024	**Average Isokinetic Flow Rate (ltrs/min)**		**Axis 1**	**Axis 2**
Stack Area (m²)			2.545			21.14	21.51

Pitot Coefficient	1	**Pitot Calibration Date**		**March 2009**		**Atmos. Pressure (mbars)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Axis 2**	**Temperature**	1020	
No.	**(cms)**	**(pa)**	**(C)**	**(pa)**	**(C)**	**Static Pressure (pa)**	
1	7.92	28	15.0	32	15.0	21.00	
2	26.28	26	15.0	30	15.0	**1 Axis**	**2 Axis**
3	53.28	29	15.0	28	15.0	**Average Velocity Flow (Nm/s)**	
4	126.72	32	15.0	32	15.0	7.09	
5	153.72	31	15.0	31	15.0	**Average Volume Flow (Nm³/s)**	
6	172.08	34	15.0	36	15.0	18.04	
7	N/A					**Volume (Nm³/s)**	
8	N/A					17.65	18.24
						Velocity of flow (Nm/s)	
						7.01	7.17
Averages		30	15.0	31	15.0	**Reduced Exit Velocity (m/s)**	
						N/A	N/A

Mean Flue Gas Temp (In K) Tp = ((Mean T1 + Mean T2)/2+273)) =				288.00	
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =				0.60 to	29.40
Highest Velocity Reading (m/s) =				7.8	
Lowest Velocity Reading (m/s) =				6.5	
Ratio Highest/Lowest (Max permitted = 3:1)				1.17 : 1	
On site Checklist			**Instrument**	**Serial No:**	
Manometer Leak Check	ok		Manometer	RED 0095	
Range of Gas Temps	ok		Temp Indicator	RED 0096	
Leak Check (l/min)	<0.2		Thermocouple	RED 0274	
Leak Check 2% Vol (l/min)	0.43		Pitot Tube	RED 0136	
Swirl Test (<15°)	ok		Sample Pump	Zambelli Grey (RED 0135)	

Stack Reference ID	Top Coat Booth 1 Exhaust					
	Terex Compact Equipment					
	RUN 1			RUN 2		
Filter Reference No	Q47-140909-06			Q47-140909-07		
Date	19-Oct-09			19-Oct-09		
Sample Period	13:26	to	13:57	14:04	to	14:36
Velocity (Nm/s)	7.09					
Volume (Nm³/hr)	64962					
Average Stack Temp (°C)	15.00					
Permitted Temp Range (°C)	0.60		to		29.40	
Lowest Velocity Reading (m/s)	6.49					
Highest Velocity Reading (m/s)	7.66					
Ratio (less than 3:1)	1.17		:		1	
Oxygen %	20.9					
Carbon Dioxide %	0.00					
Moisture (%)	0.60					
Litres sampled	669			712		
Corrected volume sampled (m³)	0.664			0.674		
Blank Filter Run (mg/m³)	0.067					
Blank Filter Run (mg/m³)	0.842					
Particulate Concentration on Filter (mg/m³)	0.11			0.28		
Particulate Concentration in Wash (mg/m³)	1.28			1.13		
Total Particulate Concentration (mg/m³)	1.39			1.41		
Total Particulate Concentration corrected for Oxygen, dry gas (mg/m³)	N/A			N/A		
Total Particulate Mass Emission (kg/hour)	0.090			0.092		

Client	Terex Compact Equipment						
Site Address	Prologis Park, Coventry						
Job Number	P-RED09-095/EB/R1/Rev0						
Date	20/10/2009			Port Depth (cm)			
Operator(s)	Elena Berek & Philip Butler						
				Isokinetic Sampling Method		ISO 9096 ☐	BS EN 13284 ☒
Stack Reference		Top Coat Booth 2 Exhaust		Isokinetic Sample Points (cms)		Isokinetic Flow (l/min)	
						Axis 1	Axis 2
				1	7.92	21.62	20.17
Number of Stacks			1	2	26.28	20.54	20.54
Configuration (Round / Rectangular)			Round	3	53.28	20.17	20.91
Dimensions (mtrs)			1.80	4	126.72	20.91	21.96
Outlet Diameter (if applicable) (mtrs/sec)				5	153.72	21.26	20.17
Number of Sample Ports			2	6	172.08	20.17	20.91
Number of Samples per Axis / Port			6	7	N/A	N/A	N/A
Nozzle Diameter (mm)			8.0	8	N/A	N/A	N/A
Nozzle Area (m²)			0.00005024	Average Isokinetic Flow Rate (l/s/min)		Axis 1	Axis 2
Stack Area (m²)			2.545			20.79	20.79
Pitot Coefficient	1	Pitot Calibration Date		March 2009		Atmos. Pressure (mbars)	
Position	Distance	Axis 1	Temperature	Axis 2	Temperature	1010	
No.	(cms)	(pa)	(C)	(pa)	(C)	Static Pressure (pa)	
1	7.92	31	16.0	27	16.0	-17.00	
2	26.28	28	16.0	28	16.0	1 Axis	2 Axis
3	53.28	27	16.0	29	16.0	Average Velocity Flow (Nm/s)	
4	126.72	29	16.0	32	16.0	6.90	
5	153.72	30	16.0	27	16.0	Average Volume Flow (Nm³/s)	
6	172.08	27	16.0	29	16.0	17.55	
7	N/A					Volume (Nm³/s)	
8	N/A					17.55	17.55
						Velocity of flow (Nm/s)	
						6.90	6.90
Averages		29	16.0	29	16.0	Reduced Exit Velocity (m/s)	
						N/A	N/A
Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2+273)) =						289.00	
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =						1.65 to 30.45	
Highest Velocity Reading (m/s) =						7.3	
Lowest Velocity Reading (m/s) =						6.6	
Ratio Highest/Lowest (Max permitted = 3:1)						1.10 : 1	

On site Checklist		Instrument	Serial No:
Manometer Leak Check	ok	Manometer	RED 0095
Range of Gas Temps	ok	Temp Indicator	RED 0096
Leak Check (l/min)	<0.2	Thermocouple	RED 0274
Leak Check 2% Vol (l/min)	0.42	Pitot Tube	RED 0136
Swirl Test (<15°)	ok	Sample Pump	Zambelli Grey (RED 0196)

Stack Reference ID	Top Coat Booth 2 Exhaust					
	Terex Compact Equipment					
	RUN 1			RUN 2		
Filter Reference No	Q47-140909-08			Q47-140909-09		
Date	20-Oct-09			20-Oct-09		
Sample Period	10:10	to	10:42	11:00	to	11:32
Velocity (Nm/s)	6.90					
Volume (Nm³/hr)	63170					
Average Stack Temp (°C)	16.00					
Permitted Temp Range (°C)	1.56	to		30.45		
Lowest Velocity Reading (m/s)	6.63					
Highest Velocity Reading (m/s)	7.29					
Ratio (less than 3:1)	1.10	:		1		
Oxygen %	20.9					
Carbon Dioxide %	0.00					
Moisture (%)	1.00					
Litres sampled	650			634		
Corrected volume sampled (m³)	0.626			0.604		
Blank Filter Run (mg/m³)	0.002					
Blank Filter Run (mg/m³)	0.012					
Particulate Concentration on Filter (mg/m³)	0.14			0.17		
Particulate Concentration in Wash (mg/m³)	2.06			1.09		
Total Particulate Concentration (mg/m³)	2.20			1.26		
Total Particulate Concentration corrected for Oxygen, dry gas (mg/m³)	N/A			N/A		
Total Particulate Mass Emission (kg/hour)	0.139			0.080		

Client	Terex Compact Equipment						
Site Address	Prologis Park, Coventry						
Job Number	P-RED09-095/EB/R1/Rev0						
Date	20/10/2009		Port Depth (cm)				
Operator(s)	Elena Berek & Philip Butler						
			Isokinetic Sampling Method		ISO 9096		BS EN 13284 X
Stack Reference	Top Coat Curing Oven Exhaust		Isokinetic Sample Points (cms)		Isokinetic Flow (l/min)		
					Axis 1	Axis 2	
			1	8.03	22.67	23.95	
Number of Stacks	1		2	46.97	24.46	24.67	
Configuration (Round / Rectangular)	Round		3	N/A	N/A	N/A	
Dimensions (mtrs)	0.65		4	N/A	N/A	N/A	
Outlet Diameter (if applicable) (mtrs/sec)			5	N/A	N/A	N/A	
Number of Sample Ports	2		6	N/A	N/A	N/A	
Number of Samples per Axis / Port	2		7	N/A	N/A	N/A	
Nozzle Diameter (mm)	6.0		8	N/A	N/A	N/A	
Nozzle Area (m²)	0.00002826		Average Isokinetic Flow Rate (ltrs/min)		Axis 1	Axis 2	
Stack Area (m²)	0.298				23.69	24.41	

Pitot Coefficient	1	Pitot Calibration Date		March 09		Atmos. Pressure (mbars)	
Position No.	Distance (cms)	Axis 1 (pa)	Temperature (C)	Axis 2 (pa)	Temperature (C)	1020	
						Static Pressure (pa)	
1	8.03	104	33.6	114	33.7	22.00	
2	46.97	119	33.6	123	33.6	1 Axis	2 Axis
3	N/A					Average Velocity Flow (Nm/s)	
4	N/A					14.18	
5	N/A					Average Volume Flow (Nm³/s)	
6	N/A					3.37	
7	N/A					Volume (Nm³/s)	
8	N/A					3.32	3.42
						Velocity of flow (Nm/s)	
						13.56	14.40
Averages		112	33.6	119	33.7	Reduced Exit Velocity (m/s)	
						N/A	N/A

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2+273)) =			306.63
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =		18.29 to	48.96
Highest Velocity Reading (m/s) =			14.7
Lowest Velocity Reading (m/s) =			13.4
Ratio Highest:Lowest (Max permitted = 3:1)			1.10 : 1

On site Checklist			Instrument	Serial No:
Manometer Leak Check	ok		Manometer	RED 0092
Range of Gas Temps	ok		Temp Indicator	RED 0026
Leak Check (l/min)	<0.2		Thermocouple	RED 0274
Leak Check 2% Vol (l/min)	0.48		Pitot Tube	RED 0136
Swirl Test (<15°)	ok		Sample Pump	Zambelli Grey (RED 0156)

Stack Reference ID	Top Coat Curing Oven Exhaust					
	Terex Compact Equipment					
	RUN 1			RUN 2		
Filter Reference No	Q47-140909-13			Q47-140909-14		
Date	20-Oct-09			20-Oct-09		
Sample Period	11:15	to	11:47	11:55	to	12:27
Velocity (Nm/s)	14.16					
Volume (Nm³/hr)	12126					
Average Stack Temp (°C)	36.00					
Permitted Temp Range (°C)	18.29		to		48.96	
Lowest Velocity Reading (m/s)	13.39					
Highest Velocity Reading (m/s)	14.67					
Ratio (less than 3:1)	1.10		:		1	
Oxygen %	20.9					
Carbon Dioxide %	0.00					
Moisture (%)	0.69					
Litres sampled	760			788		
Corrected volume sampled (m³)	0.712			0.735		
Blank Filter Run (mg/m³)	0.062					
Blank Filter Run (mg/m³)	0.762					
Particulate Concentration on Filter (mg/m³)	0.13			0.11		
Particulate Concentration in Wash (mg/m³)	1.88			0.79		
Total Particulate Concentration (mg/m³)	2.01			0.90		
Total Particulate Concentration corrected for Oxygen, dry gas (mg/m³)	N/A			N/A		
Total Particulate Mass Emission (kg/hour)	0.024			0.011		

Client	Terex Compact Equipment						
Site Address	Prologis Park , Coventry						
Job Number	P-RED09-095/EB/R1/Rev0						
Date	21/10/2009			Port Depth (cm)			
Operator(s)	Elena Barak & Philip Butler						
				Isokinetic Sampling Method		ISO 9096	BS EN 13284 X

Stack Reference	Top Coat Flash Off Exhaust	Isokinetic Sample Points (cms)		Isokinetic Flow (l/min)	
				Axis 1	Axis 2
		1	13.14	28.27	28.81
Number of Stacks	1	2	76.86	29.34	29.86
Configuration (Round / Rectangular)	Round	3	N/A	N/A	N/A
Dimensions (mtrs)	0.80	4	N/A	N/A	N/A
Outlet Diameter (if applicable) (mtrs/sec)		5	N/A	N/A	N/A
Number of Sample Ports	2	6	N/A	N/A	N/A
Number of Samples per Axis / Port	2	7	N/A	N/A	N/A
Nozzle Diameter (mm)	6.0	8	N/A	N/A	N/A
Nozzle Area (m²)	0.00005024	Average Isokinetic Flow Rate (ltrs/min)		Axis 1	Axis 2
Stack Area (m²)	0.636			28.81	29.34

Pitot Coefficient	1	Pitot Calibration Date		25th March 2009		Atmos. Pressure (mbars)	
Position	Distance	Axis 1	Temperature	Axis 2	Temperature	1020	
No.	(cms)	(pa)	(C)	(pa)	(C)	Static Pressure (pa)	
1	13.14	52	22.0	54	22.0	3.00	
2	76.86	56	22.0	58	22.0	1 Axis	2 Axis
3	N/A					Average Velocity Flow (Nm/s)	
4	N/A					9.65	
5	N/A					Average Volume Flow (Nm³/s)	
6	N/A					6.14	
7	N/A					Volume (Nm³/s)	
8	N/A					6.09	6.19
						Velocity of flow (Nm/s)	
						9.56	9.73
Averages		54	22.0	56	22.0	Reduced Exit Velocity (m/s)	
						N/A	N/A

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =		295.00	
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =	7.25	to	36.75
Highest Velocity Reading (m/s) =	9.9		
Lowest Velocity Reading (m/s) =	9.3		
Ratio Highest/Lowest (Max permitted = 3:1)	1.07 : 1		

On site Checklist		Instrument	Serial No:
Manometer Leak Check	ok	Manometer	RED 0053
Range of Gas Temps	ok	Temp Indicator	RED 0096
Leak Check (l/min)	<0.2	Thermocouple	RED 0274
Leak Check 2% Vol (l/min)	0.58	Pitot Tube	RED 0136
Swirl Test (<15°)	ok	Sample Pump	Zambelli Grey (RED 0196)

Stack Reference ID	Top Coat Flash Off Exhaust					
	Terex Compact Equipment					
	RUN 1			RUN 2		
Filter Reference No	Q47-211009-11			Q47-211009-12		
Date	21-Oct-09			21-Oct-09		
Sample Period	9:45	to	10:17	10:26	to	10:57
Velocity (Nm/s)	9.66					
Volume (Nm³/hr)	22092					
Average Stack Temp (°C)	22.00					
Permitted Temp Range (°C)	7.26		to		36.76	
Lowest Velocity Reading (m/s)	9.29					
Highest Velocity Reading (m/s)	9.91					
Ratio (less than 3:1)	1.07		:		1	
Oxygen %	20.9					
Carbon Dioxide %	0.00					
Moisture (%)	0.97					
Litres sampled	900			888		
Corrected volume sampled (m³)	0.849			0.835		
Blank Filter Run (mg/m³)	0.045					
Blank Filter Run (mg/m³)	0.660					
Particulate Concentration on Filter (mg/m³)	0.26			0.06		
Particulate Concentration in Wash (mg/m³)	0.78			2.32		
Total Particulate Concentration (mg/m³)	1.04			2.38		
Total Particulate Concentration corrected for Oxygen, dry gas (mg/m³)	N/A			N/A		
Total Particulate Mass Emission (kg/hour)	0.023			0.053		

Client	Terex Compact Equipment						
Site Address	Prologis Park / Coventry						
Job Number	P-RED09-095/EB/R1/Rev0						
Date	21/10/2009			**Port Depth (cm)**			
Operator(s)	Elena Barsh & Philip Butler						
				Isokinetic Sampling Method		**ISO 9096**	**BS EN 13284** ☒
Stack Reference		Primer Booth 1 Exhaust		**Isokinetic Sample Points (cms)**		**Isokinetic Flow (l/min)**	
						Axis 1	**Axis 2**
				1	7.92	20.67	21.40
Number of Stacks		1		2	26.28	22.10	22.78
Configuration (Round / Rectangular)		Round		3	53.28	23.76	22.10
Dimensions (mtrs)		1.80		4	126.72	22.78	24.39
Outlet Diameter (if applicable) (mtrs/sec)				5	153.72	25.31	26.78
Number of Sample Ports		2		6	172.08	27.34	28.44
Number of Samples per Axis / Port		6		7	N/A	N/A	N/A
Nozzle Diameter (mm)		8.0		8	N/A	N/A	N/A
Nozzle Area (m²)		0.00005024		**Average Isokinetic Flow Rate (trs/min)**		**Axis 1**	**Axis 2**
Stack Area (m²)		2.545				23.76	24.45

Pitot Coefficient	1	**Pitot Calibration Date**		25th March 2009		**Atmos. Pressure (mbars)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Axis 2**	**Temperature**	1012	
No.	**(cms)**	**(pa)**	**(C)**	**(pa)**	**(C)**	**Static Pressure (pa)**	
1	7.92	29	19.0	30	19.0	-30.00	
2	26.28	32	19.0	34	19.0	**1 Axis**	**2 Axis**
3	53.28	37	19.0	32	19.0	**Average Velocity Flow (Nm/s)**	
4	126.72	34	19.0	39	19.0	8.00	
5	153.72	42	19.0	47	19.0	**Average Volume Flow (Nm³/s)**	
6	172.08	49	19.0	53	19.0	20.35	
7	N/A					**Volume (Nm³/s)**	
8	N/A					20.06	20.64
						Velocity of flow (Nm/s)	
						7.89	8.11
Averages		37	19.0	39	19.0	**Reduced Exit Velocity (m/s)**	
						N/A	N/A

Mean Flue Gas Temp (In K) Tp = ((Mean T1 + Mean T2)/2+273)) =		292.00	
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =	4.40	to	33.60
Highest Velocity Reading (m/s) =		9.4	
Lowest Velocity Reading (m/s) =		6.8	
Ratio Highest/Lowest (Max permitted = 3:1)		1.39 : 1	

On site Checklist			**Instrument**	**Serial No:**
Manometer Leak Check	ok		Manometer	RED 0095
Range of Gas Temps	ok		Temp Indicator	RED 0096
Leak Check (l/min)	<0.2		Thermocouple	RED 0274
Leak Check 2% Vol (l/min)	0.48		Pitot Tube	RED 1036
Swirl Test (<15°)	ok		Sample Pump	Zambelli Grey (RED 0196)

Stack Reference ID	Primer Booth 1 Exhaust					
	Terex Compact Equipment					
	RUN 1			RUN 2		
Filter Reference No	Q47-140909-17			Q47-140909-18		
Date	21-Oct-09			21-Oct-09		
Sample Period	11:00	to	11:32	11:45	to	12:17
Velocity (N.m/s)	6.69					
Volume (Nm³/hr)	73251					
Average Stack Temp (°C)	19.00					
Permitted Temp Range (°C)	4.40		to		33.60	
Lowest Velocity Reading (m/s)	6.76					
Highest Velocity Reading (m/s)	9.43					
Ratio (less than 3:1)	1.39		:		1	
Oxygen %	20.9					
Carbon Dioxide %	0.00					
Moisture (%)	1.10					
Litres sampled	710			720		
Corrected volume sampled (m³)	0.697			0.676		
Blank Filter Run (mg/m³)	0.056					
Blank Filter Run (mg/m³)	0.525					
Particulate Concentration on Filter (mg/m³)	0.09			0.12		
Particulate Concentration in Wash (mg/m³)	0.69			2.56		
Total Particulate Concentration (mg/m³)	0.78			2.68		
Total Particulate Concentration corrected for Oxygen, dry gas (mg/m³)	N/A			N/A		
Total Particulate Mass Emission (kg/hour)	0.057			0.196		

Client	Terex Compact Equipment						
Site Address	Prologis Park, Coventry						
Job Number	P-RED09-095/EB/R1/Rev0			**Port Depth (cm)**			
Date	21/10/2009						
Operator(s)	Elena Barek & Philip Butler						
				Isokinetic Sampling Method		**ISO 9096**	**BS EN 13284** X
Stack Reference		**Primer Booth 2 Exhaust**		**Isokinetic Sample Points (cms)**		**Isokinetic Flow (l/min)**	
						Axis 1	**Axis 2**
				1	7.92	26.78	29.02
Number of Stacks			1	2	26.28	27.64	29.81
Configuration (Round / Rectangular)			Round	3	53.28	28.75	28.47
Dimensions (mtrs)			1.80	4	126.72	29.02	29.28
Outlet Diameter (if applicable) (mtrs/sec)				5	153.72	29.81	30.33
Number of Sample Ports			2	6	172.08	28.47	30.59
Number of Samples per Axis / Port			6	7	N/A	N/A	N/A
Nozzle Diameter (mm)			6.0	8	N/A	N/A	N/A
Nozzle Area (m²)			0.00006024	**Average Isokinetic Flow Rate (ltrs/min)**		**Axis 1**	**Axis 2**
Stack Area (m²)			2.545			28.43	29.59
Pitot Coefficient	1	**Pitot Calibration Date**		**March 2009**		**Atmos. Pressure (mbars)**	
Position	**Distance**	**Axis 1**	**Temperature**	**Axis 2**	**Temperature**	1012	
No.	**(cms)**	**(pa)**	**(C)**	**(pa)**	**(C)**	**Static Pressure (pa)**	
1	7.92	46	18.0	54	18.0	-49.00	
2	26.28	49	18.0	57	18.0	**1 Axis**	**2 Axis**
3	53.28	53	18.0	52	18.0	**Average Velocity Flow (Nm/s)**	
4	126.72	54	18.0	55	18.0	9.62	
5	153.72	57	18.0	59	18.0	**Average Volume Flow (Nm³/s)**	
6	172.08	52	18.0	60	18.0	24.49	
7	N/A					**Volume (Nm³/s)**	
8	N/A					24.00	24.99
						Velocity of flow (Nm/s)	
						9.43	9.82
Averages		52	18.0	56	18.0	**Reduced Exit Velocity (m/s)**	
						N/A	N/A

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2+273)) =			291.00
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =		2.45 to	32.55
Highest Velocity Reading (m/s) =			10.1
Lowest Velocity Reading (m/s) =			8.7
Ratio Highest/Lowest (Max permitted = 3:1)			1.17 : 1

On site Checklist			**Instrument**	**Serial No:**
Manometer Leak Check	ok		Manometer	RED 0096
Range of Gas Temps	ok		Temp Indicator	RED 0096
Leak Check (l/min)	<0.2		Thermocouple	RED 0274
Leak Check 2% Vol (l/min)	0.60		Pitot Tube	RED 0136
Swirl Test (<15°)	ok		Sample Pump	Zambelli Grey (RED 0196)

Stack Reference ID	Primer Booth 2 Exhaust					
	Terex Compact Equipment					
	RUN 1			RUN 2		
Filter Reference No	Q47-140909-20			Q47-140909-21		
Date	21-Oct-09			21-Oct-09		
Sample Period	12:00	to	12:32	12:40	to	13:12
Velocity (Nm/s)	9.62					
Volume (Nm³/hr)	68190					
Average Stack Temp (°C)	18.00					
Permitted Temp Range (°C)	3.46	to	32.56			
Lowest Velocity Reading (m/s)	8.68					
Highest Velocity Reading (m/s)	10.16					
Ratio (less than 3:1)	1.17	:	1			
Oxygen %	20.9					
Carbon Dioxide %	0.00					
Moisture (%)	2.33					
Litres sampled	850			887		
Corrected volume sampled (m³)	0.839			0.818		
Blank Filter Run (mg/m³)	0.046					
Blank Filter Run (mg/m³)	0.672					
Particulate Concentration on Filter (mg/m³)	0.18			0.13		
Particulate Concentration in Wash (mg/m³)	0.74			0.87		
Total Particulate Concentration (mg/m³)	0.89			1.00		
Total Particulate Concentration corrected for Oxygen, dry gas (mg/m³)	N/A			N/A		
Total Particulate Mass Emission (kg/hour)	0.079			0.068		

Client	Terex Compact Equipment						
Site Address	Prologis Park, Coventry						
Job Number	P-RED09-095/EB/R1/Rev0						
Date	15/10/2009			Port Depth (cm)			
Operator(s)	Elena Barak & Philip Butler						
				Isokinetic Sampling Method		ISO 9096	BS EN 13284 ☒

Stack Reference	Primer Flash-off Exhaust	Isokinetic Sample Points (cms)		Isokinetic Flow (l/min)	
				Axis 1	Axis 2
		1	11.68	16.27	15.75
Number of Stacks	1	2	68.32	16.27	16.27
Configuration (Round / Rectangular)	Round	3	N/A	N/A	N/A
Dimensions (mtrs)	0.60	4	N/A	N/A	N/A
Outlet Diameter (if applicable) (mtrs/sec)		5	N/A	N/A	N/A
Number of Sample Ports	2	6	N/A	N/A	N/A
Number of Samples per Axis / Port	2	7	N/A	N/A	N/A
Nozzle Diameter (mm)	8.0	8	N/A	N/A	N/A
Nozzle Area (m²)	0.00005024	Average Isokinetic Flow Rate (ltrs/min)		Axis 1	Axis 2
Stack Area (m²)	0.503			16.27	16.01

Pitot Coefficient	1	Pitot Calibration Date		March 2009		Atmos. Pressure (mbars)	
Position No.	Distance (cms)	Axis 1 (pa)	Temperature (C)	Axis 2 (pa)	Temperature (C)	1010	
						Static Pressure (pa)	
1	11.68	16	40.0	15	40.0	9.00	
2	68.32	16	40.0	15	40.0	1 Axis	2 Axis
3	N/A					Average Velocity Flow (Nm/s)	
4	N/A					6.36	
5	N/A					Average Volume Flow (Nm³/s)	
6	N/A					2.69	
7	N/A					Volume (Nm³/s)	
8	N/A					2.71	2.67
						Velocity of flow (N/m/s)	
						6.40	6.31
Averages		16	40.0	16	40.0	Reduced Exit Velocity (m/s)	
						N/A	N/A

Mean Flue Gas Temp (in K) Tp = ((Mean T1 + Mean T2)/2)+273)) =			313.00
Permitted Range of gas temperature readings (C) = (0.95Tp-273) to (1.05Tp-273) =		24.35 to	65.65
Highest Velocity Reading (m/s)	=		6.4
Lowest Velocity Reading (m/s)	=		6.1
Ratio Highest:Lowest (Max permitted = 3:1)			1.05 : 1

On site Checklist		Instrument	Serial No:
Manometer Leak Check	ok	Manometer	RED 0095
Range of Gas Temps	ok	Temp Indicator	RED 0096
Leak Check (l/min)	<0.2	Thermocouple	RED 0074
Leak Check 2% Vol (l/min)	0.32	Pitot Tube	RED 0136
Swirl Test (<15°)	ok	Sample Pump	Zambelli Grey (RED 0156)

Stack Reference ID	Primer Flash-off Exhaust					
	Terex Compact Equipment					
	RUN 1			RUN 2		
Filter Reference No	Q47-140909-15			Q47-140909-16		
Date	19-Oct-09			19-Oct-09		
Sample Period	11:15	to	11:47	12:00	to	12:32
Velocity (Nm/s)	6.35					
Volume (Nm³/hr)	9637					
Average Stack Temp (°C)	40.00					
Permitted Temp Range (°C)	24.35		to		65.65	
Lowest Velocity Reading (m/s)	6.14					
Highest Velocity Reading (m/s)	6.40					
Ratio (less than 3:1)	1.06		:		1	
Oxygen %	20.9					
Carbon Dioxide %	0.00					
Moisture (%)	1.84					
Litres sampled	690			540		
Corrected volume sampled (m³)	0.669			0.509		
Blank Filter Run (mg/m³)	0.071					
Blank Filter Run (mg/m³)	1.044					
Particulate Concentration on Filter (mg/m³)	0.29			0.20		
Particulate Concentration in Wash (mg/m³)	1.77			2.79		
Total Particulate Concentration (mg/m³)	2.06			2.99		
Total Particulate Concentration corrected for Oxygen, dry gas (mg/m³)	N/A			N/A		
Total Particulate Mass Emission (kg/hour)	0.020			0.029		

APPENDIX B

VOC Raw Data

TopCoat Spray Booth 1

Date	Time	VOC mg/m³
19-Oct-09	13:31:11	2.89
19-Oct-09	13:32:11	8.68
19-Oct-09	13:33:11	10.61
19-Oct-09	13:34:11	11.25
19-Oct-09	13:35:11	3.54
19-Oct-09	13:36:11	3.54
19-Oct-09	13:37:11	3.54
19-Oct-09	13:38:11	9.96
19-Oct-09	13:39:11	11.89
19-Oct-09	13:40:11	11.89
19-Oct-09	13:41:11	3.54
19-Oct-09	13:42:11	6.11
19-Oct-09	13:43:11	2.89
19-Oct-09	13:44:11	2.89
19-Oct-09	13:45:11	2.89
19-Oct-09	13:46:11	7.39
19-Oct-09	13:47:11	4.82
19-Oct-09	13:48:11	3.54
19-Oct-09	13:49:11	2.89
19-Oct-09	13:50:11	9.96
19-Oct-09	13:51:11	10.61
19-Oct-09	13:52:11	9.96
19-Oct-09	13:53:11	10.61
19-Oct-09	13:54:11	10.61
19-Oct-09	13:55:11	11.25
19-Oct-09	13:56:11	11.25
19-Oct-09	13:57:11	5.46
19-Oct-09	13:58:11	4.82
19-Oct-09	13:59:11	4.18
19-Oct-09	14:00:11	4.18
19-Oct-09	14:01:11	11.89
19-Oct-09	14:02:11	11.89
19-Oct-09	14:03:11	10.61
19-Oct-09	14:04:11	11.25
19-Oct-09	14:05:11	10.61
19-Oct-09	14:06:11	9.96
19-Oct-09	14:07:11	28.93
19-Oct-09	14:08:11	4.50
19-Oct-09	14:09:11	36.32
19-Oct-09	14:10:11	28.61
19-Oct-09	14:11:11	22.82
19-Oct-09	14:12:11	21.54
19-Oct-09	14:13:11	22.82
19-Oct-09	14:14:11	20.25
19-Oct-09	14:15:11	18.96
19-Oct-09	14:16:11	18.32
19-Oct-09	14:17:11	17.68
19-Oct-09	14:18:11	17.04
19-Oct-09	14:19:11	16.39
19-Oct-09	14:20:11	15.11
19-Oct-09	14:21:11	16.39
19-Oct-09	14:22:11	17.04
19-Oct-09	14:23:11	15.75
19-Oct-09	14:24:11	14.46
19-Oct-09	14:25:11	16.39
19-Oct-09	14:26:11	45.96
19-Oct-09	14:27:11	43.71
19-Oct-09	14:28:11	50.79
19-Oct-09	14:29:11	46.29
19-Oct-09	14:30:11	18.64

Average **14.58**

The data expressed here represents the readings at 1 minute intervals, where as the chart is produced using readings at 5 second intervals

TopCoat Spray Booth 2

Date	Time	VOC mg/m³
20-Oct-09	10:19:42	8.04
20-Oct-09	10:20:42	55.45
20-Oct-09	10:21:42	57.05
20-Oct-09	10:22:42	60.27
20-Oct-09	10:23:42	60.27
20-Oct-09	10:24:42	53.84
20-Oct-09	10:25:42	53.04
20-Oct-09	10:26:42	60.27
20-Oct-09	10:27:42	83.57
20-Oct-09	10:28:42	99.64
20-Oct-09	10:29:42	98.84
20-Oct-09	10:30:42	98.04
20-Oct-09	10:31:42	85.18
20-Oct-09	10:32:42	78.75
20-Oct-09	10:33:42	73.13
20-Oct-09	10:34:42	91.61
20-Oct-09	10:35:42	87.59
20-Oct-09	10:36:42	78.75
20-Oct-09	10:37:42	71.52
20-Oct-09	10:38:42	63.48
20-Oct-09	10:39:42	53.04
20-Oct-09	10:40:42	53.84
20-Oct-09	10:41:42	61.88
20-Oct-09	10:42:42	85.98
20-Oct-09	10:43:42	112.50
20-Oct-09	10:44:42	110.89
20-Oct-09	10:45:42	88.39
20-Oct-09	10:46:42	82.77
20-Oct-09	10:47:42	82.77
20-Oct-09	10:48:42	79.55
20-Oct-09	10:49:42	74.73
20-Oct-09	10:50:42	68.30
20-Oct-09	10:51:42	64.29
20-Oct-09	10:52:42	55.45
20-Oct-09	10:53:42	52.23
20-Oct-09	10:54:42	57.05
20-Oct-09	10:55:42	80.36
20-Oct-09	10:56:42	101.25
20-Oct-09	10:57:42	106.07
20-Oct-09	10:58:42	100.45
20-Oct-09	10:59:42	102.86
20-Oct-09	11:00:42	97.23
20-Oct-09	11:01:42	90.00
20-Oct-09	11:02:42	85.98
20-Oct-09	11:03:42	74.73
20-Oct-09	11:04:42	65.09
20-Oct-09	11:05:42	61.07
20-Oct-09	11:06:42	57.05
20-Oct-09	11:07:42	53.84
20-Oct-09	11:08:42	50.63
20-Oct-09	11:09:42	49.02
20-Oct-09	11:10:42	47.41
20-Oct-09	11:11:42	44.20
20-Oct-09	11:12:42	42.59
20-Oct-09	11:13:42	45.80
20-Oct-09	11:14:42	52.23
20-Oct-09	11:15:42	61.88
20-Oct-09	11:16:42	61.88
20-Oct-09	11:17:42	61.88
20-Oct-09	11:18:42	58.66
20-Oct-09	11:19:37	55.45

Average **71.03**

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

TopCoat Curing Oven

Date	Time	VOC mg/m³
20-Oct-09	11:25:02	55.45
20-Oct-09	11:26:02	49.02
20-Oct-09	11:27:02	44.20
20-Oct-09	11:28:02	49.02
20-Oct-09	11:29:02	57.05
20-Oct-09	11:30:02	61.88
20-Oct-09	11:31:02	63.48
20-Oct-09	11:32:02	64.29
20-Oct-09	11:33:02	57.05
20-Oct-09	11:34:02	53.04
20-Oct-09	11:35:02	45.80
20-Oct-09	11:36:02	42.59
20-Oct-09	11:37:02	45.80
20-Oct-09	11:38:02	52.23
20-Oct-09	11:39:02	55.45
20-Oct-09	11:40:02	65.09
20-Oct-09	11:41:02	61.88
20-Oct-09	11:42:02	57.05
20-Oct-09	11:43:02	52.23
20-Oct-09	11:44:02	49.02
20-Oct-09	11:45:02	47.41
20-Oct-09	11:46:02	45.00
20-Oct-09	11:47:02	40.98
20-Oct-09	11:48:02	36.16
20-Oct-09	11:49:02	34.55
20-Oct-09	11:50:02	36.16
20-Oct-09	11:51:02	45.80
20-Oct-09	11:52:02	52.23
20-Oct-09	11:53:02	53.84
20-Oct-09	11:54:02	50.63
20-Oct-09	11:55:02	49.02
20-Oct-09	11:56:02	47.41
20-Oct-09	11:57:02	42.59
20-Oct-09	11:58:02	39.38
20-Oct-09	11:59:02	38.57
20-Oct-09	12:00:02	36.96
20-Oct-09	12:01:02	36.16
20-Oct-09	12:02:02	34.55
20-Oct-09	12:03:02	36.16
20-Oct-09	12:04:02	39.38
20-Oct-09	12:05:02	44.20
20-Oct-09	12:06:02	44.20
20-Oct-09	12:07:02	40.98
20-Oct-09	12:08:02	37.77
20-Oct-09	12:09:02	36.96
20-Oct-09	12:10:02	34.55
20-Oct-09	12:11:02	34.55
20-Oct-09	12:12:02	32.95
20-Oct-09	12:13:02	31.34
20-Oct-09	12:14:02	31.34
20-Oct-09	12:15:02	29.73
20-Oct-09	12:16:02	30.54
20-Oct-09	12:17:02	31.34
20-Oct-09	12:18:02	31.34
20-Oct-09	12:19:02	31.34
20-Oct-09	12:20:02	29.73
20-Oct-09	12:21:02	28.13
20-Oct-09	12:22:02	28.13
20-Oct-09	12:23:02	29.73
20-Oct-09	12:24:02	39.38
20-Oct-09	12:25:02	57.05

Average **43.33**

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

TopCoat Flash-off

Date	Time	VOC mg/m³	Date	Time	VOC mg/m³
21-Oct-09	09:56:09	11.57	21-Oct-09	10:45:09	9.96
21-Oct-09	09:57:09	8.04	21-Oct-09	10:46:09	8.68
21-Oct-09	09:58:09	7.39	21-Oct-09	10:47:09	8.04
21-Oct-09	09:59:09	9.96	21-Oct-09	10:48:09	7.39
21-Oct-09	10:00:09	13.18	21-Oct-09	10:49:09	6.11
21-Oct-09	10:01:09	16.39	21-Oct-09	10:50:09	10.61
21-Oct-09	10:02:09	15.11	21-Oct-09	10:51:09	9.32
21-Oct-09	10:03:09	13.18	21-Oct-09	10:52:09	9.96
21-Oct-09	10:04:09	13.18	21-Oct-09	10:53:09	9.96
21-Oct-09	10:05:09	17.04	21-Oct-09	10:54:09	8.68
21-Oct-09	10:06:09	23.46	21-Oct-09	10:55:09	33.11
21-Oct-09	10:07:09	24.75	21-Oct-09	10:56:09	18.96
21-Oct-09	10:08:09	19.61			
21-Oct-09	10:09:09	18.32			
21-Oct-09	10:10:09	17.68	**Average**		**11.36**
21-Oct-09	10:11:09	15.11			
21-Oct-09	10:12:09	13.18			
21-Oct-09	10:13:09	11.89			
21-Oct-09	10:14:09	11.89			
21-Oct-09	10:15:09	9.96			
21-Oct-09	10:16:09	7.39			
21-Oct-09	10:17:09	6.75			
21-Oct-09	10:18:09	29.89			
21-Oct-09	10:19:09	20.89			
21-Oct-09	10:20:09	15.75			
21-Oct-09	10:21:09	14.46			
21-Oct-09	10:22:09	11.89			
21-Oct-09	10:23:09	7.39			
21-Oct-09	10:24:09	6.11			
21-Oct-09	10:25:09	6.11			
21-Oct-09	10:26:09	3.54			
21-Oct-09	10:27:09	2.25			
21-Oct-09	10:28:09	0.32			
21-Oct-09	10:29:09	2.25			
21-Oct-09	10:30:09	1.61			
21-Oct-09	10:31:09	1.61			
21-Oct-09	10:32:09	2.89			
21-Oct-09	10:33:09	3.21			
21-Oct-09	10:34:09	19.61			
21-Oct-09	10:35:09	9.96			
21-Oct-09	10:36:09	11.25			
21-Oct-09	10:37:09	5.46			
21-Oct-09	10:38:09	7.39			
21-Oct-09	10:39:09	4.18			
21-Oct-09	10:40:09	4.18			
21-Oct-09	10:41:09	7.39			
21-Oct-09	10:42:09	8.68			
21-Oct-09	10:43:09	24.11			
21-Oct-09	10:44:09	11.89			

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

Primer Booth 1

Date	Time	VOC mg/m³	Date	Time	VOC mg/m³
21-Oct-09	11:10:04	2.97	21-Oct-09	11:59:04	7.39
21-Oct-09	11:11:04	2.81	21-Oct-09	12:00:04	7.39
21-Oct-09	11:12:04	2.49	21-Oct-09	12:01:04	7.47
21-Oct-09	11:13:04	3.94	21-Oct-09	12:02:04	7.31
21-Oct-09	11:14:04	3.46	21-Oct-09	12:03:04	7.31
21-Oct-09	11:15:04	3.46	21-Oct-09	12:04:04	7.23
21-Oct-09	11:16:04	3.29	21-Oct-09	12:05:04	7.31
21-Oct-09	11:17:04	3.46	21-Oct-09	12:06:04	7.31
21-Oct-09	11:18:04	3.78	21-Oct-09	12:07:04	7.31
21-Oct-09	11:19:04	3.78	21-Oct-09	12:08:04	7.23
21-Oct-09	11:20:04	3.13	21-Oct-09	12:09:04	7.23
21-Oct-09	11:21:04	3.94	21-Oct-09	12:10:04	7.31
21-Oct-09	11:22:04	1.53			
21-Oct-09	11:23:04	2.49			
21-Oct-09	11:24:04	6.51	**Average**		**6.37**
21-Oct-09	11:25:04	5.71			
21-Oct-09	11:26:04	4.58			
21-Oct-09	11:27:04	4.26			
21-Oct-09	11:28:04	3.94			
21-Oct-09	11:29:04	3.94			
21-Oct-09	11:30:04	4.36			
21-Oct-09	11:31:04	4.36			
21-Oct-09	11:32:04	4.10			
21-Oct-09	11:33:04	4.28			
21-Oct-09	11:34:04	8.68			
21-Oct-09	11:35:04	8.36			
21-Oct-09	11:36:04	8.12			
21-Oct-09	11:37:04	8.04			
21-Oct-09	11:38:04	8.04			
21-Oct-09	11:39:04	7.96			
21-Oct-09	11:40:04	7.96			
21-Oct-09	11:41:04	7.88			
21-Oct-09	11:42:04	7.79			
21-Oct-09	11:43:04	7.55			
21-Oct-09	11:44:04	7.55			
21-Oct-09	11:45:04	7.55			
21-Oct-09	11:46:04	7.55			
21-Oct-09	11:47:04	7.63			
21-Oct-09	11:48:04	7.47			
21-Oct-09	11:49:04	7.63			
21-Oct-09	11:50:04	7.63			
21-Oct-09	11:51:04	7.55			
21-Oct-09	11:52:04	7.63			
21-Oct-09	11:53:04	7.47			
21-Oct-09	11:54:04	7.39			
21-Oct-09	11:55:04	7.47			
21-Oct-09	11:56:04	7.47			
21-Oct-09	11:57:04	7.47			
21-Oct-09	11:58:04	7.47			

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

Primer Booth 2

Date	Time	VOC mg/m³
21-Oct-09	12:15:04	29.25
21-Oct-09	12:16:04	28.93
21-Oct-09	12:17:04	29.25
21-Oct-09	12:18:04	28.93
21-Oct-09	12:19:04	29.25
21-Oct-09	12:20:04	29.25
21-Oct-09	12:21:04	28.93
21-Oct-09	12:22:04	29.89
21-Oct-09	12:23:04	29.57
21-Oct-09	12:24:04	29.25
21-Oct-09	12:25:04	29.25
21-Oct-09	12:26:04	29.25
21-Oct-09	12:27:04	28.93
21-Oct-09	12:28:04	29.25
21-Oct-09	12:29:04	29.57
21-Oct-09	12:30:04	29.25
21-Oct-09	12:31:04	28.93
21-Oct-09	12:32:04	28.29
21-Oct-09	12:33:04	29.25
21-Oct-09	12:34:04	28.93
21-Oct-09	12:35:04	28.29
21-Oct-09	12:36:04	28.61
21-Oct-09	12:37:04	27.96
21-Oct-09	12:38:04	27.96
21-Oct-09	12:39:04	27.96
21-Oct-09	12:40:04	27.96
21-Oct-09	12:41:04	27.64
21-Oct-09	12:42:04	27.96
21-Oct-09	12:43:04	27.64
21-Oct-09	12:44:04	27.64
21-Oct-09	12:45:04	27.96
21-Oct-09	12:46:04	27.96
21-Oct-09	12:47:04	27.96
21-Oct-09	12:48:04	27.64
21-Oct-09	12:49:04	27.96
21-Oct-09	12:50:04	27.64
21-Oct-09	12:51:04	28.61
21-Oct-09	12:52:04	28.29
21-Oct-09	12:53:04	28.61
21-Oct-09	12:54:04	28.61
21-Oct-09	12:55:04	28.61
21-Oct-09	12:56:04	28.29
21-Oct-09	12:57:04	28.61
21-Oct-09	12:58:04	28.29
21-Oct-09	12:59:04	27.96
21-Oct-09	13:00:04	27.96
21-Oct-09	13:01:04	27.96
21-Oct-09	13:02:04	27.96
21-Oct-09	13:03:04	27.96
21-Oct-09	13:04:04	27.96
21-Oct-09	13:05:04	27.96

Average	**28.36**

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

Primer Flash off

Date	Time	VOC mg/m³
19-Oct-09	11:31:30	13.66
19-Oct-09	11:32:30	13.66
19-Oct-09	11:33:30	12.05
19-Oct-09	11:34:30	12.05
19-Oct-09	11:35:30	10.45
19-Oct-09	11:36:30	12.05
19-Oct-09	11:37:30	12.05
19-Oct-09	11:38:30	12.05
19-Oct-09	11:39:30	12.05
19-Oct-09	11:40:30	10.45
19-Oct-09	11:41:30	12.05
19-Oct-09	11:42:30	12.05
19-Oct-09	11:43:30	12.05
19-Oct-09	11:44:30	12.05
19-Oct-09	11:45:30	13.66
19-Oct-09	11:46:30	13.66
19-Oct-09	11:47:30	13.66
19-Oct-09	11:48:30	13.66
19-Oct-09	11:49:30	13.66
19-Oct-09	11:50:30	13.66
19-Oct-09	11:51:30	7.23
19-Oct-09	11:52:30	8.84
19-Oct-09	11:53:30	5.63
19-Oct-09	11:54:30	8.84
19-Oct-09	11:55:30	7.23
19-Oct-09	11:56:30	5.63
19-Oct-09	11:57:30	7.23
19-Oct-09	11:58:30	8.84
19-Oct-09	11:59:30	7.23
19-Oct-09	12:00:30	8.84
19-Oct-09	12:01:30	7.23
19-Oct-09	12:02:30	6.43
19-Oct-09	12:03:30	7.23
19-Oct-09	12:04:30	7.23
19-Oct-09	12:05:30	8.84
19-Oct-09	12:06:30	8.84
19-Oct-09	12:07:30	8.84
19-Oct-09	12:08:30	8.84
19-Oct-09	12:09:30	7.23
19-Oct-09	12:10:30	8.84
19-Oct-09	12:11:30	8.84
19-Oct-09	12:12:30	8.84
19-Oct-09	12:13:30	8.84
19-Oct-09	12:14:30	8.84
19-Oct-09	12:15:30	8.84
19-Oct-09	12:16:30	8.84
19-Oct-09	12:17:30	8.84
19-Oct-09	12:18:30	7.23
19-Oct-09	12:19:30	7.23
19-Oct-09	12:20:30	8.84
19-Oct-09	12:21:30	8.84
19-Oct-09	12:22:30	8.84
19-Oct-09	12:23:30	8.84
19-Oct-09	12:24:30	8.84
19-Oct-09	12:25:30	8.84
19-Oct-09	12:26:30	8.84
19-Oct-09	12:27:30	8.84
19-Oct-09	12:28:30	8.84
19-Oct-09	12:29:30	8.84
19-Oct-09	12:30:30	7.23
19-Oct-09	12:31:30	8.84

Average **9.59**

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

Paint Kitchen

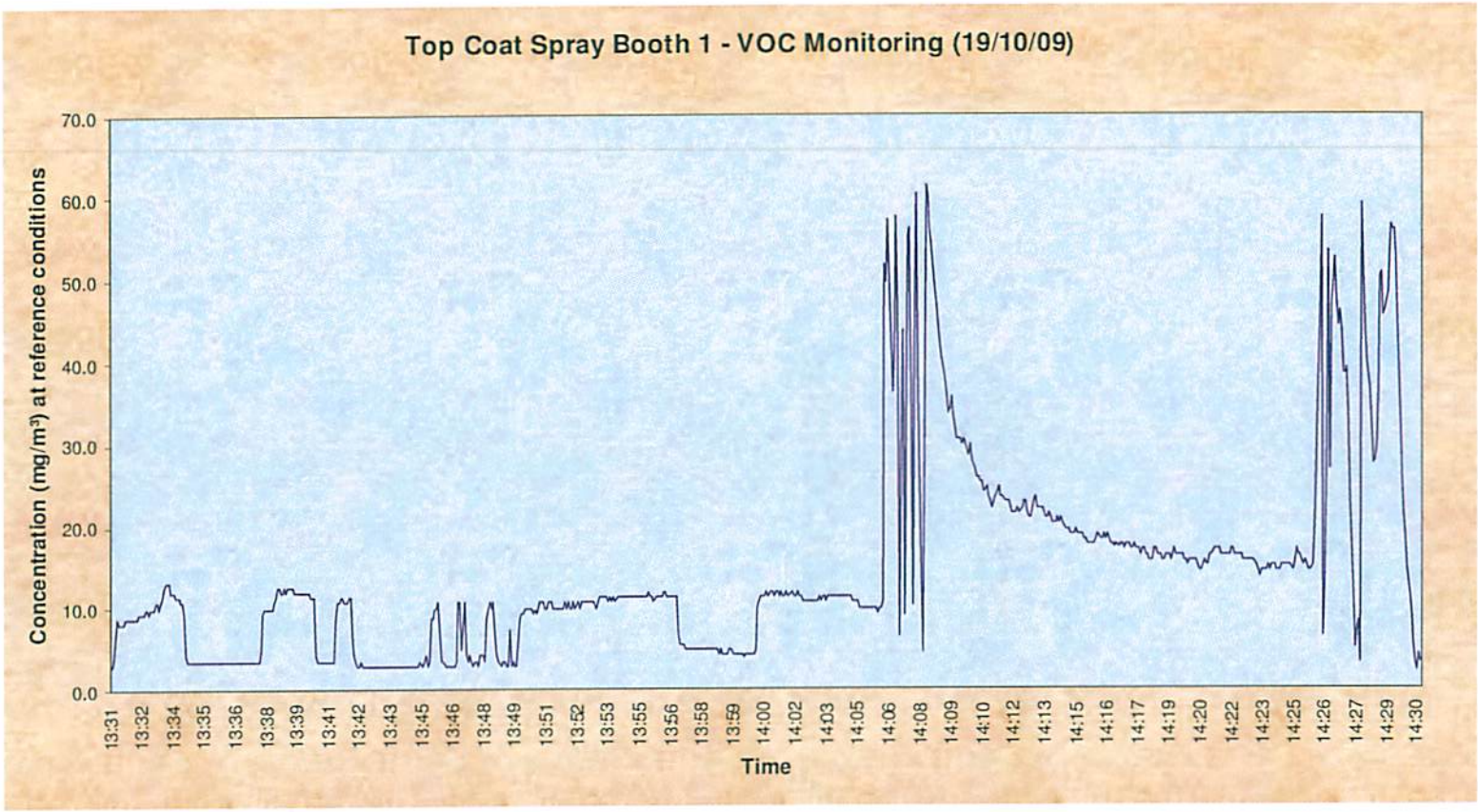
Date	Time	VOC mg/m³
20-Oct-09	14:18:17	15.11
20-Oct-09	14:19:17	15.11
20-Oct-09	14:20:17	14.46
20-Oct-09	14:21:17	13.82
20-Oct-09	14:22:17	13.18
20-Oct-09	14:23:17	15.43
20-Oct-09	14:24:17	17.68
20-Oct-09	14:25:17	14.14
20-Oct-09	14:26:17	11.89
20-Oct-09	14:27:17	15.11
20-Oct-09	14:28:17	18.96
20-Oct-09	14:29:17	23.46
20-Oct-09	14:30:17	24.75
20-Oct-09	14:31:17	24.75
20-Oct-09	14:32:17	24.11
20-Oct-09	14:33:17	22.18
20-Oct-09	14:34:17	21.54
20-Oct-09	14:35:17	18.32
20-Oct-09	14:36:17	17.04
20-Oct-09	14:37:17	20.89
20-Oct-09	14:38:17	27.96
20-Oct-09	14:39:17	36.32
20-Oct-09	14:40:17	38.25
20-Oct-09	14:41:17	56.89
20-Oct-09	14:42:17	48.54
20-Oct-09	14:43:17	39.54
20-Oct-09	14:44:17	33.75
20-Oct-09	14:45:17	29.25
20-Oct-09	14:46:17	25.39
20-Oct-09	14:47:17	22.82
20-Oct-09	14:48:17	20.89
20-Oct-09	14:49:17	20.25
20-Oct-09	14:50:17	19.61
20-Oct-09	14:51:17	18.96
20-Oct-09	14:52:17	17.04
20-Oct-09	14:53:17	15.75
20-Oct-09	14:54:17	15.11
20-Oct-09	14:55:17	11.89
20-Oct-09	14:56:17	3.54
20-Oct-09	14:57:17	1.93
20-Oct-09	14:58:17	7.07
20-Oct-09	14:59:17	10.93
20-Oct-09	15:00:17	14.14
20-Oct-09	15:01:17	16.71
20-Oct-09	15:02:17	18.64
20-Oct-09	15:03:17	20.57
20-Oct-09	15:04:17	21.86
20-Oct-09	15:05:17	23.79
20-Oct-09	15:06:17	36.64
20-Oct-09	15:07:17	36.00
20-Oct-09	15:08:17	36.64
20-Oct-09	15:09:17	36.64
20-Oct-09	15:10:17	36.64
20-Oct-09	15:11:17	36.64
20-Oct-09	15:12:17	36.64
20-Oct-09	15:13:17	36.64
20-Oct-09	15:14:17	36.64
20-Oct-09	15:15:17	36.64
20-Oct-09	15:16:17	36.64
20-Oct-09	15:17:17	36.64
20-Oct-09	15:18:17	36.64

Average **24.21**

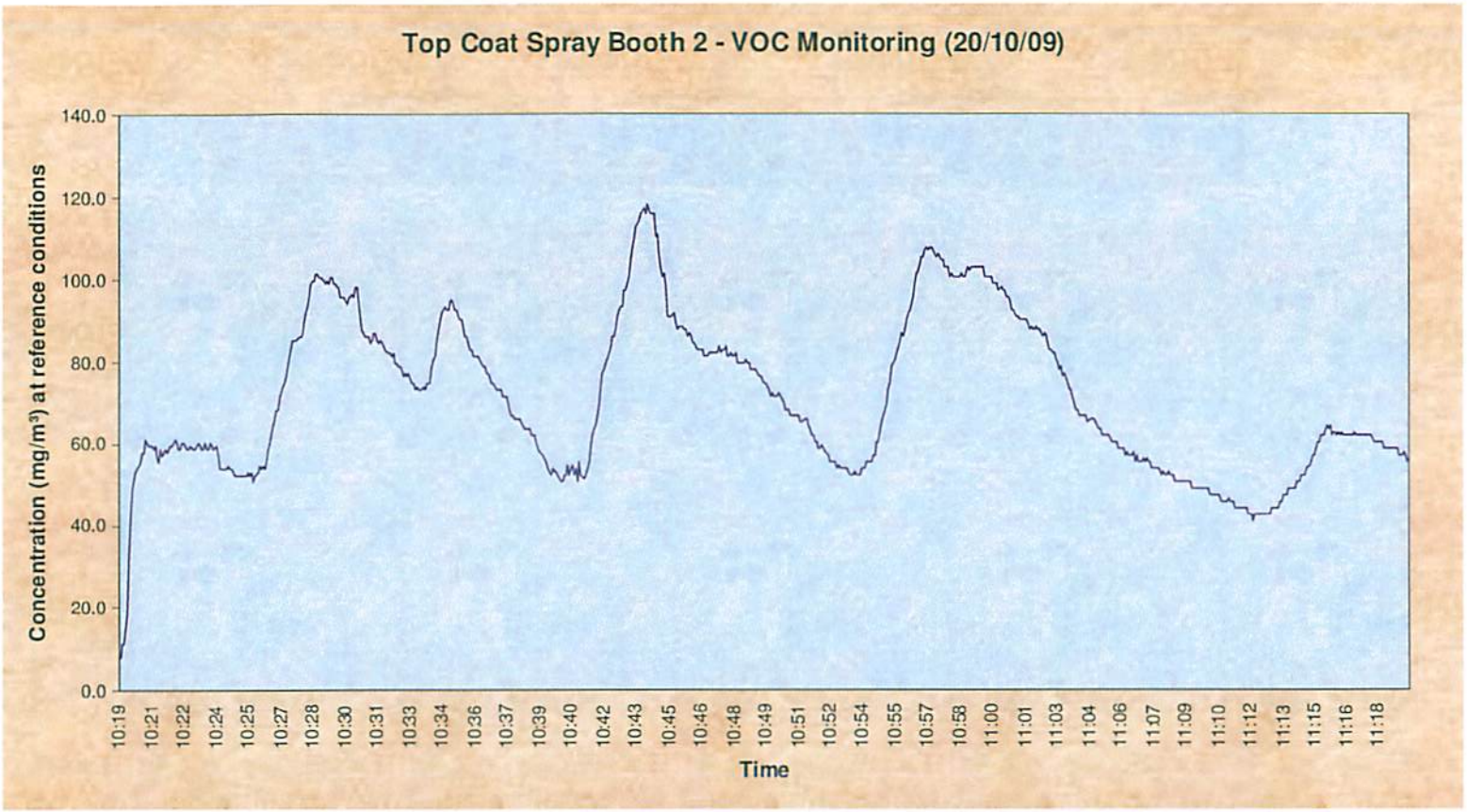
The data represented in this table is expressed at 1 minute intervals but the data used in the chart is produced using 5 second intervals

APPENDIX C

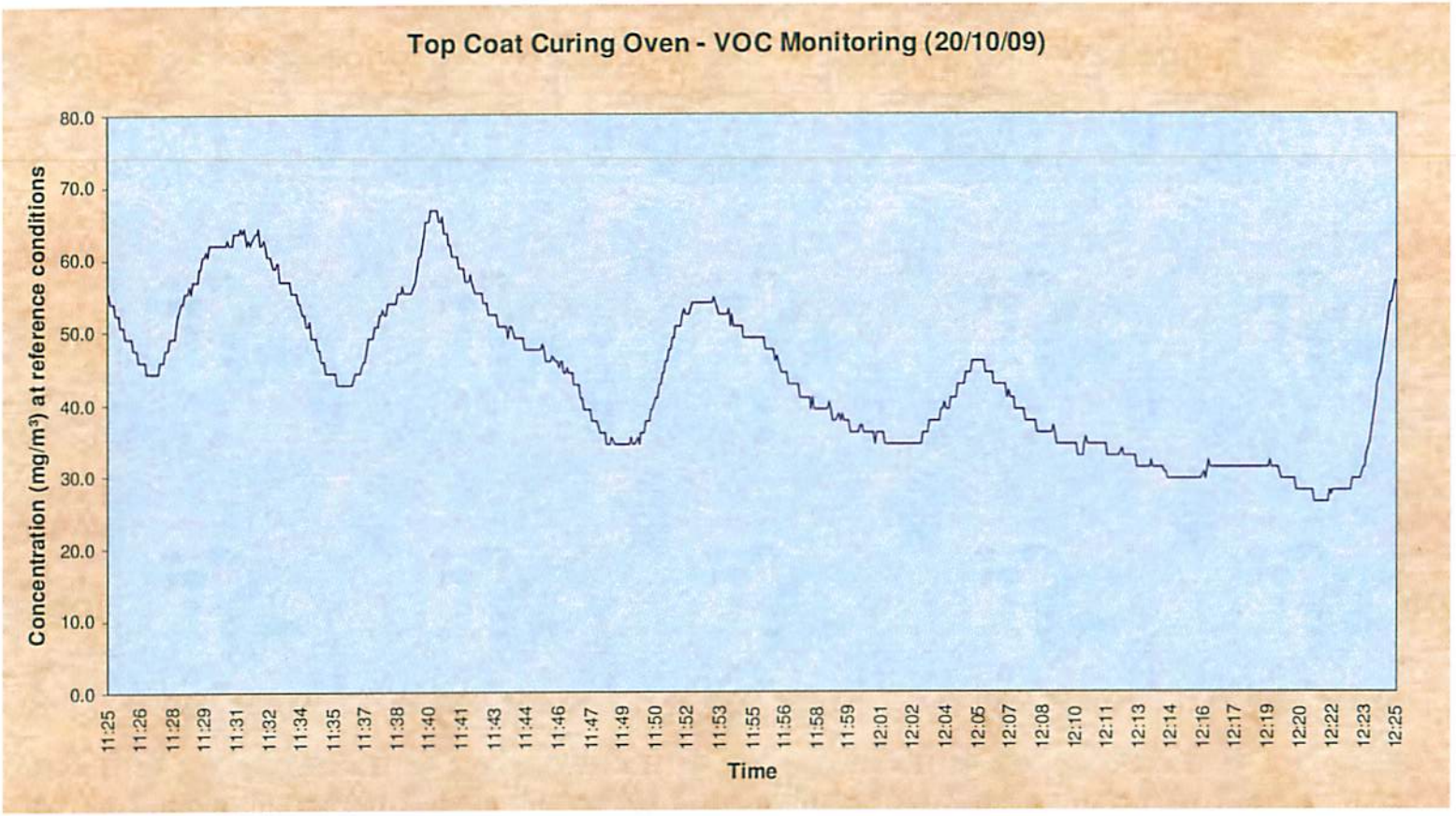
VOC Charts



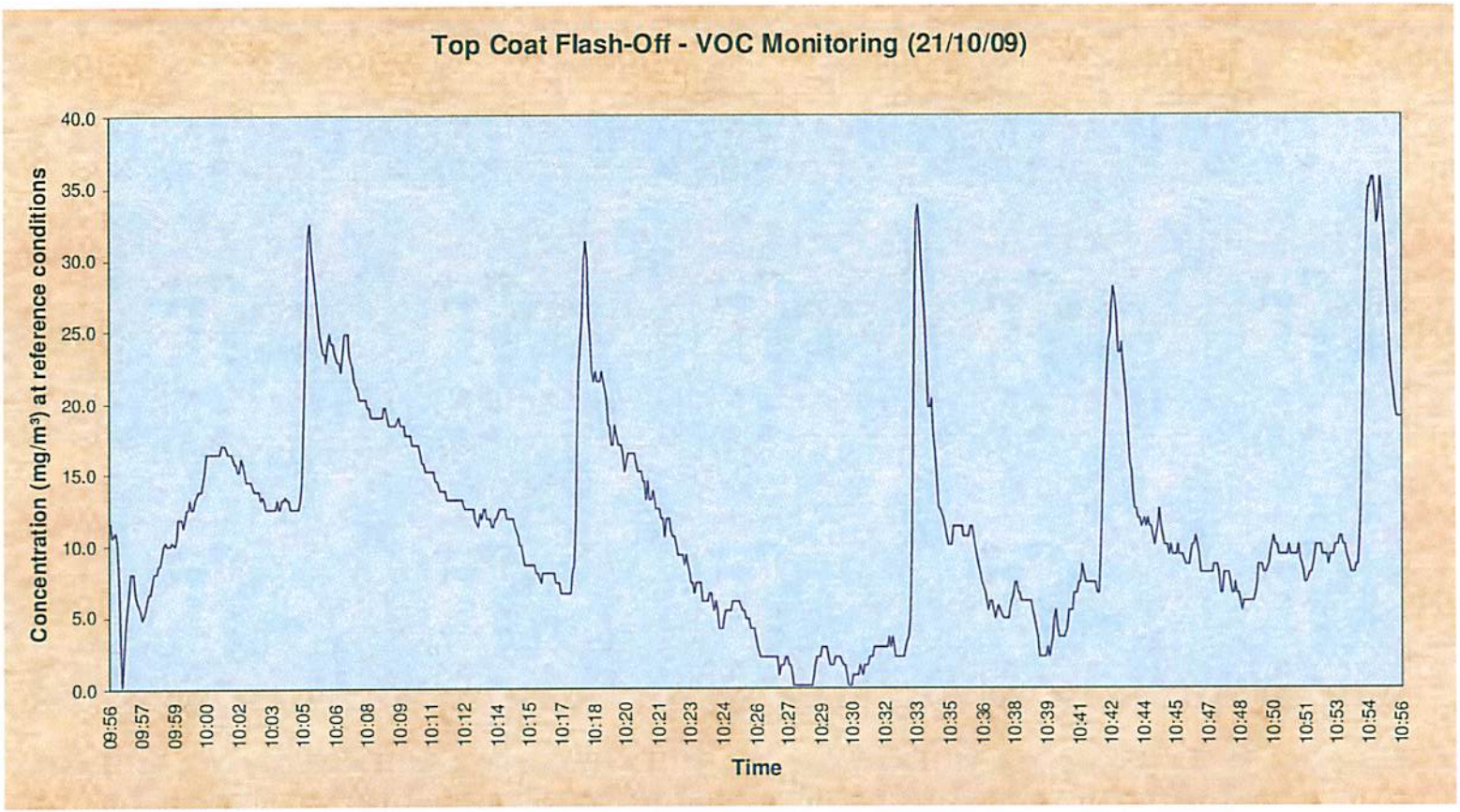
Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
13:31	to	14:01	4.52	8.20	1.80	7.26	13.18	2.89
14:01	to	14:31	13.85	38.20	2.00	22.26	61.39	3.21



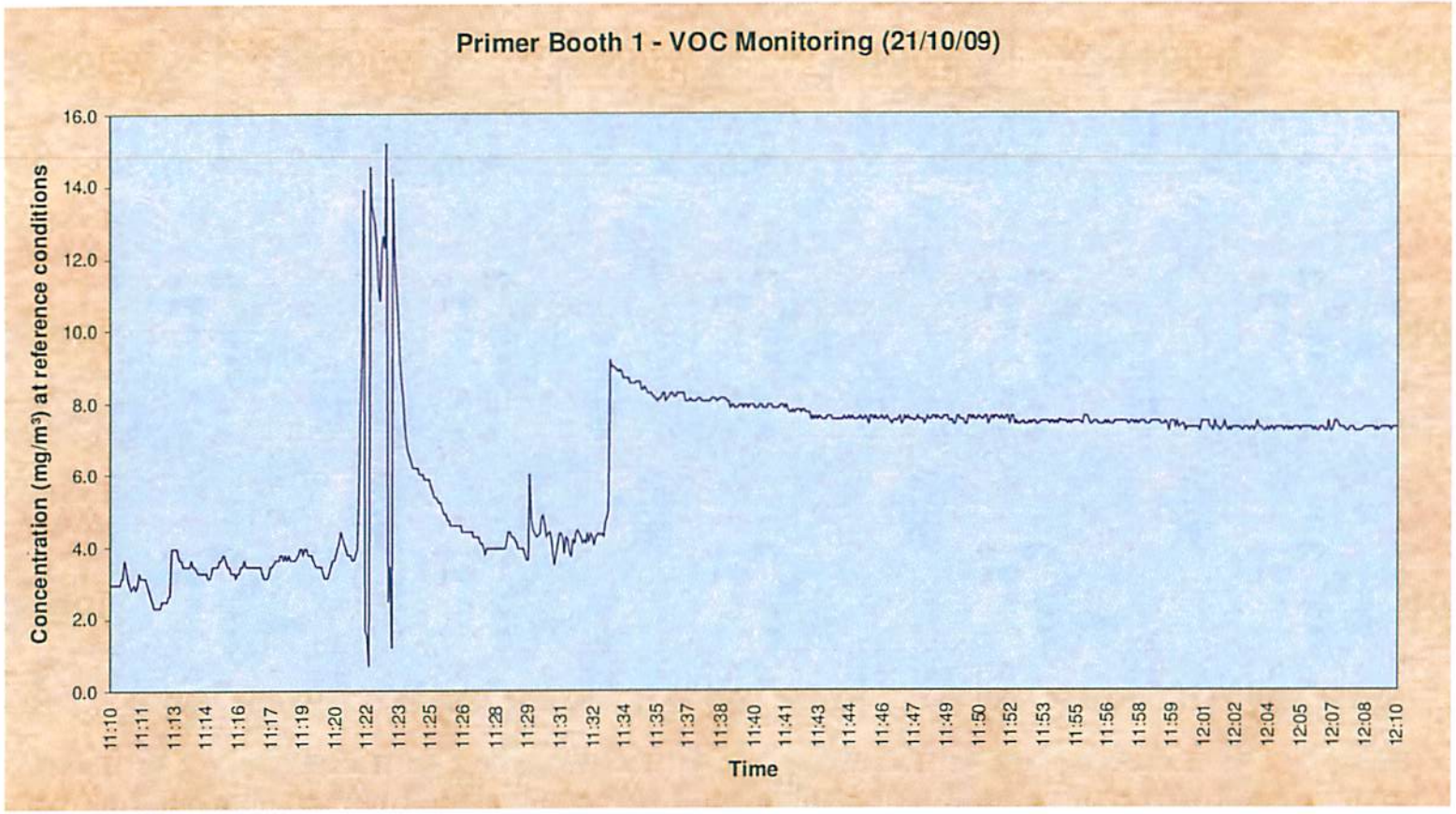
Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
10:19	to	10:49	46.60	73.50	5.00	74.90	118.13	8.04
10:49	to	11:19	41.79	67.00	25.50	67.16	107.68	40.98



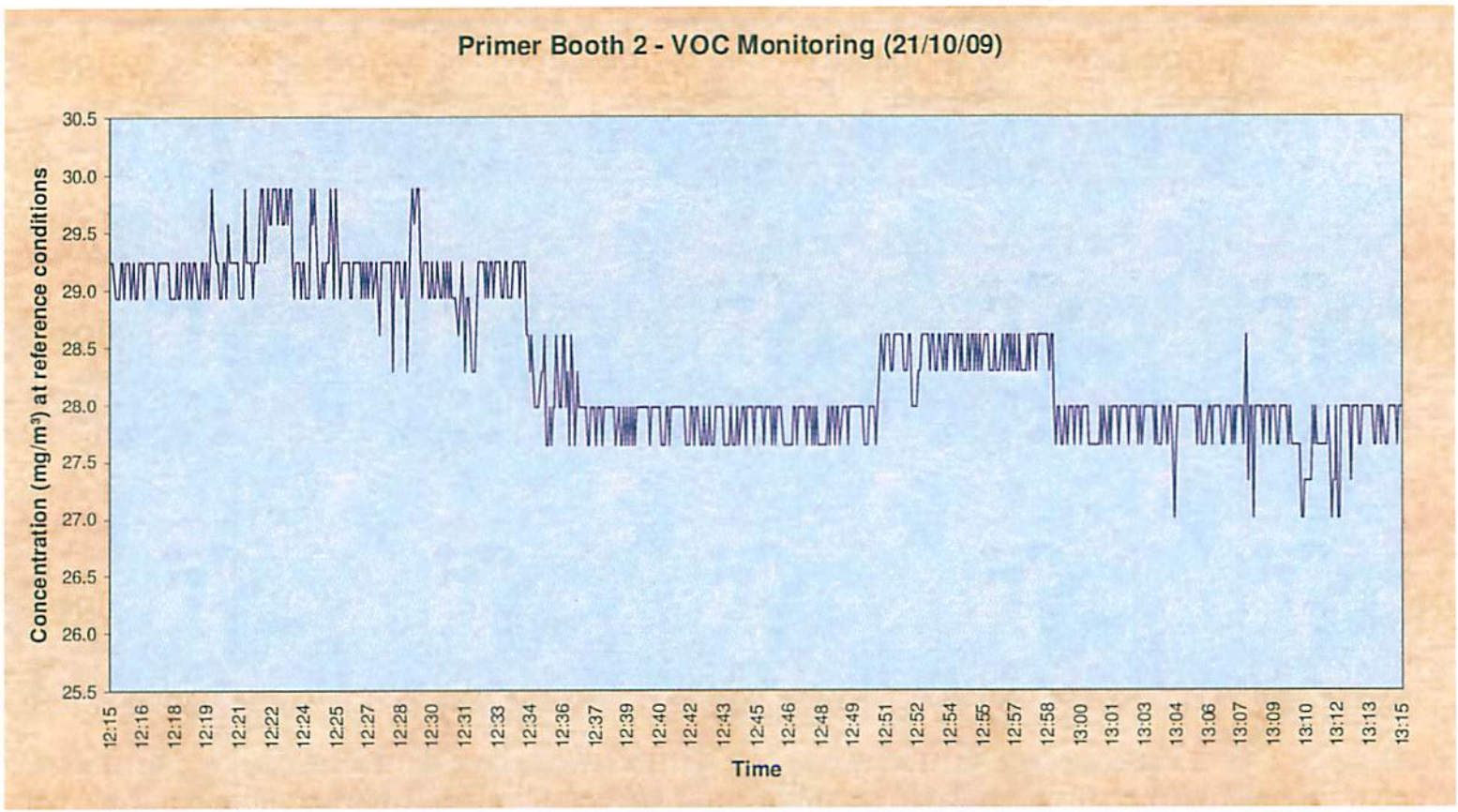
Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
11:25	to	11:55	31.61	41.50	21.50	50.80	66.70	34.55
11:55	to	12:25	22.32	35.50	16.50	35.87	57.05	26.52



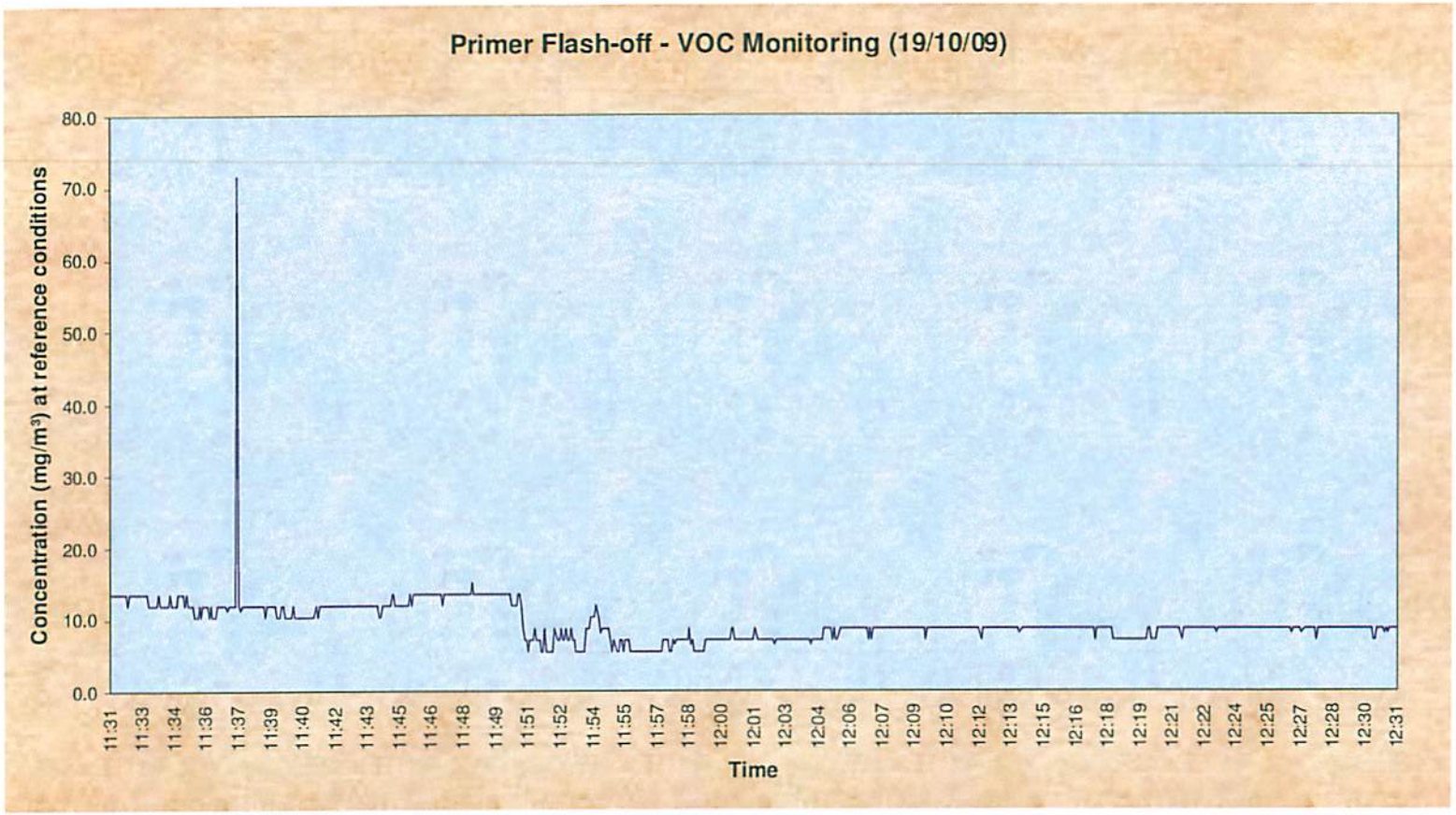
Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
9:56	to	10:26	8.43	20.20	0.20	13.55	32.46	0.32
10:26	to	10:56	5.69	22.20	0.20	9.14	35.68	0.32



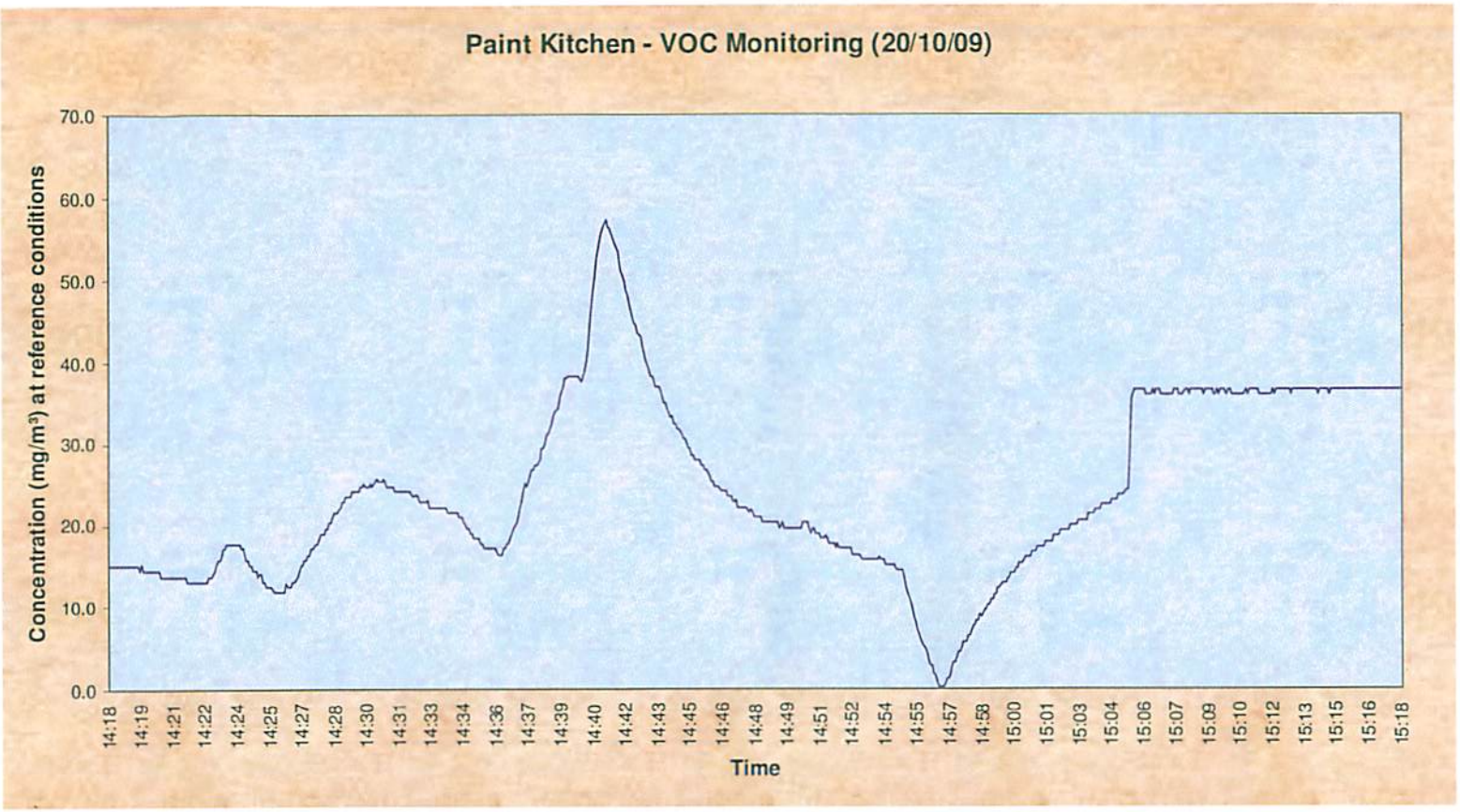
Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
11:10	to	11:40	3.28	9.45	0.45	5.28	15.19	0.72
11:40	to	12:10	4.65	4.95	4.50	7.47	7.96	7.23



Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
12:15	to	12:45	17.88	18.60	17.20	28.73	29.89	27.64
12:45	to	13:15	17.41	17.80	16.80	27.98	28.61	27.00



Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
11:31	to	12:01	6.64	44.50	3.50	10.68	71.52	5.63
12:01	to	12:31	5.29	5.50	4.00	8.50	8.84	6.43



Average Run Time			Volatile Organic Compound (ppm)			Volatile Organic Compound (mg/m³)		
			Mean	Max	Min	Mean	Max	Min
14:18	to	14:48	15.03	35.60	7.40	24.16	57.21	11.89
14:48	to	15:18	15.09	22.80	0.20	24.25	36.64	0.32

APPENDIX D

Isocyanate Results

Client	Terex Compact Equipment
Site Address	Prologis Park, Coventry
Job Number	P-RED03-095/EB/R1/Rev0
Date	19th October 2009
Operator(s)	Elena Berek & Philip Butler

Pump Type	Pump No.	Sample ID	Location / Process / Operator	Pump Flow (ml/min)		Sample Duration (mins)		Total Volume (l)	Gas Temp (C)	Atmos Pressure (mbars)	Mass of Analyte (mg)	Concentration (mg/Nm3)
Zambelli	258	09/095/100	Topcoat Spray Booth 1 19th October 2009	Initial	0.0	Start	10:30	1250.0	40.0	1020	<0.2	<0.0002
				Final	1250.0	Finish	11:30					
				Difference	1250.0	Total	60					
Zambelli	258	09/095/101	Topcoat Spray Booth 2 19th October 2009	Initial	0.0	Start	11:45	1090.0	18.0	1020	<0.2	<0.0002
				Final	1090.0	Finish	12:45					
				Difference	1090.0	Total	60					
Zambelli	258	09/095/102	Topcoat Flash-off 19th October 2009	Initial	0.0	Start	13:05	1100.0	19.0	1020	<0.2	<0.0002
				Final	1100.0	Finish	14:05					
				Difference	1100.0	Total	60					
Zambelli	258	09/095/103	Topcoat Curing Oven 19th October 2009	Initial	0.0	Start	14:15	1216.0	22.0	1020	<0.2	<0.0002
				Final	1216.0	Finish	15:15					
				Difference	1216.0	Total	60					