Report for Periodic Monitoring of Emissions to Atmosphere

Part 1:	**Executive Summary**
Permit Number:	**PPC/093 Variation 002**
Operator:	**Coventry Castings Ltd**
Installation:	**Coventry**
Emission Point:	**H**
Monitoring Date:	**10th August 2012**

UKAS TESTING
1709

MCERTS

Contract Reference:	FTBS22374
Operator:	Coventry Castings Ltd
Address:	Barlow Road Aldermans Green Industrial Estate Coventry CV2 2LD
Monitoring Organisation:	RPS Consultants
Address:	Noble House, Capital Drive, Linford Wood, MK14 6QP
Report Date:	5th September 2012
Report Approved By:	Edwin Powell
Position:	Consultant
MCERTS Registration Number:	MM 05 621
MCERTS Certification Level:	2
Technical Endorsements:	TE 1, 2 ,3 & 4

Signature: [redacted]

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Monitoring Objectives

At the request of Ian Reid of Coventry Castings Ltd, RPS Consultants conducted stack emission monitoring at the Coventry site in August 2012.

The monitoring programme at this installation was carried out to provide data on emissions to atmosphere for comparison with the limits specified in the air emission criteria for this site.

The following tables detail the parameters requested for monitoring at each emission point and the actual monitoring conducted.

Table 1.1

Parameters Requested to be Monitored	Emission Point H Furnace Extraction
Total Particulate Matter	✓
Hydrogen Sulphide	✓
Specific Requirements	Normal

Notes:
✓ *Represents pollutants sampled*

Monitoring Results

Table 2.1 Monitoring results for emission point H, Carried out on 10/08/2012

Substance Monitored	Emission Limit Value	Periodic Monitoring Result	Units	Uncertainty (Expressed expanded k=2)	Reference Conditions 273K, 101.3kPa	Sampling Date	Sampling Times	Monitoring Reference Method	Accreditation Status	Operating Status
Hydrogen Sulphide	3.8 (5ppm)	< 1.5	mg/m^3	± 0.1	273K, 101.3kPa, Wet	10/08/2012	09:58 - 12:23	USEPA M11	UKAS	Normal
Total Particulate Matter	20	10.5	mg/m^3	± 0.3	273K, 101.3kPa, Dry	10/08/2012	10:02 - 12:27	BS EN 13284-1:2002	MCERTS	Normal

Operating Information

Table 3.1 Operating conditions during the monitoring of emission point H carried out on 10/08/2012

Parameter	Result
Sample Date	10/08/2012
Process Type	Batch
Process Duration	2.5 Hour
If 'Batch', was monitoring carried out over the whole batch?	No
Abatement/Operational?	Not Installed

Comparison of Operator CEM and Periodic Monitoring Results		
Substance	**CEMs Results (mg/m^3)**	**Periodic Monitoring Results (mg/m^3)**
No CEMS Installed/Data Available		

Monitoring Deviations

Table 4.1 Monitoring Deviations for Emission Point H

Pollutant	Substance Deviations	Monitoring Deviations	Other Relevant Issues
Hydrogen Sulphide	None	None	Working platform is less than the minimum platform recommended in EA TGN M1,
Total Particulate Matter	None	Due to platform constraints it was not possible to conduct monitoring along one of the traverse lines. This is contrary to the requirements of BSEN 13284 which for a duct of this size requires monitoring to be conducted along two traverse lines. If required RPS can assist Coventry Castings to improve the monitoring arrangements.	

Report for Periodic Monitoring of Emissions to Atmosphere

Part 2:	**Supporting Information**
Permit Number:	**PPC/093 Variation 002**
Operator:	**Coventry Castings Ltd**
Installation:	**Coventry**
Emission Point:	**H**
Monitoring Date:	**10th August 2012**

UKAS TESTING
1709

MCERTS

Contract Reference:	FTBS22374
Operator:	Coventry Castings Ltd
Address:	Barlow Road Aldermans Green Industrial Estate Coventry CV2 2LD
Monitoring Organisation:	RPS Consultants
Address:	Noble House, Capital Drive, Linford Wood, MK14 6QP
Report Date:	4th September 2012
Report Approved By:	Edwin Powell
Position:	Consultant
MCERTS Registration Number:	MM 05 621
MCERTS Certification Level:	2
Technical Endorsements:	TE 1,2,3 & 4
Signature:	[redacted]

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APPENDIX 1: General Information

Monitoring Organisation Staff Details

Table 5.1 Sampling Personnel

Sampling Personnel	Position	MCERTS Level	Technical Endorsements	Expiry Dates	MCERTS Registration Number
Richard Carter	Consultant	Level 2	TE1, TE2, TE3, TE4	12/06/13 09/09/13 03/12/14 18/03/15	MM 07 861
Luke Prowse	Trainee Technician	-	-	-	MM 11 1145

Table 5.2 Report Author

Report Author	Position	MCERTS Level	Technical Endorsements	Expiry Dates	MCERTS Registration Number
Richard Carter	Consultant	Level 2	TE1, TE2, TE3, TE4	12/06/13 09/09/13 03/12/14 18/03/15	MM 07 861

Table 5.3 Report Reviewer

Report Reviewer	Position	MCERTS Level	Technical Endorsements	Expiry Dates	MCERTS Registration Number
Edwin Powell	Consultant	Level 2	TE1, TE2, TE3, TE4	10/12/12 10/12/12 10/12/12 10/12/12	MM 05 621

Monitoring Organisation Method Details

Table 6.1 Monitoring Methods

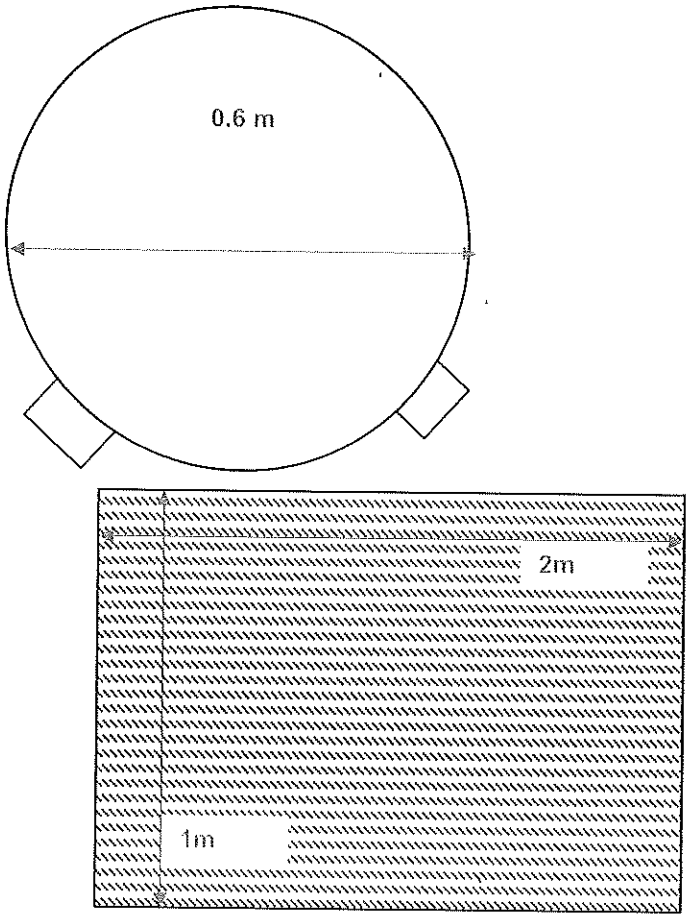
Emission Parameter	Standard Method	Monitoring Procedure No.	Monitoring Accreditation	Analysis	Analysis Procedure No.	Analytical Laboratory	Analysis Accreditaton
Practical Considerations Prior to Monitoring	N/A	RPSCE/1/1	UKAS	N/A	N/A	N/A	N/A
Gas Flows	BS-EN 13284-1:2001	RPSCE/1/2	MCERTS	N/A	N/A	N/A	N/A
Gas Temperatures	BS-EN 13284-1:2001	RPSCE/1/2	MCERTS	N/A	N/A	N/A	N/A
Hydrogen Sulphide	USEPA M11	RPSCE/1/17	UKAS	Colourimetry	BLM256	Butterworths	UKAS
Low Concentration Total Particulate Matter	BS EN 13284-1:2002	RPSCE/1/7c	MCERTS	Gravimetric	D9	RPS Laboratories	UKAS

Table 7.1 – Checklist Used

Equipment Checklist Used	File Location Address
FTBS22374 Checklist	FTBS22374 Electronic & Work File

APPENDIX 2:
H Sampling, Analysis & Uncertainty Data

Stack Diagram



Company Name: Coventry Castings Ltd
Site Ref: Coventry
Sampling Point Ref: H
Project Ref: ITES22374

Date: 10/09/12
Run 123

Stack Static press mm H_2O: 1.2

Stack Diameter (m): 0.6
Stack Area (m2): 0.283

Traverse Point No	Port A			Port B		
	Δp, mm H_2O	Root Δp	Stack Temp °C	Δp, mm H_2O	Root Δp	Stack Temp °C
1	1.2	1.095	28			
2	1	1.000	28			
3	3.6	1.897	28			
4	3.6	1.949	28			
5						
6						
7						
8						
9						
10						
Minimum	1.0	1.000	28	0.0	0.000	0
Maximum	3.6	1.949	28	0.0	0.000	0
Mean	2.4	1.486	28.0	#DIV/0!	#DIV/0!	#DIV/0!
Sum	9.6	5.942	112	0	0.000	0
Total Sum						

Max. pitot press. =	3.6
Min pitot press =	1.0
Ratio Max:Min =	3.6 :1

Gas Data

Oxygen %	21.0
CO_2 %	0.04
CO %	

Oxygen Correction

Required Correction Value	0
Actual Oxygen Factor	1
Enter 0 if correction is not required	

BS EN 13284-1 & MI Sample Point Requirements	Requirement Met?
Duct gas Flow angle with regard to duct access <15°?	Y
Duct Gas Flow Negative Velocity Not Permitted	Y
Duct Gas Flow Ratio of max to min velocity <3:1?	N
Working Area > 5m²?	N
Handrails with removable chains / self closing gates across the top of the ladder?	N
Handrails (approx 0.5 and 1.0 m high) and vertical base boards (approx 0.25m high)?	N
Scaffold Built to Heavy Duty Scaffold rating or 2.5kN/m² load rating minimum	N/A
Handrails not restricting access to ports?	N
Room opposite sampling port equal to or greater than the length of the sampling probe plus 1 metre?	N
Sufficient Power (Waterproof 110V BS4343 Standard) close or on the platform?	Y

Company Name: Coventry Castings Ltd		In-stack Filter?	n	Bar Pressure mm Hg	763	K Factor	0	Ambient Temp	25	Leak Rate (in / %)	0
Site Ref: Coventry											
Sampling Point Ref: H		Outstack Filter?	y	Cp	0	Dp used	0	Start Time	9:05	Leak Rate (start / %)	0
Date: 12/09/12											
Run: H2S		Operators:	RC LP	Bws %	0	Nozzle No.	0	Stop Time	12.23	Bag/Probe setting	160 +/- 5 oC
Project Ref: PTBS12374						Meter Correction Yd	1.005				

Impinger Weighings

Weights	Initial	Final	Increase, mg
Impinger 1	656.3	658.5	1.6
Impinger 2			0
Impinger 3			0
Impinger 4			0
Impinger 5			0
Silica Gel			0
		Total	1.6

Sample Impinger & Wash Solution Analysis

	Analysis Result (mg)	Analysis Blank Results (mg)	Result (mg)
IMPINGER 1	0.11	0.126	0.1100
IMPINGER 2	0.056	0	0.0560

Sample Point	Clock Time min	Pitot Δp mm H_2O	Stack Temp. °C	Orifice Δ H mm H_2O		Gas Meter Reading m^3	Temp at Gas Meter Outlet °C	Condenser Temp °C	Filt. Box Temp °C	Probe Temp °C	Pump Vacuum Inches Hg	Impinger Stem Temp. °C	Point Δp
				Desired	Actual								
	0			0.0	1.0	0	28		120	120	2	16	0.000
	15			0.0	1.0	"	24		120	120	2	12	0.000
	30			0.0	1.0	"	24		120	120	2	12	0.000
	45			0.0	1.0	"	24		120	120	2	12	0.000
	60			0.0	1.0	"	24		120	120	2	13	0.000
	75			0.0	1.0	"	24		120	120	2	14	0.000
	90			0.0	1.0	"	25		120	120	2	14	0.000
	105			0.0	1.0	"	25		120	120	2	15	0.000
	120			0.0	1.0	"	25		120	120	2	15	0.000
	135			0.0	1.0	"	26		120	120	2	16	0.000
Endpoint	150					116.369							
	135.00	#DIV/0!	#DIV/0!	0.0	1.0	0.116	24.7		120.0	120.0	2.0	13.9	0.0

Company Name: Coventry Castings Ltd
Site Ref: Coventry
Project Ref: FTBS22374

Date: 10/08/12

Sampling Point Ref: H	Run: H2S
Meter Volume Sampled, acm	0.116
Sample Run Start Time	9:58
Sample Run End Time	12:23
Total Actual Sampling Time, min	135.0
Barometric Pressure, mm Hg	760.00
Stack Pressure, mm Hg	760.09
Average Stack Temp, °C	#DIV/0!
Meter Volume at Wet STP, scm	0.109
Stack Moisture Content, %	1.8
Average Stack Velocity, m/sec	#DIV/0!
Stack Flow Rate, acms	#DIV/0!
Stack Flow Rate, scms wet	#DIV/0!
Emission Limit value	**3.300**

SAMPLE RUN CONCENTRATIONS & MASS EMISSION RATES

Analyte	Concentration, mg/m3 Particulate Phase	Concentration, mg/m3 Vapour Phase	Mass Emissions, Kg/hr
IMPINGER 1	N/a	1.01	**#DIV/0!**
IMPINGER 2	N/a	0.51	**#DIV/0!**
% of Analyte in Impinger 2	N/a	33.73	**N/a**
SUM	**N/a**	**1.52**	**#DIV/0!**

SAMPLE BLANK CONCENTRATIONS & MASS EMISSIONS RATES

Analyte	Concentration, mg/m3 Particulate Phase	Concentration, mg/m3 Vapour Phase	Mass Emissions, Kg/hr
IMPINGER 1	N/a	1.152949815	**#DIV/0!**
IMPINGER 2	N/a	0	**#DIV/0!**
SUM	**N/a**	**1.152949815**	**#DIV/0!**

Uncertainty Calculation for [ENTER NAME HERE]

Determined Concentration	1.5	mg/m3 (at Reference Cond)

Measured Values		
Sampled Volume	0.116309	m^3
Sampled gas Temperature	297.7	k
Sampled gas Pressure	101.34	kPa
Sampled gas Humidity	0	% by volume
Oxygen content	21	% by volume
Concentration in Impinger 1	2	mg/l
Concentration in Impinger 2	2	mg/l
Volume in Impingers	0.093	litre
Total Mass	0.186	mg

Leak	0.03	%

Standard Uncertainties for Measured Values		
Sampled Volume	0.001	m3
Sampled gas Temperature	2	k
Sampled gas Pressure	1	kPa
Sampled gas Humidity	1	% by volume
Oxygen content	0.1	% by volume
Concentration in Impinger		%
Volume in Impinger	0.001	litre
Mass	0.002	mg

Uncertainty Calculation for Volume Correction			
Volume Correction Factor	0.917		
	Sensitivity Coefficient		Uncertainty, Uv
Sampled gas Temperature	0.0031		0.0062
Sampled gas Pressure	0.0091		0.0091
Sampled gas Humidity	0.0092		0.0092
		Sqrt (Uv)^2	0.0143
		Total Uv	0.002

Uncertainty Calculation for Oxygen Correction			
Oxygen Correction Factor	1.0000		
	Sensitivity Coefficient		Uncertainty, Uo
Oxygen Measurement	1		0
		Total Uo	0

Uncertainty Contributions (Itemised)						
	Value		Sensitivity coefficient	Uncertainty Contribution		
				Concentration		%
Volume Correction	0.107	m3	14.16	0.03	$mg.m^{-3}$	1.81 %
Mass Analyte	0.17	mg	9.15	0.02	$mg.m^{-3}$	1.10 %
Oxygen Correction	1.0000		1.52	0.00	$mg.m^{-3}$	0.00 %
System Leak	0.00	$mg.m^{-3}$	1.00	0.00	$mg.m^{-3}$	0.00 %
			Total Uncertainty	0.03	$mg.m^{-3}$	

Uncertainty Result (Uncertainty has been expanded with a coverage factor of 2 (K=2))

Expanded Uncertainty =	0.0543	$mg.m^{-3}$
=>	4.23	% of Result
=>	1.95	% of ELV

Company Name: Coventry Castings Ltd
Site Ref: Coventry
Sampling Point Ref: H
Project Ref: [illegible]

Date: 13/08/12
By: TPM

Stack Stasc press mm H_2O: 1.2
Stack Diameter (m): 0.60
Stack Area (m^2): 0.283

Traverse Point No	Port A			Port B		
	Δ p, mm H_2O	Root Δ p	Stack Temp °C	Δ p, mm H_2O	Root Δ p	Stack Temp °C
1	1.2	1.095	28			
2	1	1.000	28			
3	3.8	1.897	28			
4	3.8	1.949	28			
5						
6						
7						
8						
9						
10						
Minimum	1.0	1.000	28	0.0	0.000	0
Maximum	3.8	1.949	28	0.0	0.000	0
Mean	**2.4**	**1.486**	**28.0**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**
Sum	9.8	5.942	112	0	0.000	0
Total Sum						

Max. pitot press. =	3.8
Min. pitot press. =	1.0
Ratio Max:Min =	3.8 : 1

Gas Data

Oxygen %	21.0
CO_2 %	0.04
CO %	

Oxygen Correction

Required Correction Value	0
Actual Oxygen Factor	1
Enter 0 if correction is not required	

BS EN 15284-1 & M1 Sample Point Requirements	Requirement Met?
Duct gas Flow angle with regard to duct access <15°?	Y
Duct Gas Flow Negative Velocity: Not Permitted	Y
Duct Gas Flow Ratio of max to min velocity <3:1?	Y
Working Area > $5m^2$?	N
Handrails with removable chains / self closing gates across the top of the ladder?	N
Handrails (approx 0.5 and 1.0 m high) and vertical baseboards (approx 0.25m high)?	N
Scaffold Built to 'Heavy Duty' Scaftag Rating or at least 2.5kN/m2 loading	N/A
Handrails not restricting access to ports?	N
Room opposite sampling port equal or greater than the length of the sampling probe plus 1 metre?	N
Sufficient Power (Waterproof 110V BS4343 Standard) close at on the platform?	Y

Company Name: Coventry Castings Ltd	Instack Filter?	[illegible]	Bar. Pressure in Hg	751	K Factor	[illegible]	Ambient Temp	25	Leak Rate (ln f %)	0.[illegible]
Site Ref: Coventry										
Sampling Point Ref: H	Outstack Filter?	[illegible]	Cp	0.849	Dn used	[illegible]	Start Time	10.02	Leak Rate (start %)	0
Date: 13/08/12										
Run: TPM	Operators	RC LF	Dwr%		Nozzle No		Stop Time	12:27	Box/Probe setting	[illegible]
Project Ref: FTBS22374					Meter Correction Yd	0.95				

Sample Filter Weights

	Reference	Laboratory	Increase, mg
Filter	37916	RPS	25.16
Probe Washings	T20000808	RPS	1.9

Sample Filter Blank Weighings

	Reference	Laboratory	Increase, mg
Filter	t30000863	RPS	0.05
Probe Wash	#REF!	RPS	0.6

Impinger Weights

Weights	Initial	Final	Increase, g
Impinger 1			0.0
Impinger 2			0.0
Impinger 3			0.0
Impinger 4			0.0
Impinger 5			0.0
Silica Gel			0.0
		Total	0.0

Sample Point	Clock Time min	Pitot Δp, mm H_2O	Stack Temp, °C	Orifice ΔH, mm H_2O Desired	Orifice ΔH, mm H_2O Actual	Gas Meter Reading ft^3	Temp at Gas Meter Outlet °C	Condenser Temp °C	Filter Box Temp °C	Probe Temp °C	Pump Vacuum Inches Hg	Impinger Stem Temp. °C	Root Δ.A.
	0	2.0	24	47.5	47.5	979649.2	29	n/A	n/A	n/A	4.5	15	1.414
	15	2.0	29	47.5	47.5		32	n/A	n/A	n/A	4.5	14	1.414
	30	2.0	[illegible]	47.5	47.5		34	n/A	n/A	n/A	4.5	14	1.414
	45	2.0	[illegible]	47.5	47.5		37	n/A	n/A	n/A	5	14	1.414
	60	2.0	[illegible]	47.5	47.5		40	n/A	n/A	n/A	5.5	15	1.414
	75	2.0	[illegible]	47.5	47.5		41	n/A	n/A	n/A	6	16	1.414
	90	2.0	[illegible]	47.5	47.5		42	n/A	n/A	n/A	6	16	1.414
	105	2.0	[illegible]	47.5	47.5		42	n/A	n/A	n/A	6	16	1.414
	120	2.0	31	47.5	47.5		42	n/A	n/A	n/A	6.5	16	1.414
	135	2.0	[illegible]	47.5	47.5		42	n/A	n/A	n/A	7	16	1.414
Endpoint	150					982941.9							
	135.00	2.0	30.0	47.5	47.6	3.093	38.1	#DIV/0!	#DIV/0!	#DIV/0!	5.6	15.2	1.4

Company Name: Coventry Castings Ltd
Site Ref: Coventry
Project Ref: FTBS22374

Date: 10/08/12

Sampling Point Ref: H	Run: TPM
Meter Volume Sampled, acm	3.093
Sample Run Start Time	10:02
Sample Run End Time	12:27
Total Actual Sampling Time, min	135.0
Barometric Pressure, mm Hg	761.00
Stack Pressure, mm Hg	761.09
Average Stack Temp, °C	30.0
Meter Volume at STP, scm	2.674
Stack Moisture Content, %	1.8
Average Stack Velocity, m/sec	4.942
Stack Flow Rate, scms dry,STP	1.237
Nozzle Diameter, mm	9.98
% Isokinetic Variation	**96**
Total Mass of Particulate, mg	28.1
Percentage of Total Particulate Collected on Filter	93.2
Stack Particulate Concentration, mg/m^3	**10.5**
Particulate Mass rate, kg/hour	0.047
Emission Limit value	**20**

Sample Train Blank Results	
Sample Blank Particulate Concentration, mg/m^3	0.2
Total Weight Gain, mg (Sample Train Blank)	0.7
Blank Result Less than 10% of Limit Value	Y

Uncertainty Calculation for Total Particulate Matter to BS EN 13284-1

Determined Concentration	16.5	mg/m3 (at Reference Cond)

Measured Values

Sampled Volume	3.0927	m^3
Sampled gas Temperature	311.1	k
Sampled gas Pressure	101.48	kPa
Sampled gas Humidity	0	% by volume
Oxygen content	21	% by volume
Mass	23.08	mg

Leak	0.00	%
Uncollected Mass	0	mg

Standard Uncertainties for Measured Values

Sampled Volume	0.001	m3
Sampled gas Temperature	2	k
Sampled gas Pressure	1	kPa
Sampled gas Humidity	1	% by volume
Oxygen content	0.1	% by volume
Mass	0.14152095	mg

Uncertainty Calculation for Volume Correction

Volume Correction Factor:	0.870		
	Sensitivity Coefficient		**Uncertainty, Uv**
Sampled gas Temperature	0.0023		0.0057
Sampled gas Pressure	0.0007		0.0007
Sampled gas Humidity	0.0083		0.0083
		Sqrt (Uv)^2	0.0136
		Total Uv	**0.042**

Uncertainty Calculation for Oxygen Correction

Oxygen Correction Factor:	1.0030		
	Sensitivity Coefficient		**Uncertainty, Uo**
Oxygen Measurement	N/A		N/A
		Total Uo	**N/A**

Uncertainty Contributions (itemised)

	Value		Sensitivity coefficient	Uncertainty Contribution	
				Concentration	%
Volume Correction	2.874	m3	3.80	0.16 mg.m^{-3}	1.57 %
Mass (weighing)	23.00	mg	0.37	0.05 mg.m^{-3}	0.80 %
Oxygen Correction	N/A		0.00	0.00 mg.m^{-3}	0.00 %
System Leak	0.00	mg.m^{-3}	1.00	0.00 mg.m^{-3}	0.00 %
Uncollected Mass	0.00	mg	0.37	0.00 mg.m^{-3}	0.00 %
			Total Uncertainty	**0.17 mg.m^{-3}**	

Uncertainty Result (Uncertainty has been expanded with a coverage factor of 2 (K=2))

Expanded Uncertainty =	**0.35**	**mg.m^{-3}**	
	⇒	**3.30**	**% of Result**
	⇒	**0.00**	**% of ELV**

RPS Laboratories

UKAS TESTING 0004

Test Certificate

Date 25/06/2012

Client	RPS Milton Keynes (SEE) Nicole House Capital Drive Linford Wood Milton Keynes MK14 6QP	Order No.	F1BS 22374
		Certificate No.	WK12 5238
		Issue No.	1
Contact	Richard Carter	Date Received	20/06/2012
Description	2 filters & 2 solutions for TPM	Technique	Gravimetric Stack

Sample No.	710341	086676	Method
Total particulate matter		0.05 mg	DS(U)
Sample No.	710342	T30000865	Method
Total particulate matter		0.6 mg	DS(U)
Sample No.	710343	087916	Method
Total particulate matter		26.18 mg	DS(U)
Sample No.	710344	T30000888	Method
Total particulate matter		1.9 mg	DS(U)

RPS Laboratories Ltd, Unit 12, Waters Edge Business Park, Modwen Road, Salford, M5 3EZ
Tel: (0161) 872 2443 Fax: (0161) 877 3958

Test Certificate

Date 29/08/2012

Client	RPS Milton Keynes HSED	Certificate No	WK12-5239
		Issue No	1

Tested By	Christopher Forshaw	Date	29/08/2012
Approved By	[redacted]	Date	29/08/2012

Joanne Dewhurst
Laboratory Manager

For and on authority of RPS Laboratories Ltd

Method Symbols
(U) Analysis is UKAS Accredited
(N) Analysis is not UKAS Accredited

Concentration values (mg/m3 and ppm) are provided to assist with interpretation only, they are not covered by the scope of UKAS accreditation.

Results stated as [illegible] are referring to the sample volume

RPS Laboratories terms and conditions apply - A copy is available on request.

Analyses carried out on samples as received

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Job Ref:	**1208-0133**
Report Ref.	RN-02277-12
Date Issued.	3 September 2012
Order Ref.	TOW 14651

For attention of R Carter

Samples of: Zinc Acetate Solutions
Date Received: 20 August 2012
Analysis Started: 3 September 2012

Analysis Completed: 3 September 2012

BL Ref	Sample ID	Test	Results
08-0389-12	Job Ref: FTBS 22374 Sample Ref: T30000864	Hydrogen Sulphide	< 2 mg/l
		Initial sample volume	63 ml
08-0390-12	Job Ref: FTBS 22374 Sample Ref: T30000866	Hydrogen Sulphide	<2 mg/l
		Initial sample volume	55 ml
08-0391-12	Job Ref: FTBS 22374 Sample Ref: T30000867	Hydrogen Sulphide	< 2 mg/l
		Initial sample volume	28 ml

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Registered in England & Wales
Company Registration No. [illegible]

Job .«ef: **1208-0133**
Report Ref: RN-02277-12 (continued)

Results relate to sample(s) as received.

Sample(s) analysed in accordance with in house method BLM 470 (issue 1).

[redacted]
Tim Goddard
Laboratory Manager
General & Inorganic Chemistry

[redacted]
David A Riches
Head of Analytical Operations
Issued for and on behalf of Butterworth Laboratories Ltd

Encl. Raw Data Pack.