Report for Periodic Monitoring of Emissions to Atmosphere

Part 1:	**Executive Summary**
Permit Number:	**PPC/028**
Operator:	**Atritor Limited**
Installation:	**Edgewick Park Industrial Estate, Coventry**
Emission Point:	**PMA 1 Main Scrubber Exhaust**
Monitoring Date:	**19th August 2008**

1709

1709

Contract Reference:	FTBS 7246
Operator:	Atritor Limited
Address:	Edgewick Park Industrial Estate Canal Road Coventry CV6 5RD
Monitoring Organisation:	RPS Health, Safety & Environment
Address:	Steadings Barn, Pury Hill Business Park, nr Alderton, Towcester, Northamptonshire, NN12 7LS
Report Date:	24th September 2008
Report Approved By:	Martin Johnson
Position:	Senior Consultant
MCERTS Registration No.:	MM03 168
Signature:	[redacted]

RPS Health, Safety and Environment has produced this report within the term of the contract with the client and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

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Part 1: Executive Summary

Monitoring Objectives

At the request of Mr B. Percival of Atritor Ltd., RPS Health, Safety and Environment conducted air emission monitoring at the Edgewick Park Industrial Estate site, Coventry in August 2008

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 parameters requested for monitoring at each emission point and the actual monitoring conducted are detailed below.

Table 1

Parameters Requested to be Monitored	**PMA 1 – Main Scrubber Exhaust**
Total Particulate Matter	✓
Specific Requirements	Normal Operating Conditions

Notes:
✓ *Represents the actual parameters monitored*
✖ *Represent parameters requested but not actually monitored*

Monitoring Results

Table 2 – Monitoring Results from the PMA 1 – Main Scrubber Exhaust at Atritor Ltd., Coventry in August 2008

Substance Monitored	Emission Limit Value	Periodic Monitoring Result	Units	Uncertainty (mg/m^3) #	Reference Conditions 273K, 101.3kPa…	Sampling Date	Sampling Times	Monitoring Reference Method	Accreditation Status	Operating Status
Total Particulate Matter	50	19	mg/m^3	2.8	wet gas, without correction for oxygen	19-Aug-08	11:40-13:40 β	BS-EN 13284-1 2001	MCERTS	See Table 3
Linear velocity within Scrubber unit	9 (maximum)	4.4 *	m/sec	-	-		-	BS-EN 13284-1 2001	MCERTS	See Table 3
Efflux Velocity at Stack Exhaust Exit	15 (minimum)	15.1 @	m/sec	-	-		-	BS-EN 13284-1 2001	MCERTS	See Table 3

Notes:
The uncertainty associated with the quoted result is at the 95% confidence interval.
* *Figure calculated from volumetric flow rate at sample plane and cross sectional area of scrubber unit.*
@ *Figure calculated from volumetric flow rate at sample plane and cross sectional area of duct at exit point.*
β *Actual sampling time was 90 minutes*

Operating Information

Table 3 – Operating Information During Monitoring of the PMA 1 – Main Scrubber Exhaust at Atritor Ltd., Coventry in August 2008

Parameter	Result
Sample Date	19th August 2008
Process Type	Batch process 11:40 – 12:00 - Knocking out 12:30 – 13:40 – Melting/pouring
Process Duration	~ 1.5 hours
If 'Batch', was monitoring carried out over the whole batch?	Yes
If 'No', give details	-
Abatement/Operational?	Wet Scrubber / Yes
Fuel Type	N/A
Feedstock	White Iron
Load	N/K
Throughput	N/K
Continuous Rating	N/A

Monitoring Deviations

Table 4 – Monitoring Deviations During Monitoring of the PMA 1 – Main Scrubber Exhaust at Atritor Ltd., Coventry in August 2008

Substance Deviations	Monitoring Deviations	Other Relevant Issues
	Due to the position of the current sample position (upstream of the fan) the pump of the sample train had to be started shortly before the probe was inserted into the duct. This is a deviation from the procedural requirements of BSEN 13284.	

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Part 2:	**Supporting Information**
Permit Number:	**PPC/028**
Operator:	**Atritor Limited**
Installation:	**Edgewick Park Industrial Estate, Coventry**
Emission Point:	**PMA 1 Main Scrubber Exhaust**
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Part 2: Supporting Information

APPENDIX 1: General Information

Monitoring Organisation Staff Details

Table 5

Site Team	Position	MCERTS Level	Technical Endorsements	MCERTS Registration Number
Martin Johnson	Senior Consultant	2	1, 2, 3 & 4	MM 03 168
Bradley Atkins	Technician	2	2	MM 06 780

Report Author	Position	MCERTS Level	Technical Endorsements	MCERTS Registration Number
Richard Harvey	Senior Consultant	2	1, 2, 3 & 4	MM 02 020

Report Reviewer	Position	MCERTS Level	Technical Endorsements	MCERTS Registration Number
Martin Johnson	Senior Consultant	2	1, 2, 3 & 4	MM 03 168

Monitoring Organisation Method Details

Table 6

Emission Parameter	Standard Method	Monitoring Procedure No.	Monitoring Accreditation Status	Analysis Technique	Analysis Procedure No.	Analytical Laboratory	Analysis Accreditation Status
Practical Considerations Prior to Monitoring	N/A	RPSCE/1/1	MCERTS	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
Total Particulate Matter	BS EN 13284-1:2001	RPSCE/1/7c	MCERTS	Gravimetric	D9	RPS Laboratories, Manchester	UKAS

APPENDIX 2: Emission Point PMA 1 Main Scrubber Exhaust

Stack Gas Measurements

Table 7 - Temperature and Velocity Profile

Results of Gas Flows and Gas Temperatures Measured from the PMA 1 – Main Scrubber Exhaust at Atritor Ltd., Coventry on the 19th August 2008

Traverse Point (m)	Sample Line A				Sample Line B			
	T (°C)	ΔP (mm H_2O)	Neg. Flow?	Spin <15°	T (°C)	ΔP (mm H_2O)	Neg. Flow?	Spin <15°
0.05	15	8.8	No	No	16	19	No	No
0.09	15	8.2	No	No	16	18	No	No
0.18	15	7.9	No	No	16	20	No	No
0.26	15	7.0	No	No	16	20	No	No
0.35	15	6.2	No	No	16	20	No	No
0.44	16	6.0	No	No	16	11	No	No
0.53	16	6.9	No	No	16	12	No	No
0.61	16	7.2	No	No	16	23	No	No

Barometric pressure (kPa)	98.7
Static Pressure (mm H_2O)	-ve 220
Stack Dimension ∅ (m)	0.70 x 0.76

Table 8 - Gas Measurements (continued)

Results of Total Particulate Matter and General Emission Parameters Measured from the PMA 1 – Main Scrubber Exhaust at Atritor Ltd., Coventry on the 19th August 2008

Emission Parameter	Units	Mean Result
Sample Date	-	19th Aug 2008
Sample Period	-	11:40 – 13:40 β
Barometric Pressure	kPa	98.7
Internal Area Of Duct	m^2	0.53
Isokinetic Ratio	%	96
Stack Moisture Content	%	0.7
Stack Temperature	^oC	20
Gas Velocity (as measured at sampling plane)	m/sec	13
Volumetric Flowrate (as measured)	m^3/sec	6.9
Volumetric Flowrate (at reference conditions)	m^3/sec*	6.1
Total Particulate Matter Mass Emission	kg/hr	0.42
Total Particulate Matter Concentration	mg/m^3*	19

Notes:
* *Reference conditions expressed as 273 K, 101.3 kPa, wet gas, without correction for oxygen*
β *Actual sampling time was 90 minutes*

Reportable Blank Results

Table 9 - Results of the Reportable Blank Concentrations for Total Particulate Matter taken for the PMA 1 – Main Scrubber Exhaust at Atritor Ltd., Coventry in August 2008

Emission Parameter	Sample Date	Units*	Blank Concentration
Total Particulate Matter	19th Aug 2008	mg/m^3	<0.27

Notes:
* *Reference conditions expressed as 273 K, 101.3 kPa, wet gas, without correction for oxygen.*

Certificates of Analyses

RPS Laboratories
ANALYTICAL SERVICES

0605

Date 03/09/2008

Test Certificate

Client	RPS Towcester Steadings Barn Pury Hill Business Park Nr Alderton Towcester NN12 7LS	Order No.	FTBS7246
		Certificate No.	WK08-6039
		Issue No.	1
Contact	Bradley Atkins	Date Received	21/08/2008
Description	2 filters & 2 washes for TPM	Technique	Gravimetric

Sample No.	513208	037476	Method
Total particulate matter	29.97 mg		D9(U)

Sample No.	513209	T113690	Method
Total particulate matter	13.7 mg		D9(U)

Sample No.	513210	040740	Method
Total particulate matter	<0.1 mg		D9(U)

Sample No.	513211	T113691	Method
Total particulate matter	<0.5 mg		D9(U)

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Tel: (0161) 872 2443 Fax: (0161) 877 3959

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Date 03/09/2008

Test Certificate

Client	RPS Towcester	Certificate No.	WK08-6039
		Issue No.	1

Tested By	Paul Robertson	Date	02/09/2008
Approved By	[redacted]	Date	03/09/2008

Andrew Chalmers
Senior Chemist

For and on authority of RPS Laboratories Ltd.

Standard terms and conditions are applicable, a copy is available on request.

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

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

Analysis carried out on samples 'as received'

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