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Report for Periodic Monitoring of Emissions to Atmosphere

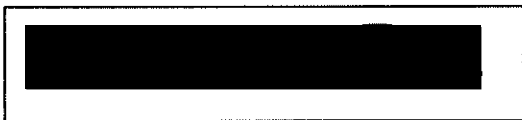
Part 1: **Executive Summary**
Permit Number: **PPC/093, variation 002**
Operator: **Coventry Castings Ltd**
Installation: **Barlow Road, Coventry**
Emission Point: **Furnace Extraction Stack - H**
Monitoring Date: **10th September 2009**



1709



1709

Contract Reference: FTBS 9698
Operator: Coventry Castings Ltd
Address: Barlow Road
Aldermans Green Industrial Estate
Aldermans Green
Coventry
CV2 2LD
Monitoring Organisation: RPS Consultants Ltd.
Address: Grafton Building, Caswell Science and Technology Park, Caswell,
Towcester, Northants, NN12 8EQ
Report Date: 3rd November 2009
Report Approved By: Carl Redgrove
Position: Senior Consultant
MCERTS Qualification: Level 2 TE1, 2, 3 & 4
MCERTS Registration No.: MM 03 173
Signature: 

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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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Monitoring Objectives

At the request of Mr Ian Reid of Coventry Castings, RPS Consultants Ltd. conducted air emission monitoring at the Coventry site, Warwickshire in September 2009

The monitoring programme at this installation was carried out to provide data on the emissions to atmosphere from the Furnace Extraction Stack – H.

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

Table 1

Parameters Requested to be Monitored	Emission Point
	Furnace Extraction Stack - H
Total Particulate Matter	✓
Hydrogen Sulphide	✓
Specific Requirements	See table 3

Notes:

✓ Represents the actual parameters monitored

Monitoring Results

Table 2 – Monitoring Results from the Furnace Extraction Stack - H at Coventry Castings, Coventry in September 2009

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	20	5.9	mg/m ³	-	wet gas, without correction for oxygen	10-Sept-09	12:28 – 14:48	BS-EN 13284-1 2002	MCERTS	See table 3
Hydrogen Sulphide	5	<0.52	ppm	-	wet gas, without correction for oxygen	10-Sept-09	12:31 – 14:48	USEPA M11	UKAS	See table 3

Notes:

The uncertainty associated with the quoted result is at the 95% confidence interval

Operating Information

Table 3 – Operating Information During Monitoring of the Furnace Extraction Stack - H at Coventry Castings, Coventry in September 2009

Parameter	Result
Sample Date	10-Sept-09
Process Type	Scrap steel was melted in the electric induction furnace to >1420°C. After drossing, the melt was transferred to a 600kg ladle. This was covered with an exothermic flux. The remaining melt was transferred to a large sand cast.
Process Duration	Entire Process: 12:30 – 14:48 Melting Phase: 12:30 – 14:26 Drossing Phase: 14:26 – 14:30 Transfer Phase 14:30 – 14:40
If 'Batch', was monitoring carried out over the whole batch?	Yes – covered melting (from cold), drossing and transfer stages
If 'No', give details	N/A
Abatement/Operational?	None
Fuel Type	N/A (electric coreless induction furnace)
Feedstock	Scrap Steel
Load	Approx. 1 tonne loads
Throughput	N/A
Continuous Rating	N/A

Monitoring Deviations

Table 4 – Monitoring Deviations During Monitoring of the Furnace Extraction Stack - H at Coventry Castings, Coventry in September 2009

Substance Deviations	Monitoring Deviations	Other Relevant Issues
NA	Only one sampling line monitored due to orientation of ports and location of platform. As a result of this an uncertainty of measurement calculation cannot be applied.	NA

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Part 2: Supporting Information
Permit Number: PPC/093, variation 002
Operator: Coventry Castings Ltd
Installation: Barlow Road, Coventry
Emission Point: Furnace Extraction Stack - H
Monitoring Date: 10th September 2009



1709



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Contract Reference: FTBS 9968
Operator: Coventry Castings Ltd
Address: Barlow Road
Aldermans Green Industrial Estate
Aldermans Green
Coventry
CV2 2LD
Monitoring Organisation: RPS Consultants Ltd.
Address: Grafton Building, Caswell Science and Technology Park, Caswell,
Towcester, Northants, NN12 8EQ
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APPENDIX 1: General Information

Monitoring Organisation Staff Details

Table 5

Site Team	Position	MCERTS Level	Technical Endorsements	MCERTS Registration Number
Ed Powell	Consultant	2	1, 2, 3 & 4	MM 05 621
Richard Carter	Consultant	2	1 & 2	MM 07 861

Report Author	Position	MCERTS Level	Technical Endorsements	MCERTS Registration Number
Richard Carter	Consultant	2	1 & 2	MM 07 861

Report Reviewer	Position	MCERTS Level	Technical Endorsements	MCERTS Registration Number
Carl Redgrove	Senior Consultant	2	1, 2, 3 & 4	MM 03 173

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
Hydrogen Sulphide	USEPA M11	RPSCE/1/17	UKAS	Colourimetry	BLM 256	Butterworth Labs	UKAS

APPENDIX 2: Emission Point Furnace Extraction Stack - H

Stack Gas Measurements

Table 7 - Temperature and Velocity Profile

Results of Gas Flows and Gas Temperatures Measured from the Furnace Extraction Stack - H at Coventry Castings Ltd, Coventry on the 10th September 2009

Traverse Point (m)	Sample Line A				Sample Line B			
	T (°C)	ΔP (mm H ₂ O)	Neg. Flow?	Spin <15°	T (°C)	ΔP (mm H ₂ O)	Neg. Flow?	Spin <15°
0.04	18	0.6	No	Yes	Due to location of platform Sample Line B is inaccessible			
0.17	18	0.4	No	Yes				
0.50	18	4.2	No	Yes				
0.62	18	7.0	No	Yes				

Barometric pressure (kPa)	102.7
Static Pressure (mm H₂O)	+ve 2.5
Stack Dimension (m)	0.66

Table 8 - Gas Measurements (continued)

Results of Total Particulate Matter, Hydrogen Sulphide and General Emission Parameters Measured from the Furnace Extraction Stack - H at Coventry Castings Ltd, Coventry on the 10th September 2009

Emission Parameter	Units	Mean Result
Sample Date	-	10-Sept-09
Sample Period	-	12:28 – 14:48
Barometric Pressure	kPa	102.7
Internal Area Of Duct	m ²	0.34
Isokinetic Ratio	%	102
Stack Moisture Content	%	< 1.0
Stack Temperature	°C	23
Gas Velocity (as measured at sampling plane)	m/sec	5.1
Volumetric Flowrate (as measured)	m ³ /sec	1.8
Volumetric Flowrate (at reference conditions)	m ³ /sec*	1.6
Total Particulate Matter		
Total Particulate Matter Mass Emission	kg/hr	0.034
Total Particulate Matter Concentration	mg/m ³ *	5.9
Hydrogen Sulphide		
Hydrogen Sulphide Mass Emission	kg/hr	<0.0047
Hydrogen Sulphide Concentration	mg/m ³ *	<0.80

Notes:

* Reference conditions expressed as 273 K, 101.3 kPa, wet gas without oxygen correction

Reportable Blank Results

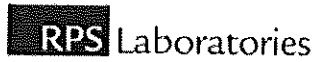
Table 9 - Results of the Reportable Blank Concentrations for Total Particulate Matter and Hydrogen Sulphide taken for the Furnace Extraction Stack - H at Coventry Castings Ltd, Coventry on the 10th September 2009

Emission Parameter	Sample Date	Units*	Blank Concentration
Total Particulate Matter	10-Sept	mg/m ³	<0.15
Hydrogen Sulphide	10-Sept	mg/m ³	<0.80

Notes:

* Reference conditions expressed as 273 K, 101.3 kPa, wet gas without oxygen correction

Certificate(s) of Analyses



Test Certificate

Date 25/09/2009

Client	RPS Toxester Sleedings Barr Pury Hill Business Park Nr Alderton Toxester NN12 7LS	Order No	FTBS 9698
		Certificate No	WK09-5973
		Issue No	1
Contact	Richard Carter	Date Received	14/09/2009
Description	2 filters and 2 solutions for TPM	Technique	Gravimetric
Sample No.	563014	052148	Method
Total particulate matter	23.67 mg		D9(U)
Sample No.	563015	T116146	Method
Total particulate matter	<0.5 mg		D9(U)
Sample No.	563016	052149	Method
Total particulate matter	0.13 mg		D9(U)
Sample No.	563017	T116145	Method
Total particulate matter	<0.5 mg		D9(U)



Test Certificate

Date 25/09/2009

Client	RPS Towcester	Certificate No	WX09-5973
		Issue No	1

Tested By: Simone Rutter Date: 25/09/2009

Approved By: [Redacted] Date: 25/09/2009

Joanne Dewhurst
Quality Manager

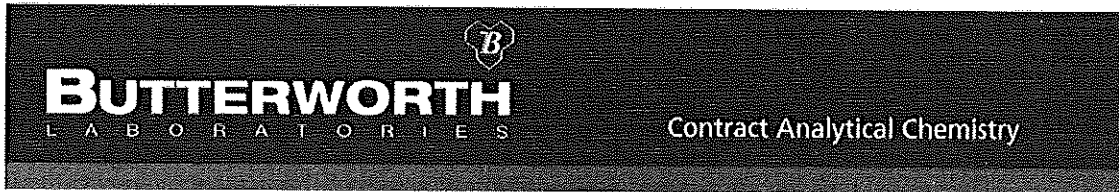
For and on authority of RPS Laboratories Ltd
RPS Laboratories terms and conditions apply - a copy is available on request

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

Concentration (gms, 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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Order No. TOW 12046
Our Ref: 0907-0069-01

24 September 2009

CERTIFICATE OF ANALYSIS

RPS Health, Safety and Environment
Steadings Barn, 9A Pury Hill
Alderton Road
Towcester
Northampton
NN12 7LS

For the attention of R Carter

Samples of:	Impinger Solutions		
Date Received:	23 September 2009		
Date Analysed:	22 - 23 September 2009		
BLL Reference	Sample Reference	Sulphide expressed as H₂S	Volume in ml
BL 09/0360-09	T116147	<0.1 mg/l	70
BL 09/0361-09	T116314	<0.1 mg/l <0.1 mg/l	75

Results relate to samples as received.

Analysed in accordance with Butterworth Laboratories Limited documented in-house method BLM 256 (Issue 4).

TIM GODDARD
Analytical Chemist

DAVID A RICHES
Analytical Operations Manager
for Butterworth Laboratories Limited

Encl. Raw data pack

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Impingers



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