

**Report for Periodic Monitoring of Emissions to Atmosphere**

Part 1: **Executive Summary**  
Permit Number: **22/93**  
Operator: **Glynwed Pipe Systems Limited**  
Installation: **Huntingdon, Cambridgeshire**  
Emission Point: **Fluidised Bed Exhaust**  
Monitoring Date: **1<sup>st</sup> July 2008**



1709



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Contract Reference: FTBS 7167  
Operator: Glynwed Pipe Systems Limited  
Address: St Peters Road  
Huntingdon  
Cambridgeshire  
PE29 7DA  
Monitoring Organisation: RPS Health, Safety & Environment  
Address: Steadings Barn, Pury Hill Business Park, nr Alderton,  
Towcester, Northamptonshire, NN12 7LS  
Report Date: 8<sup>th</sup> August 2008  
Report Approved By: Matthew Sumner  
Position: Consultant  
MCERTS Registration No.: MM 05 622

Signature:

A handwritten signature in black ink, appearing to read 'M. Sumner', enclosed in a rectangular box.

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

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## Monitoring Objectives

At the request of Mr E. Cross of Glynwed Pipe Systems Limited, RPS Health, Safety and Environment conducted air emission monitoring at the Huntingdon site, Cambridgeshire in July 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	Emission Point
	Fluidised Bed Exhaust
Total Particulate Matter	✓
Total Organic Compounds (as total organic carbon)	✓
Specific Requirements	Normal Operating Conditions – mixed load in furnace during the monitoring period.

*Notes:*

- ✓ Represents the actual parameters monitored
- \* Represent parameters requested but not actually monitored

## Monitoring Results

**Table 2 – Monitoring Results from the Glynwed Pipe Systems Limited, Huntingdon, Cambridgeshire in July 2008**

Substance Monitored	Emission Limit Value	Periodic Monitoring Result	Units	Uncertainty (mg/m <sup>3</sup> ) #	Reference Conditions 273K, 101.3kPa...	Sampling Date	Sampling Times	Monitoring Reference Method	Accreditation Status	Operating Status
Total Particulate Matter *	20	8.1	mg/m <sup>3</sup>	± 0.88	wet gas without correction for oxygen	1-July-08	12:43 – 13:43	BS EN 13284-1:2002	MCERTS	See Table 3
Total Organic Compounds (as total organic carbon) Δ	20	1.0	mg/m <sup>3</sup>	± 2.5	wet gas without correction for oxygen	1-July-08	12:30 – 13:47	BS EN 13526:2002	MCERTS	See Table 3

*Notes:*

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

\* *To be monitored and reported annually.*

Δ *To be monitored and reported every 6 months.*

## Operating Information

**Table 3 – Operating Information During Monitoring of the Fluidised Bed Exhaust at Glynwed Pipe Systems Limited, Huntingdon, Cambridgeshire in January 2008**

Parameter	Result
Sample Date	1-July-08
Process Type	Batch – in which contaminated machine tools are placed in a fluidized bed furnace for thermal cleaning.
Process Duration	Up to 4 hours
If 'Batch', was monitoring carried out over the whole batch?	No
If 'No', give details	Monitoring carried out during first quarter of the process
Abatement/Operational?	Secondary chamber and high efficiency cyclones / Yes
Fuel Type	Natural Gas
Feedstock	Tools contaminated with residual plastics
Load	Various machine tools
Throughput	Approximately 10 pieces of equipment in the monitored batch
Continuous Rating	N/A

## Monitoring Deviations

**Table 4 – Monitoring Deviations During Monitoring of the Fluidised Bed Exhaust at Glynwed Pipe Systems Limited, Huntingdon, Cambridgeshire in January 2008**

Substance Deviations	Monitoring Deviations	Other Relevant Issues
None	None	None

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Part 2: **Supporting Information**  
Permit Number: **22/93**  
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Emission Point: **Fluidised Bed Exhaust**  
Monitoring Date: **1<sup>st</sup> July 2008**



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## **APPENDIX 1: General Information**

## Monitoring Organisation Staff Details

Table 5

Site Team	Position	MCERTS Level	Technical Endorsements	MCERTS Registration Number
Martin Johnson	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
Bradley Atkins	Consultant	2	2	MM 06 780

Report Reviewer	Position	MCERTS Level	Technical Endorsements	MCERTS Registration Number
Matthew Sumner	Senior Consultant	2	1, 2, 3 & 4	MM 05 622

## Monitoring Organisation Method Details

**Table 6**

<b>Emission Parameter</b>	<b>Standard Method</b>	<b>Monitoring Procedure No.</b>	<b>Monitoring Accreditation Status</b>	<b>Analysis Technique</b>	<b>Analysis Procedure No.</b>	<b>Analytical Laboratory</b>	<b>Analysis Accreditation Status</b>
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
TOCs (as total organic carbon)	BS EN 13526:2002	RPSCE/1/4c	MCERTS	FID	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 Fluidised Bed Exhaust**

**Stack Gas Measurements**

**Table 7 - Temperature and Velocity Profile**

**Results of Gas Flows and Gas Temperatures Measured from the Fluidised Bed Exhaust at Glynwed Pipe systems, Huntingdon, Cambridgeshire on the 1<sup>st</sup> July 2008**

Traverse Point (m)	Sample Line A				Sample Line B			
	T (°C)	ΔP (mm H <sub>2</sub> O)	Neg. Flow?	Spin <15°	T (°C)	ΔP (mm H <sub>2</sub> O)	Neg. Flow?	Spin <15°
0.14	76	19.0	No	Yes	82	19.0	No	Yes
0.41	88	17.2	No	Yes	87	21.0	No	Yes

<b>Barometric pressure (kPa)</b>	101.1
<b>Static Pressure (mm H<sub>2</sub>O)</b>	+ve 16.8
<b>Stack Dimension Ø (m)</b>	0.6 x 0.6

**Table 8 - Gas Measurements (continued)**

**Results of Total Particulate Matter and General Emission Parameters Measured from the Fluidised Bed Exhaust at Glynwed Pipe systems, Huntingdon, Cambridgeshire on the 1<sup>st</sup> July 2008**

<b>Emission Parameter</b>	<b>Units</b>	<b>Mean Result</b>
Sample Date	-	1-July-08
Sample Period	-	12:43 – 13:43
Barometric Pressure	kPa	101.1
Internal Area Of Duct	m <sup>2</sup>	0.36
Isokinetic Ratio	%	97
Stack Moisture Content	%	0.9
Stack Temperature	°C	113
Gas Velocity (as measured at sampling plane)	m/sec	17
Volumetric Flowrate (as measured)	m <sup>3</sup> /sec	6.0
Volumetric Flowrate (at reference conditions)	m <sup>3</sup> /sec*	4.2
Total Particulate Matter Mass Emission	kg/hr	0.12
Total Particulate Matter Concentration	mg/m <sup>3</sup> *	8.1

Notes:

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

**Table 9 - Gas Measurements (continued)**

**Results of Total Organic Compounds (as total organic carbon excluding particulate matter)  
Concentration Measured from the Fluidised Bed Exhaust at Glynwed Pipe systems,  
Huntingdon, Cambridgeshire on the 1<sup>st</sup> July 2008**

Sample Date	Sample Period	Units		TOCs (as total organic carbon)
1-July-2008	12:30 – 13:47	mg/m <sup>3</sup>	Maximum	13
			<b>Mean</b>	<b>1.0</b>

*Notes:*

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

## Reportable Blank Results

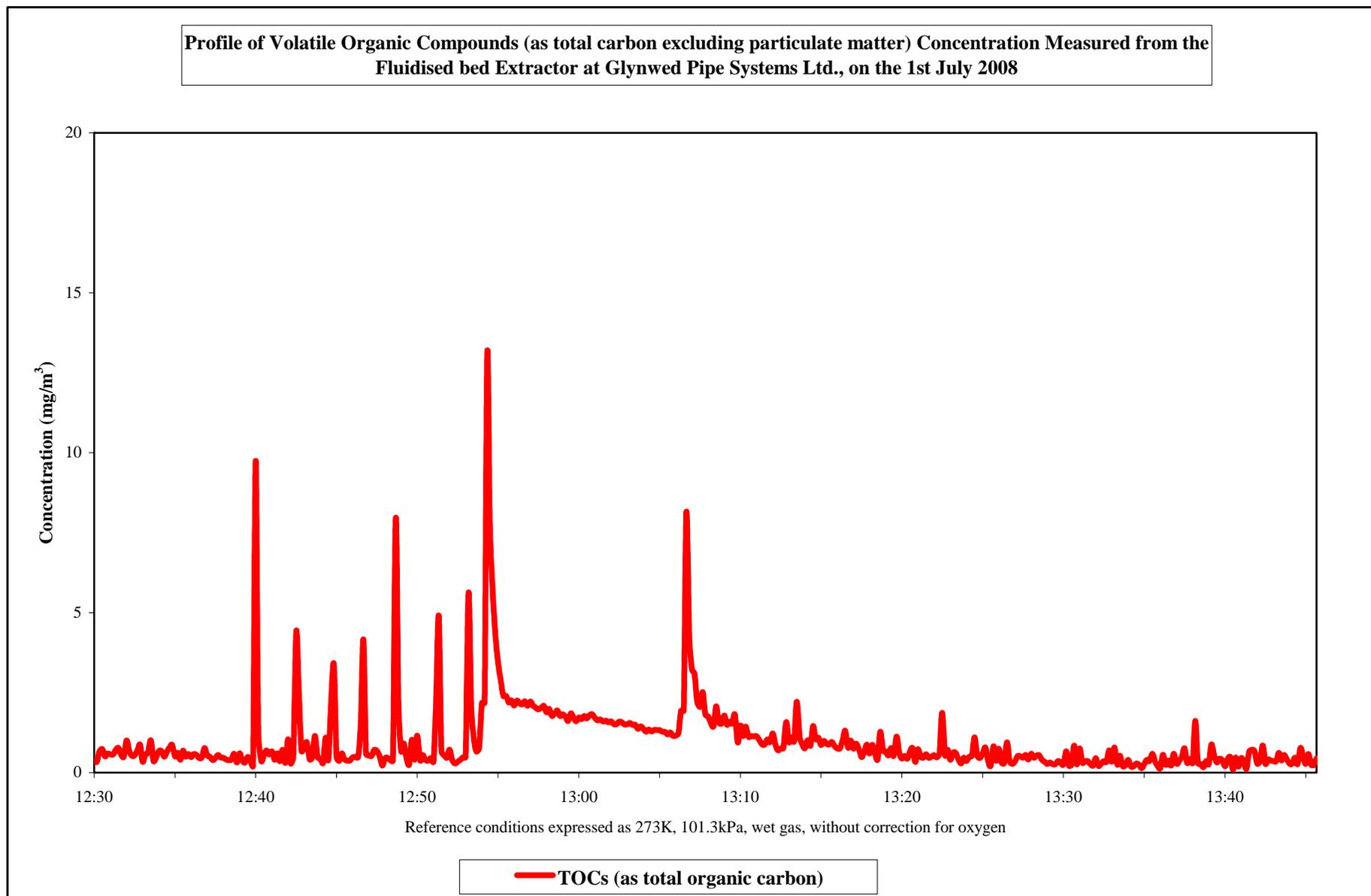
**Table 10**

**Results of the Reportable Blank Concentrations for Total Particulate Matter taken for the Fluidised Bed Exhaust at Glynwed Pipe systems, Huntingdon, Cambridgeshire in July 2008**

Emission reference	Sample Date	Units*	Mean Concentration
Fluidised Bed Exhaust	1-July-08	mg/m <sup>3</sup>	< 0.62

Notes:

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



### Instrumental Gas Analyser - Site Calibration Measurements

Table 11

Equipment Name	Equipment ID Number	Span Gas Type	Span Gas Concentration	Pre Sampling Zero Result	Post Sampling Zero Result	Pre Sampling Span Result	Post Sampling Span Result
Sick Maihak 3006 FID	01506	C <sub>3</sub> H <sub>8</sub>	80.3 ppm	0.0 ppm	-2.9 ppm	79.1 ppm	78.8 ppm

### Certificate(s) of Analyses



#### Test Certificate

Date 16/07/2008

<b>Client</b>	RPS Towcester Stoodings Barn Pury Hill Business Park Nr Alderton Towcester NN12 7LS	<b>Order No.</b>	FTBS 7176
		<b>Certificate No.</b>	WK08-4719
		<b>Issue No.</b>	1
<b>Contact</b>	Bradley Atkins	<b>Date Received</b>	03/07/2008
<b>Description</b>	2 filters & 2 solutions for TPM	<b>Technique</b>	Gravimetric
<b>Sample No.</b>	506253	T113081	<b>Method</b>
<b>Total particulate matter</b>	0.5 mg		D8(U)
<b>Sample No.</b>	506254	037808	<b>Method</b>
<b>Total particulate matter</b>	4.63 mg		D8(U)
<b>Sample No.</b>	506255	T113082	<b>Method</b>
<b>Total particulate matter</b>	0.7 mg		D8(U)
<b>Sample No.</b>	506256	037811	<b>Method</b>
<b>Total particulate matter</b>	<0.04 mg		D8(U)

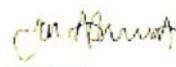


Test Certificate

Date 16/07/2008

Client	RPS Towcester	Certificate No.	WK08-4719
		Issue No.	1

Tested By: Simone Rutter Date: 16/07/2008

Approved By:  Date: 16/07/2008

Jon Ashcroft  
Laboratory Manager

For and on authority of RPS Laboratories Ltd

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

- Method Symbol: (U) Analysis is UKAS Accredited  
(N) Analysis is not UKAS Accredited  
(S) Analysis is Subcontracted

Concentration values (mg/l 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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