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:	**26th June 2009**

UKAS TESTING
1709

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME
1709

Contract Reference:	FTBS 8229
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:	17th July 2009
Report Approved By:	E Powell
Position:	Consultant
MCERTS Registration No.:	MM 05 621

Signature:

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 E. Cross of Glynwed Pipe Systems Limited, RPS Health, Safety and Environment conducted air emission monitoring at the Huntingdon site, Cambridgeshire in June 2009

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 June 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	6.8	mg/m^3	± 0.74	wet gas without correction for oxygen	26-Jun-09	12:33 – 13:33	BS EN 13284-1: 2002	MCERTS	See Table 3
Total Organic Compounds (as total organic carbon) Δ	20	17	mg/m^3	± 0.73	wet gas without correction for oxygen	26-Jun 09	12:31 – 13:31	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 June 2008

Parameter	Result
Sample Date	26-Jun-09
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 June 2009

Substance Deviations	Monitoring Deviations	Other Relevant Issues
None	None	None

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Part 2:	**Supporting Information**
Permit Number:	**22/93**
Operator:	**Glynwed Pipe Systems Limited**
Installation:	**Huntingdon, Cambridgeshire**
Emission Point:	**Fluidised Bed Exhaust**
Monitoring Date:	**26th June 2009**

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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
Matthew Sumner	Consultant	2	1, 2, 3 & 4	MM 05 622
Richard Carter	Technician	2	2	MM 06 861

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
E Powell	Consultant	2	1, 2, 3 & 4	MM 05 621

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
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 26th June 2009

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°
0.14	91	14.2	No	Yes	91	17.8	No	Yes
0.41	91	20.4	No	Yes	91	16	No	Yes

Barometric pressure (kPa)	101.0
Static Pressure (mm H_2O)	+ve 13.2
Stack Dimension ∅ (m)	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 26th June 2009.

Emission Parameter	Units	Mean Result
Sample Date	-	26-Jun-09
Sample Period	-	12:33 – 13:33
Barometric Pressure	kPa	101.0
Internal Area Of Duct	m^2	0.36
Isokinetic Ratio	%	96
Stack Moisture Content	%	1.9
Stack Temperature	^oC	103
Gas Velocity (as measured at sampling plane)	m/sec	16
Volumetric Flowrate (as measured)	m^3/sec	6.0
Volumetric Flowrate (at reference conditions)	m^3/sec*	4.1
Total Particulate Matter Mass Emission	kg/hr	0.10
Total Particulate Matter Concentration	mg/m^3*	6.8

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 26th June 2009

Sample Date	Sample Period	Units		TOCs (as total organic carbon)
26-Jun-09	12:33 – 13:33	mg/m^3	Maximum	129
			Mean	**17**

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

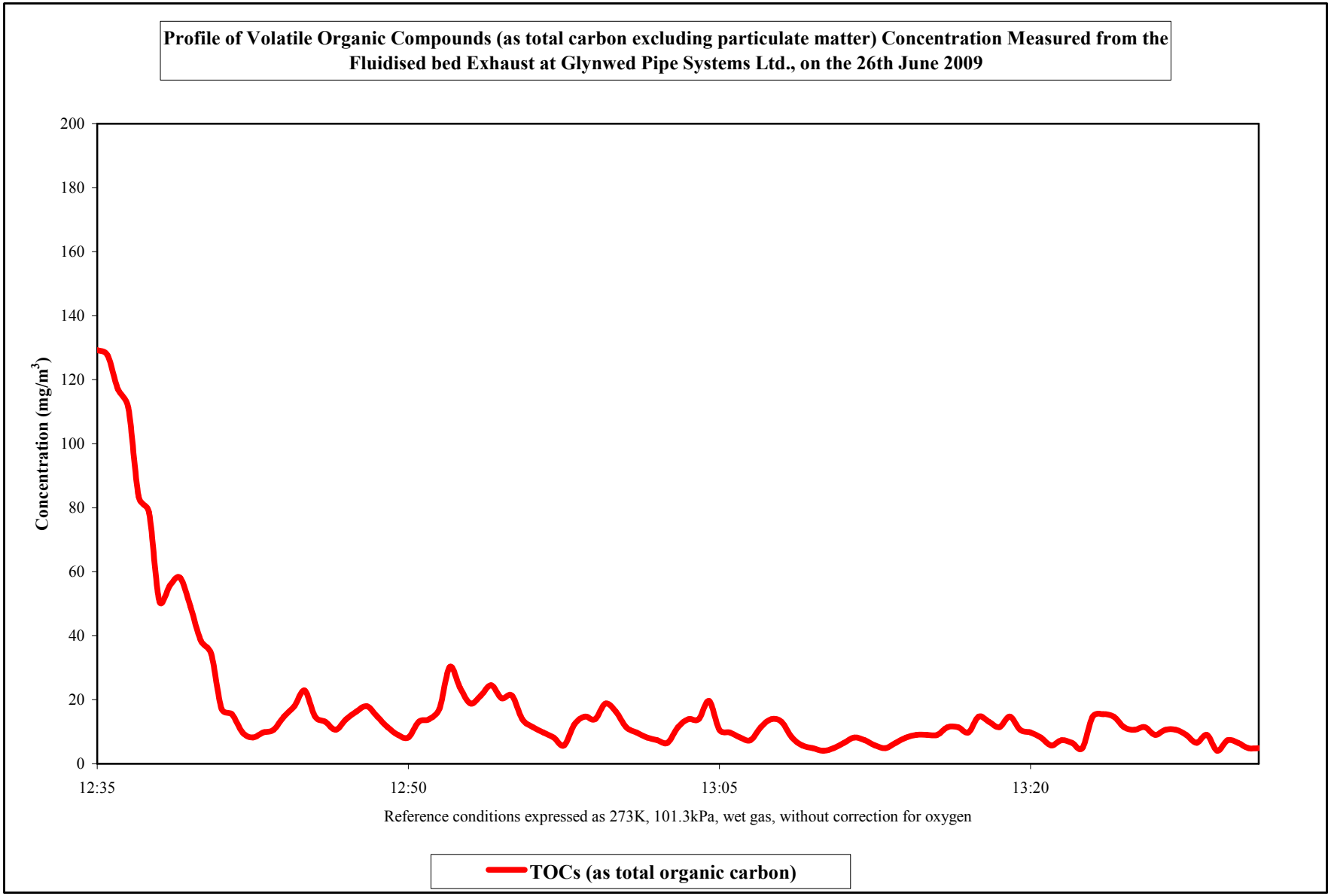
Reportable Blank Results

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 June 2009

Emission reference	Sample Date	Units*	Mean Concentration
Fluidised Bed Exhaust	26-Jun-09	mg/m^3	0.57

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


Profile of Volatile Organic Compounds (as total carbon excluding particulate matter) Concentration Measured from the Fluidised bed Exhaust at Glynwed Pipe Systems Ltd., on the 26th June 2009
Concentration (mg/m3)
200
180
160
140
120
100
80
60
40
20
0
12:35
12:50
13:05
13:20
Reference conditions expressed as 273K, 101.3kPa, wet gas, without correction for oxygen
TOCs (as total organic carbon)

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	01578	C_3H_8	794.0 ppm	0.5 ppm	1.0 ppm	795 ppm	795.5 ppm

Certificates of Analyses

RPS Laboratories

UKAS TESTING 0605

Date 14/07/2009

Test Certificate

Client	RPS Towcester Steadings Barn Pury Hill Business Park Nr Alderton Towcester NN12 7LS	Order No.	FTBS8229
		Certificate No.	WK09-4490
		Issue No.	1
Contact	Matthew Sumner	Date Received	01/07/2009
Description	2 filters and 2 solutions for TPM	Technique	Gravimetric

Sample No.	554727	050500	Method
Total particulate matter			D9(U)
	6.21 mg		

Sample No.	554728	T115133	Method
Total particulate matter			D9(U)
	1.4 mg		

Sample No.	554729	050499	Method
Total particulate matter			D9(U)
	<0.04 mg		

Sample No.	554730	T115132	Method
Total particulate matter			D9(U)
	0.6 mg		

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RPS Laboratories Ltd. Unit 12, Waters Edge Business Park, Modwen Road, Salford, M5 3EZ
Tel: (0161) 872 2443 Fax: (0161) 877 3959

UKAS TESTING 0605

Date 14/07/2009

Test Certificate

Client	RPS Towcester	Certificate No.	WK09-4490
		Issue No.	1

Tested By	Simone Rutter	Date	14/07/2009
Approved By		Date	14/07/2009

Jon Ashcroft
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'

RPS Laboratories Ltd. Unit 12, Waters Edge Business Park, Modwen Road, Salford, M5 3EZ
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