RPS Health, Safety and Environment
Steadings Barn
Pury Hill Business Park
Nr Alderton
Towcester
Northants NN12 7LS

Report Date: 16th May 2006
Report Ref: FTA 5363

GLYNWED PIPE SYSTEMS LTD

Report on Air Emission Monitoring at

GLYNWED PIPE SYSTEMS LTD

HUNTINGDON, CAMBRIDGSHIRE, PE29 7DA

MAY 2005

Stack Emission Monitoring Report – Executive Summary
Ref. FTA 5363

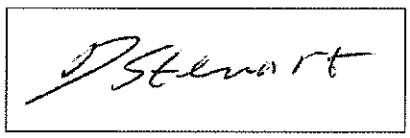
1709

1709

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(s):	**5th April 2006**

UKAS TESTING
1709

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME
1709

Contract Reference:	FTA 5363
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, Alderton Road, Towcester, Northamptonshire, NN12 7LS
Report Date:	8th May 2006
Report Approved By:	Duncan Stewart
Position:	Team Leader
MCERTS Registration No.:	MM 03 174
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 Eric Cross of Glynwed Pipe Systems Limited, RPS Health, Safety and Environment conducted air emission monitoring at the Huntingdon site, Cambridgeshire in April 2006.

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 excluding particulate matter)	✓
Specific Requirements	Normal Operating Conditions – mixed load in furnace during the monitoring period

Notes:
✓ *Represents the actual parameters monitored*
✗ *Represents the actual parameters requested but not monitored*

Monitoring Results

Table 2 – Monitoring Results from the Fluidised Bed Exhaust at Glynwed Pipe Systems Limited, Huntingdon, Cambridgeshire in April 2006

Substance Monitored	Emission Limit Value	Periodic Monitoring Result	Units	Uncertainty (units) #	Reference Conditions 273K, 101.3kPa...	Sampling Date	Sampling Times	Monitoring Reference Method	Accreditation Status	Operating Status
Total Particulate Matter*	20	5.4	mg/m^3	± 0.59	without correction for moisture content	05-Apr-06	13:27 - 14:29	BS-EN 13284-1 2002	MCERTS	Normal
Total Organic Compounds (as total organic carbon)Δ	20	9.3	mg/m^3	± 2.5	without correction for moisture content	05-Apr-06	13:25 - 14:34	BS EN 12619:1999	MCERTS	Normal

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 April 2006

Parameter	Result
Sample Date	05-Apr-06
Process Type	Batch – in which contaminated machine tools are placed in a fluidized bed furnace for 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 third 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	N/K
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 April 2006

Substance Deviations	Monitoring Deviations	Other Relevant Issues
Fluidised Bed Exhaust - N/A	Fluidised Bed Exhaust - N/A	Fluidised Bed Exhaust - NA

Report for Periodic Monitoring of Emissions to Atmosphere

Part 2:	**Supporting Information**
Permit Number:	**22/93/A**
Operator:	**Glynwed Pipe Systems Limited**
Installation:	**Huntingdon, Cambridgeshire**
Emission Point:	**Fluidised Bed Exhaust**
Monitoring Date(s):	**5th April 2006**

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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
Richard Harvey	Team Manager	2	1, 2, 3 & 4	MM 02 020
Chris Smith	Technician	1	-	MM 04 557

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

Report Reviewer	Position	MCERTS Level	Technical Endorsements	MCERTS Registration Number
Duncan Stewart	Team Leader	2	1, 2, 3 & 4	MM 03 174

Monitoring Organisation Method Details

Table 6

Emission Parameter	Standard Method	Monitoring Procedure No.	Monitoring Accreditation Status	Analysis Technique	Analysis Procedure No.	Analytical Laboratory	Analysis Accreditaton 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 12619:1999	RPSCE/1/4b	MCERTS	Flame Ionisation Detector	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 8 - Temperature and Velocity Profile

Gas Flows and Gas Temperatures Measured from the Fluidised Bed Exhaust at Glynwed Pipe Systems, Huntingdon, Cambridgeshire on the 5th April 2006

Traverse Point (m)	Sample Plane A				Sample Plane B			
	T (°C)	ΔP (mm H_2O)	Neg. Flow?	Spin <15°	T (°C)	ΔP (mm H_2O)	Neg. Flow?	Spin <15°
0.14	88	21.0	No	< 15	89	18.6	No	< 15
0.43	88	21.0	No	< 15	88	17.8	No	< 15

Barometric pressure (kPa)	103.2
Static Pressure (mm H_2O)	+ 14.6
Stack Dimension ∅ (m)	0.57 x 0.60

Table 9 - Gas Measurements (continued)

Total Particulate Matter and General Emission Parameters Measured from the Fluidised Bed Exhaust at Glynwed Pipe Systems, Huntingdon, Cambridgeshire in April 2006

Emission Parameter	Units	Mean Result
Sample Date	-	05-Apr-06
Sample Period	-	13:27 – 14:29
Barometric Pressure	kPa	103.2
Internal Area Of Duct	m^2	0.34
Static Pressure	mm H_2O	+ve 14.6
Stack Moisture Content	%	1.4
Stack Temperature	^oC	101
Gas Velocity (as measured at sampling plane)	m/sec	17
Volumetric Flowrate (as measured)	m^3/sec	5.7
Volumetric Flowrate (at reference conditions)	m^3/sec*	4.2
Total Particulate Matter Mass Emission	kg/hr	0.082
Total Particulate Matter Concentration	mg/m^3*	5.4

Notes:
* *Reference conditions expressed as 273 K, 101.3 kPa, without correction for moisture content.*

Table 10 - Gas Measurements (continued)

Total Organic Compounds (as total organic carbon excluding particulate matter) Concentration Measured from the Fluidised Bed Exhaust at Glynwed Pipe Systems, Huntingdon, Cambridgeshire in April 2006

Sample Date	Sample Period	Units		TOCs (as total organic carbon)
05-Apr-06	13:25 - 14:34	mg/m^3	Maximum	44
			Mean	**9.3**

Notes:
* *Reference conditions expressed as 273 K, 101.3 kPa, without correction for moisture content.*

Photograph/Diagram

Photograph/Diagram of Fluidised Bed Exhaust at Glynwed Pipe Systems, Huntingdon, Cambridgeshire in April 2006

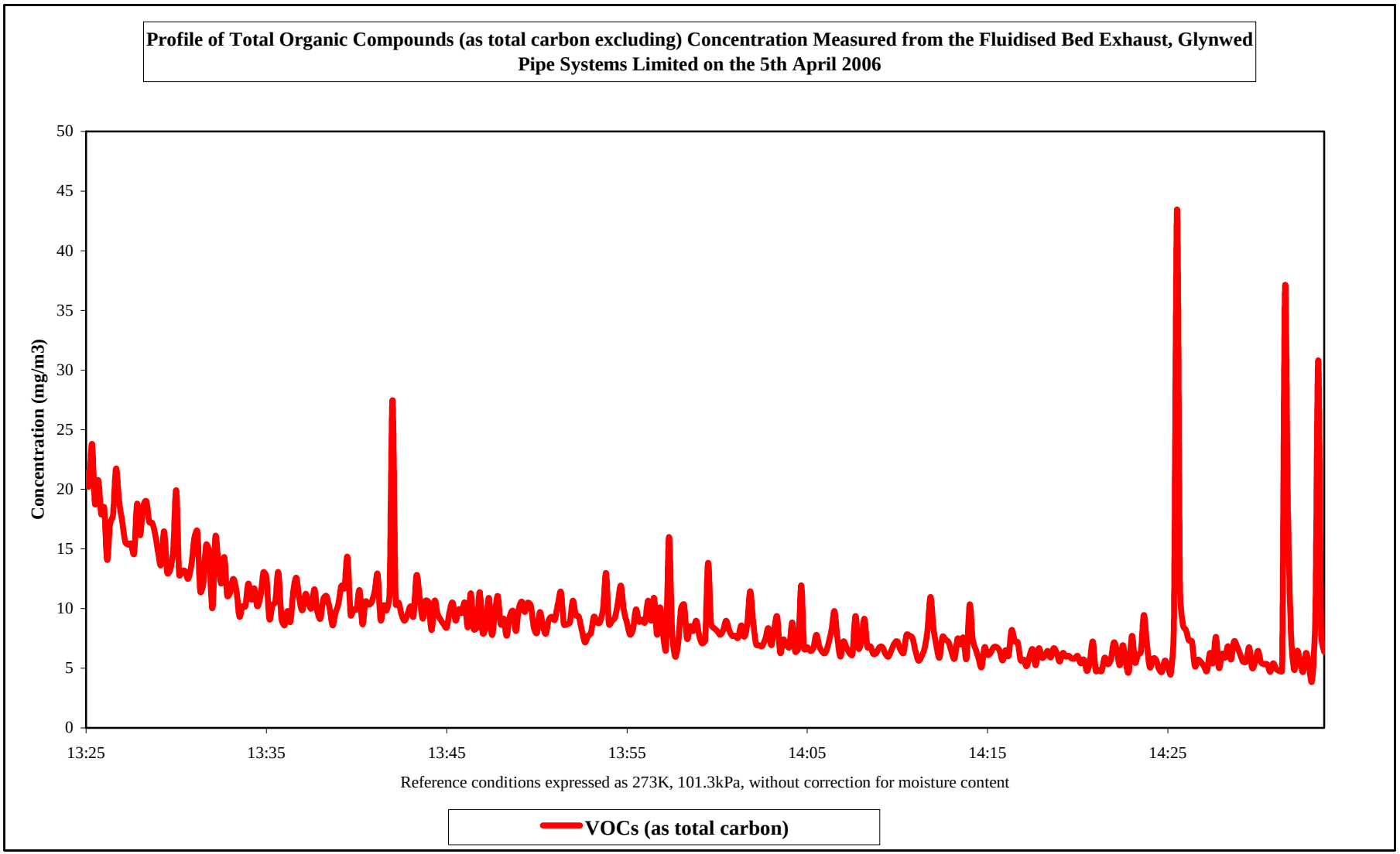
Reportable Blank Results

Table 11 - Results of the Reportable Blank Concentrations for Total Particulate Matter taken for the Fluidised Bed Exhaust at Glynwed Pipe Systems, Huntingdon, Cambridgeshire in April 2006

Emission Parameter	Sample Date	Units	Mean Concentration (uncorrected) #
Total Particulate Matter	05-Apr-06	mg/m^3	< 0.46

Notes:
 # Reference conditions expressed as 273 K, 101.3 kPa, without correction for moisture content.

Monitoring Profiles



Instrumental Gas Analyser - Site Calibration Measurements

Table 12

Equipment Name	Equipment ID Number	Span Gas Type	Span Gas Concentration	Span Result	Zero Result
Sick Maihak 3006 FID	01506	C_3H_8	80.0 ppm	80.7 ppm	0.0 ppm

Certificate(s) of Analyses

UKAS TESTING 0605

RPS Laboratories

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

Test Certificate

RPS CONSULTANTS
STEADINGS BARN
PURY HILL BUSINESS PARK
NR ALDERTON
TOWCESTER
NN12 7LS

CRT No 050577 : Issue 1
Ord No FTA5363

Date Tested 20/04/06
Date Reported 20/04/06

Attn: CHRIS SMITH

Item - 2 WASHES AND 2 FILTERS FOR TPM

Specification- Not Applicable

Total particulate - In-House Method D9

Sample	Description	Result	Comments
01:404391	012826	4.68 mg	Nil
02:404392	T106078	2.5 mg	Nil
03:404393	012825	<0.1 mg	Nil
04:404394	T106077	<0.5 mg	Nil

Certificate Comments

Date of sample receipt: 07/04/2006

If you have any queries regarding this analysis please do not hesitate to contact the Laboratory Manager, Joanne Dewhurst.

Analysis was carried out on the samples 'as received'.

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

Tested by Catherine Weatherall

A.J. Dewhurst
For and on authority of
RPS Laboratories

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