

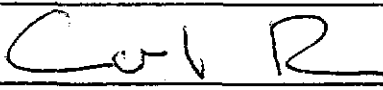

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Report Date: 21st April 2004
Report Ref: FTA 3835



GLYNWED PIPE SYSTEMS LIMITED

Report on Air Emission Monitoring at
Glywned Pipe Sytems Limited
St. Peters Road
Huntingdon, Cambridgeshire
March 2004

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GLYNWED PIPE SYSTEMS LIMITED

Report on Air Emission Monitoring at
Glywned Pipe Sytems Limited,
St. Peters Road Huntingdon, Cambridgeshire
March 2004

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1.0 INTRODUCTION

At the request of Mr E Cross of Glynwed Pipe Systems Ltd, RPS Health, Safety and Environment conducted air emission monitoring at the St Peters Road site, Huntingdon in March 2004.

The purpose of the monitoring programme was to provide data on emissions to atmosphere for comparison with the limits specified in the air emission criteria for this site.

1.1 Emission Criteria

Information provided by Glynwed Pipe Systems Ltd personnel regarding the air emission limits for this site has been included in Appendix A, Table 1 for reference purposes. It is understood that the air emission concentration limits are specified in *Huntingdon District Council Authorisation 22/93, Variation 25/99*.

All results have been referenced to conditions of 273K, 101.3kPa, without correction for water vapour content.

1.2 Emission Points

During the works undertaken in March 2004 the following release point was included in the monitoring programme:

- Fluidised Bed Exhaust

2.0 MONITORING PROCEDURES

2.1 Emission Parameters

The following emission parameters were monitored during the programme of works: -

- gas flows;
- gas temperatures;
- total particulate matter;
- volatile organic compounds – (as total carbon excluding particulate matter).

2.2 Monitoring Procedures

The monitoring was carried out using the following United Kingdom Accreditation Service (UKAS) approved procedures unless otherwise stated: -

- **gas flows** were measured in accordance with **BS ISO 9096:2003 Stationary source emissions – Manual determination of mass concentration of particulate matter**. This is not a UKAS accredited procedure
- **gas temperatures** were measured in accordance with **BS ISO 9096:2003 Stationary source emissions – Manual determination of mass concentration of particulate matter**. This is not a UKAS accredited procedure.
- **total particulate matter** was measured using a sampling train operated in accordance with the requirements of **BS ISO 9096:2003 Stationary source emissions – Manual determination of mass concentration of particulate matter**. This is not a UKAS accredited procedure
- **volatile organic compounds (as total carbon excluding particulate matter)** were measured using a Flame Ionisation Detector (FID) based on the requirements of **US EPA Method 25a (US CFR- Protection of the Environment, 40, Part 60 Appendix A Determination of total gaseous organic concentration using a flame ionisation analyser)**. (RPSCE/1/4).

Sampling was undertaken during what was reported by Glynwed Pipe Systems Ltd personnel to be normal operating conditions.

Exhaust gases were conditioned as required prior to their introduction into direct reading analysers and extractive gas sampling trains.

All analyses were undertaken by RPS Laboratories, Manchester, which is a UKAS accredited laboratory.

3.0 RESULTS

A summary table of results is displayed in Appendix A, Table 1.

Full, tabulated data from the monitoring period is displayed in Appendix B, Tables 2 to 3.

Graphical profiles of the results of volatile organic compounds can be viewed in Appendix C, Figure 1.

It is RPS Health, Safety and Environment procedure to include half of any 'less than' figure when determining a mean result.

4.0 OBSERVATIONS AND CONCLUSIONS

4.1 Fluidised Bed Exhaust

The concentration of all parameters measured from the Fluidised Bed Exhaust in March 2004 were *below* the emission concentration limits as specified in *Huntingdon District Council Authorisation 22/93, Variation 25/99*, when referenced 273K, 101.3kPa, without correction for water vapour content.

Table 1

Summary Table of Emissions to Atmosphere from the Fluidised Bed Exhaust at Glynwed Pipe Systems, Huntingdon in March 2004

Emission Parameter	Units	Result		Concentration Limit ψ
		Run 1	Run2	
Total Particulate Matter	mg/m ³	7.3	4.7	50
Volatile Organic Compounds (as total carbon excluding particulate matter)	mg/m ³	6.4		20

Notes:

Reference conditions expressed as 273 K, 101.3 kPa, without correction for water vapour content.

ψ *As expressed in the Huntingdonshire District Council Authorisation: 22/93 Variation 25/99*

Table 2

Results of Total Particulate Matter and General Emission Parameters Measured from the Fluidised Bed Exhaust at Glynwed Pipe Systems, Huntingdon on the 24th March 2004

Emission Parameter	Units	Run 1	Run 2
Sample Period	-	13:10 – 13:40	13:49 – 14:19
Temperature	°C	111	115
Gas Velocity (as measured at sampling plane)	m/sec	16	16
Volumetric Flow rate (as measured)	m ³ /sec	5.3	5.3
Volumetric Flow rate (at reference conditions)	m ³ /sec*	3.8	3.8
Total Particulate Matter Mass Emission	kg/hr	0.10	0.064
Total Particulate Emission Concentration	mg/m ³ *	7.3	4.7

Notes:

* Reference conditions expressed as 273 K, 101.3 kPa, without correction for water vapour content

Table 3

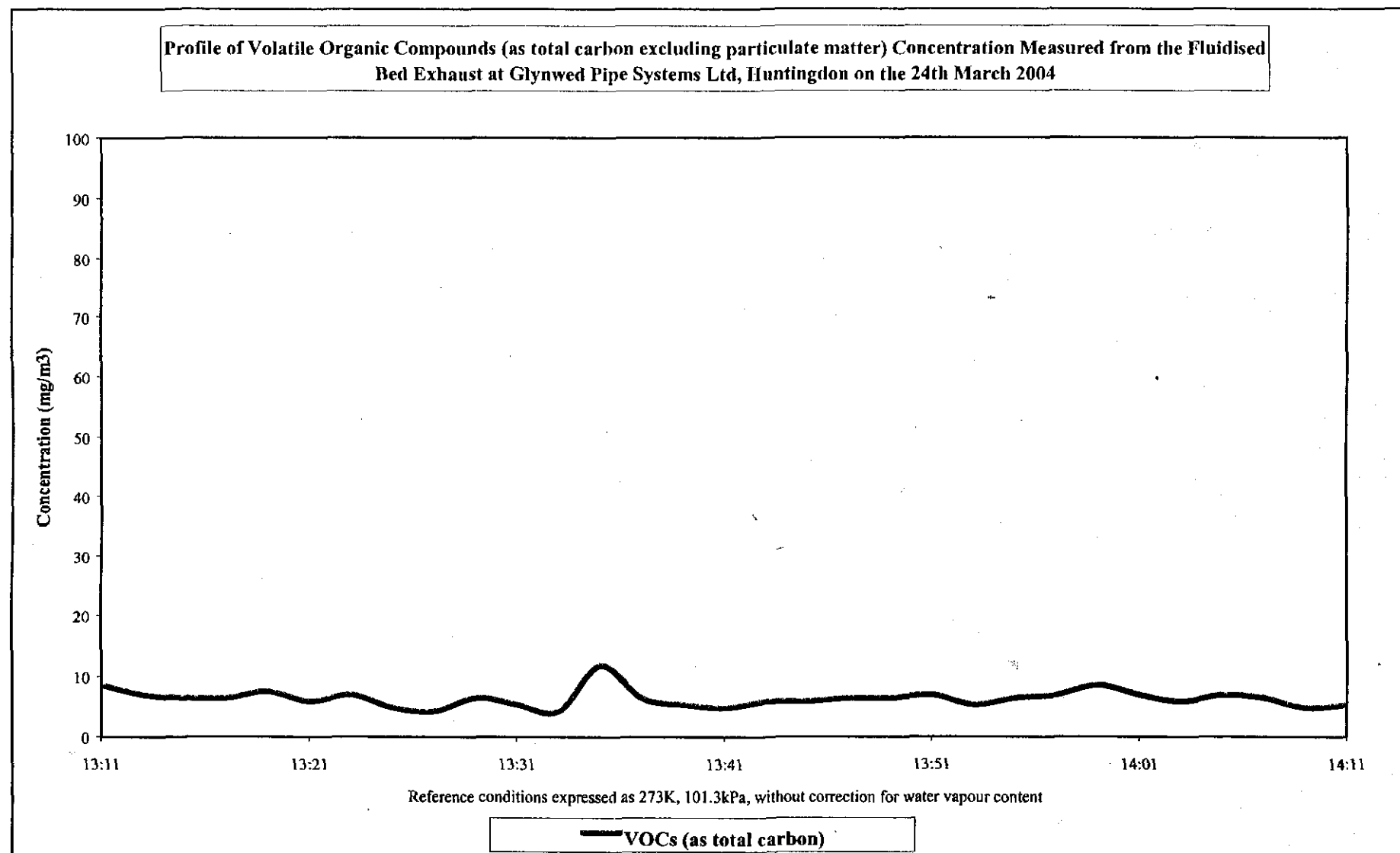
Results of Volatile Organic Compounds (expressed as total carbon excluding particulate matter) Concentration measured from the Fluidised Bed Exhaust at Glynwed Pipe Systems, Huntingdon on the 24th March 2004

Emission Reference	Sample Period	Units	VOC Concentration (as total carbon excluding particulate matter)	
			Maximum	Mean
Fluidised Bed Exhaust	13:11 – 14:11	mg/m ³		12
			Mean	6.4

Notes:

Reference conditions expressed as 273 K, 101.3 kPa, without correction for water vapour content

Figure 1



Results of the Reportable Blank Concentrations for Total Particulate Matter measured from the Fluidised Bed Exhaust at Glynwed Pipe Systems, Coventry in March 2004

Emission Parameter	Date of Sampling	Units	Mean Conc.
Total Particulate Matter	24-Mar-04	mg/m ³	<1

Notes:



Reference conditions expressed as 273 K, 101.3 kPa, without correction for water vapour content

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Report Date: 1st November 2003
Report Ref: FTA 3111

GLYNWED PIPE SYSTEMS

Report on Air Emission Monitoring at
Glynwed Pipe Systems
Huntingdon, Cambridgeshire
September 2003

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GLYNWED PIPE SYSTEMS

Report on Air Emission Monitoring at

Glynwed Pipe Systems

Huntingdon, Cambridgeshire

September 2003

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1.0 INTRODUCTION

At the request of Mr E Cross of Glynwed Pipe Systems, RPS Health, Safety and Environment conducted air emission monitoring at the Huntingdon site on the 18th September 2003.

The purpose of the monitoring programme was to provide data on emissions to atmosphere for comparison with the limits specified in the air emission criteria for this site.

1.1 Emission Criteria

Information provided by Glynwed Pipe Systems personnel regarding the air emission limits for this site has been included in Appendix A, Table 1 for reference purposes. It is understood that the air emission concentration limits are specified in the *Huntingdonshire District Council Authorisation: 22/93 Variation 25/99*, which is based on the *Secretary of State's Guidance-Metal Decontamination Processes PG2/9(96)*.

All results have been referenced to conditions of 273K, 101.3kPa without correction for water vapour content.

1.2 Emission Points

During the works undertaken on the 18th September 2003 the following release point was included in the monitoring programme:

- Fluidised Bed Exhaust

2.0 MONITORING PROCEDURES

2.1 Emission Parameters

The following emission parameters were monitored during the programme of works: -

- gas flows;
- gas temperatures;
- total particulate matter;
- volatile organic compounds (as total carbon excluding particulate matter).

2.2 Monitoring Procedures

The monitoring was carried out using the following United Kingdom Accreditation Service (UKAS) approved procedures unless otherwise stated: -

- **gas flows** were measured using a pitot tube and manometer based on the requirements of BS 3405:1983 *Measurement of particulate emission including grit and dust (simplified method)*. (RPSCE/1/2)
- **gas temperatures** were measured using a "k" type thermocouple and temperature sensor based on the requirements of BS 3405:1983 *Measurement of particulate emission including grit and dust (simplified method)*. (RPSCE/1/2)
- **total particulate matter** was measured using a **Method 5** (US CFR- Protection of the Environment, 40, Part 60 Appendix A *Determination of particulate emissions from stationary sources*) sampling train. The samples were analysed by gravimetric techniques. (RPSCE/1/7)
- **volatile organic compounds (as total carbon excluding particulate matter)** were measured using a Flame Ionisation Detector (FID) based on the requirements of **Method 25a** (US CFR- Protection of the Environment, 40, Part 60 Appendix A *Determination of total gaseous organic concentration using a flame ionisation analyser*). (RPSCE/1/4)

Sampling was undertaken during what was reported by Glynwed Pipe Systems personnel to be normal operating conditions.

Exhaust gases were conditioned as required prior to their introduction into direct reading analysers and extractive gas sampling trains.

All analyses were undertaken by RPS Laboratories, Manchester, which is a UKAS accredited laboratory.

3.0 RESULTS

A summary table of results is displayed in Appendix A, Table 1.

Full tabulated data from the monitoring period is displayed in Appendix B, Tables 2 and 3.

A graphical profile of the results of volatile organic compounds (as total carbon excluding particulate matter) can be viewed in Appendix C, Figure 1.

It is RPS Health, Safety and Environment procedure to include half of any 'less than' figure when determining a mean result.

4.0 OBSERVATIONS AND CONCLUSIONS

4.1 Fluidised Bed Exhaust

The mean concentration of all parameters measured from the Fluidised Bed Exhaust on 18th September 2003 were *below* their respective emission concentration limits as specified in the *Huntingdonshire District Council Authorisation: 22/93 Variation 22/99* when referenced to 273K, 101.3 kPa, without correction for water vapour content.

Table 1

Summary Table of Emissions to Atmosphere from the Fluidised Bed Exhaust at Glynwed Pipe Systems, Huntingdon in September 2003

Emission Parameter	Units	Measured Result	Control Limit
Total Particulate Matter	mg/m ³	5.1	50
Volatile Organic Compounds (as total carbon excluding particulate matter)	mg/m ³	11	20

Notes:

Reference conditions expressed as 273 K, 101.3 kPa, without correction for water vapour content.

ψ As expressed in the Huntingdonshire District Council Authorisation: 22/93 Variation 25/99

Table 2

Results of Total Particulate Matter and General Emission Parameters Measured from the Fluidised Bed Exhaust at Glynwed Pipe Systems, Huntingdon on the 18th September 2003

Emission Parameter	Units	Run 1	Run 2	Mean of Results
Sample Period	-	14:55 – 15:28	15:36 – 16:06	-
Temperature	°C	110	125	118
Gas Velocity (as measured at sampling plane)	m/sec	17	17	17
Volumetric Flow rate (as measured)	m ³ /sec	5.5	5.6	5.6
Volumetric Flow rate (at reference conditions)	m ³ /sec*	4.0	3.9	4.0
Total Particulate Matter Mass Emission	kg/hr	0.064	0.079	0.072
Total Particulate Emission Concentration	mg/m ³ *	4.5	5.6	5.1

Notes:

* Reference conditions expressed as 273 K, 101.3 kPa; without correction for water vapour content

Table 3

Results of Volatile Organic Compounds (expressed as total carbon excluding particulate matter) Concentration measured from the Fluidised Bed Exhaust at Glynwed Pipe Systems, Huntingdon on the 18th September 2003

Emission Reference	Sample Period	Units	VOC Concentration (as total carbon excluding particulate matter)	
			Maximum	Mean
Fluidised Bed Exhaust	14:55 – 16:04	mg/m ³	22	11

Notes:

Reference conditions expressed as 273 K, 101.3 kPa, without correction for water vapour content

Figure 1

