

NOVEMBER 2010

**EMISSIONS MONITORING
REPORT**

**Claire M^cGee
Lotus LSA
Faraday Close
Park Farm Ind. Estate
Wellingborough
NN8 0XH**

Tel: 01933 674456

Prepared By

**Redwing Environmental Ltd
Unit 7, Manor Road Business Park
Manor Road
Atherstone
Warwickshire CV9 1TE**

Tel: 0844 686 7000 – Fax: 0844 686 7070

Report Number P-RED10-117/EB/R1/Rev0

17th December 2010

Contents

Contents

Executive Summary

1.0	Introduction	Page 1
1.0	Monitoring Programme	Page 1
1.2	Monitoring Results	Page 2
2.0	Supporting Info	Page 3
2.1	General Info	Page 3
2.1.1	MCerts information	Page 3
2.2	Methods	Page 3
12.0	Quality Assurance	Page 4
13.0	Disclaimer	Page 4
	<i>Appendix A – Sodium Hydroxide & Sulphuric Acid Results</i>	<i>Appendix Pages 1 to 3</i>
	<i>Calibration Certificates – available upon request</i>	

EXECUTIVE SUMMARY

The following document details the emissions to air monitoring survey undertaken by Elena Berek and Philip Butler of Redwing Environmental Ltd at Sporting Carrier Ltd on the 30th November 2009. All results pertain to the dates monitored only.

A summary of results is shown below:-

Analyte Monitored	Exhaust Reference	
	Sodium Hydroxide Exhaust 1	Sulphuric Acid Exhaust 1
Sodium Hydroxide (mg/m ³)	<0.04	N/A
Sulphuric Acid (mg/m ³)	N/A	<0.10

NOTE 1: Reference conditions are standard temperature (273K) and pressure (101.3kPa)

1.0 INTRODUCTION

The exhaust listed below was monitored with respect to quotation **Q-RED10-117/EB/v0** for the compliance check monitoring of emissions to air. The substances requested for monitoring at each emission point for the first quarter are listed below:

Monitoring Programme

Substances to be monitored	Emission Point Identification	
	Sodium Hydroxide Exhaust 1	Sulphuric Acid Exhaust 1
Sodium Hydroxide	✓	x
Sulphuric Acid	x	✓

Special requirements Monitoring carried out during normal operations

1.2 Monitoring Results

Emission Point Reference	Substance to be Monitored	Emission Limit Value	Periodic Monitoring Result	Units	Reference Conditions 273 K, 101.3 kPa	Date of Sampling	Start and End Times	Monitoring Method Reference	Operating Status
Sodium Hydroxide Exhaust 1	Sodium Hydroxide	10	<0.04	mg/m ³	273K, 101.3kPa	24/11/10	0925 - 1125	MDHS 14/3	Normal
Sulphuric Acid Exhaust	Sulphuric Acid	-----	<0.10	mg/m ³	273K, 101.3kPa	24/11/10	0925 - 1125	BS EN 13649	Normal

2 Supporting Information (Held by Redwing Environmental Ltd)

2.1 General Information

2.1.1 Redwing Environmental Ltd staff details

Vicki Gavin and Tony Berek

2.2 Redwing Environmental Ltd method details

2.2.1 Leak tests for extractive techniques

2.2.2 All extractive-sampling techniques were tested for leaks before sampling proceeded. Any leaks present were eliminated prior to sampling and will be reported.

2.2.3 Leak checks are carried out during the calibrating procedure, as the concentration of the calibration gas is known it is easily noticed if air is entering the sample line and diluting the gas.

A

2.3 Speciated VOCs – Sulphuric acid

2.3.1 The method used according to the Environment Agency Technical Guidance Note M2 is BS EN 13649, however, different solvents require different desorption solvents and therefore methods may be based on the MDHS methods.

2.3.2 Briefly, a known sample volume was drawn through a silica gel tube, the silica gel tube was then solvent desorbed using a relevant solvent and analysed using HPLC or Ion chromatography.

2.4 Sodium Hydroxide - MDHS 14/3

2.4.1 Sodium hydroxide was monitored as a Dust by using a pre-weighed filter placed inside a seven-hole sample head. The sample head was then attached to a calibrated sample pump.

2.4.2 The sample pump with sample head attached then had a sample line attached and this was then inserted inside the stack.

2.4.3 The sample pump was left to run for a minimum of two hours. After the sample period the sample pump was recalibrated and the pre-weighed filter removed from the sample head and placed into its dedicated dish.

2.4.4 On return to the laboratory the filter was re-weighed and the difference calculated.

2.4.5 Any weight gain was then divided by the sample volume to obtain the sodium hydroxide concentration in mg/m^3 .

3.0 Quality Assurance

- 3.1 Redwing Environmental Ltd is accredited to ISO 9001:2008 and will always endeavour to follow the methods specified in the Environment Agency Technical Guidance M2.
- 3.2 All analysis is carried out by a UKAS accredited laboratory.

4.0 Disclaimer

- 4.1 Redwing Environmental Ltd confirms that in preparing this report all reasonable skill and care has been exercised.
- 4.2 Unless specifically assigned or transferred within the terms of the agreement, Redwing Environmental Ltd asserts and retains all copyright, and other Intellectual Property Rights, in and over the report and its contents.

APPENDIX A

Sodium Hydroxide and Sulphuric Acid Results

Sulphuric Acid Emission Concentration by Silica Tube Sampling

Location	Lotus LSA		
Test Position	Sulphuric Acid Exhaust		
Run Number	1		
Date of Sampling	24/11/2010		
Sample Reference	10/117/01		
Sample Period	09:25	to	11:25
Exhaust Temp. (°C)	13		
Corrected Sample Volume (l)	20.05		
Compound	Wt. recovered (µg)	*Conc. (mg/Nm ³)	%
Sulphuric Acid	<2	<0.1	n/a
Total Sulphuric Acid	<2	<0.1	n/a

*Concentrations expressed to Reference Conditions: Temperature 273K, Pressure 101.3kPa

Client	Lotus LSA
Site Address	Faraday Close, Park Farm Ind Estate, Wellingborough, NN8 0XH
Job Number	P-RED10-117/EB/R1/Rev0
Date	24th November 2010
Operator(s)	Vicki Gavin and Tony Berek

Pump Reference	Sample ID	Location / Process / Operator	Pump Flow (mls/min)			Sample Duration (mins)			Total Volume (l)	Mass of Analyte (ug)	Concentration (mg/m ³)
			Initial	Final	Average	Start	Finish	Total			
Yellow - 46	10/11/703	Sodium Hydroxide Exhaust - G25/231110/01	Initial		2000.00	Start		09:25	240	<10	<0.04
			Final		2000.00	Finish		11:25			
			Average		2000.00	Total		120			
n/a	10/11/704	Blank site filter - G25/231110/02	Initial		n/a	Start		n/a	240	10.00	0.0417
			Final		n/a	Finish		n/a			
			Average		n/a	Total		n/a			