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REPORT FOR THE PERIODIC MONITORING

OF

EMISSIONS TO AIR FROM

PART B PROCESSES

at

SANDVIK HARD MATERIALS LIMITED
PO BOX 89
TORRINGTON AVENUE
COVENTRY
WARWICKSHIRE
CV4 9XG

PART 1: EXECUTIVE SUMMARY

REPORT NO: 4742v1 **CLIENT REF:** Purchase Order:8252

DATE OF VISIT: 11 – 12th September **CONTACT ON SITE:** Mr Phil Moran

2006

DATE OF REPORT: 08 November 2006

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Permit Number: PPC 025	Operator and Installation: Sandvik - Coventry ALcontrol Laboratories

Approved by:

Reported by:

for ALcontrol Laboratories

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1 MONITORING OBJECTIVES

Permit Number: PPC 025

The monitoring at this installation was carried out for the compliance check monitoring of emissions to air in accordance with the requirements of the PPC permit, reference number PPC 025.

The substances requested for monitoring at each emission point are listed in the table below.

Substances to be monitored	Emi	ssion Point Identifica	ntion					
illollitor cu	LEV 11 - Vent 29	LEV 12 – South Site	LEV 15 – Vent 33					
Particulates	√	√	√					
Tungsten & Cobalt	√	√	✓					
Substances to be monitored	Emi	ssion Point Identifica	tion					
	LEV 18 - Vent 21	LEV 22 - Vent 25	LEV 28 - Vent 28					
Particulates	√	√	√					
Tungsten & Cobalt	√	√	√					
VOC (Methanol)		√						
Substances to be monitored	Emi	ssion Point Identifica	tion					
inomico.cu	Vent 7 – North Site	Large Filter – B4	Small Filter – B4					
Particulates	√	√	√					
Tungsten & Cobalt	√	√	√					
Substances to be monitored	Emi	ssion Point Identifica	ntion					
	Filter - B6							
Particulates		√						
Tungsten & Cobalt	√							

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1.1 Terms of Reference

Permit Number: PPC 025

Sandvik Hard Materials Limited, PO Box 89, Torrington Avenue, Coventry, Warwickshire, CV4 9XG, has commissioned ALcontrol Laboratories to carry out the work described in this report. Monitoring was carried out on 12th and 13th September 2006 by Paul Calland and Andy Barnes at the request of Mr Phil Moran.

The work was carried out in accordance with the site specific sampling protocols outlined in proposal reference 13753a2ju dated June 2006. The clients' instructions are detailed in Purchase Order: 8252

2 MONITORING RESULTS

2.1 Emission Point Reference: LEV 11 - Vent 29

Date of Monitorin	g 11 th Septembe	r 2006	Referen	nce Conditions	NTP			
Pro	cess Status		Processes Running Normally					
Substances To Be Monitored	Emission Limit Value	Aver Emiss Concent	sion	Sampling Met Reference		Sampling Times		
Total Particulate Matter	20 mg.m ⁻³	1.1 m	g.m ⁻³	BS EN 1328	4	40.00 40.50.0		
Tungsten	n/a	<0.1 mg.m ⁻³		<0.1 mg.m ⁻³		BS EN 1438	5	12:20 – 12:50 & 12:55 – 13:25
Cobalt	n/a	<0.1 m	ng.m ⁻³	BS EN 1438	5			

2.2 Emission Point Reference: LEV 12 – South Site

Date of Monitorin	11 th Septembe	er 06	Referei	nce Conditions	NTP	
Pro	cess Status			Processes Run	ning l	Normally
Substances To Be Monitored	Emission Limit Value	Average Emission Concentration		on Sampling Method		Sampling Times
Total Particulate Matter	20 mg.m ⁻³	0.2 m	g.m ⁻³	BS EN 1328	4	00.55 00.05 0
Tungsten	n/a	<0.1 m	ng.m ⁻³	BS EN 1438	5	08:55 – 09:25 & 09:28 – 9:58
Cobalt	n/a	<0.1 m	ng.m ⁻³	BS EN 1438	5	

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2.3 Emission Point Reference: LEV 15 – Vent 33

Permit Number: PPC 025

Date of Monitorin	ate of Monitoring		2006	Referen	nce Conditions	NTP	
Pro	Process Status Processes Running					nning	Normally
Substances To Be Monitored	En	nission Limit Value	Average Emission Concentration		ion Reference		Sampling Times
Total Particulate Matter		20 mg.m ⁻³	0.6 mg.m ⁻³		BS EN 1328	34	14:05 – 14:35 & 14:36 – 15:06
Tungsten		n/a	<0.1 mg.m ⁻³		BS EN 1438	15	
Cobalt		n/a	<0.1 m	ıg.m ⁻³	BS EN 1438	15	

2.4 Emission Point Reference: LEV 21 – Vent 18

Date of Monitorin	g 11 th Septembe	r 2006	Referen	nce Conditions	NTP	
Process Status				Processes Run	ning l	Normally
Substances To Be Monitored	Emission Limit Value	Average Emission Concentration		Sampling Metal Reference	hod	Sampling Times
Total Particulate Matter	20 mg.m ⁻³	0.2 mg	g.m ⁻³	BS EN 1328	4	12:48 – 13:18 & 13:20 – 13:50
Tungsten	n/a	<0.1 mg.m ⁻³		BS EN 1438	5	
Cobalt	n/a	<0.1 m	ng.m ⁻³	BS EN 1438	5	

2.5 Emission Point Reference: LEV 22 – Vent 25

Date of Monitorin	onitoring 11 th September 20		11 th September 2006		nce Condition	s NTP			
Pro	Process Status Pro		Processes Running				Normally		
Substances To Be Monitored	En	nission Limit Value	Average Emission Concentration				ion Sampling Method		Sampling Times
Total Particulate Matter		20 mg.m ⁻³	0.2 mg	0.2 mg.m ⁻³		3284	09:10 - 09:40 & 10:29 - 10:59		
Tungsten		n/a	<0.1 mg.m ⁻³		BS EN 14	385			
Cobalt		n/a	<0.1 m	ıg.m ⁻³	BS EN 14	385			

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2.6 Emission Point Reference: LEV 28 – Vent 24

Date of Monitorin	g 11 th Septembe	er 2006	Reference Cond		NTP	
Pro		Processes Run	ning I	Normally		
Substances To Be Monitored	Emission Limit Value	Average Emission Concentration		Sampling Meta Reference	hod	Sampling Times
Total Particulate Matter	20 mg.m ⁻³	0.2 mg	g.m ⁻³	BS EN 13284	4	10:05 – 10:35 & 10:36 – 11:06
Tungsten	n/a	<0.1 m	ng.m ⁻³	BS EN 1438	5	
Cobalt	n/a	<0.1 m	ng.m ⁻³	BS EN 1438!	5	

2.7 Emission Point Reference: Vent 7 – North Site

Date of Monitorin	g 12 th Septembe	12 th September 2006		nce Conditions	NTP	
Pro	cess Status	us Processes Running Normal				
Substances To Be Monitored	Emission Limit Value	Average Emission Concentration		Sampling Metl Reference	hod	Sampling Times
Total Particulate Matter	20 mg.m ⁻³	0.3 mg	g.m ⁻³	BS EN 13284	4	09:35 – 10:05 & 10:06 – 10:36
Tungsten	n/a	<0.1 mg.m ⁻³		BS EN 1438	5	
Cobalt	n/a	<0.1 m	ng.m ⁻³	BS EN 1438!	5	

2.8 Emission Point Reference: Large Filter – B4

Date of Monitorin	g 12 th Septembe	tember 2006		nce Conditions	NTP	
Process Status			Processes Running Normally			
Substances To Be Monitored	Emission Limit Value	Average Emission Concentration		Sampling Metl Reference	hod	Sampling Times
Total Particulate Matter	20 mg.m ⁻³	0.3 m	g.m ⁻³	BS EN 13284	4	10:48 – 11:18 & 11:20 – 11:50
Tungsten	n/a	<0.1 m	ng.m ⁻³	BS EN 1438!	5	
Cobalt	n/a	<0.1 m	ng.m ⁻³	BS EN 1438	5	

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2.9 Emission Point Reference: Small Filter – B4

Permit Number: PPC 025

Date of Monitorin	g 12 th Septembe	r 2006	Referen	nce Conditions	NTP	
Pro		Processes Run	ning l	Normally		
Substances To Be Monitored	Emission Limit Value	Average Emission Concentration		Sampling Method Reference		Sampling Times
Total Particulate Matter	20 mg.m ⁻³	0.3 mg	g.m ⁻³	BS EN 13284	1	10:51 – 11:21 & 11:23 – 11:53
Tungsten	n/a	<0.1 mg.m ⁻³		BS EN 1438	5	
Cobalt	n/a	<0.1 m	ng.m ⁻³	BS EN 1438	5	

2.10 Emission Point Reference: Filter – B6

Date of Monitorin	g 12 th September	r 2006	Reference Conditions		NTP	
Process Status			Processes Running Normally			
Substances To Be Monitored	Emission Limit Value	Average Emission Concentration		Sampling Method Reference		Sampling Times
Total Particulate Matter	20 mg.m ⁻³	0.1 mg	g.m ⁻³	BS EN 1328	4	12:27 – 13:39 & 13:41 – 14:53
Tungsten	n/a	<0.1 m	ıg.m ⁻³	BS EN 1438	5	
Cobalt	n/a	<0.1 m	ng.m ⁻³	BS EN 1438	5	

3 PLANT AND OPERATING INFORMATION

Plant and operating conditions prevailing on the date of the survey were described as normal in all cases.

4 MONITORING DEVIATIONS

Emission Point Reference	Substance Deviations	Monitoring Deviations	Other Relevant Issues
LEV 12 – South Site Small Filter – B4 Small Filter – B6	None	Non Isokinetic Sampling, Sampled from grill.	No Outlet Stack
Various	Some stacks thought the dimensions of the duct work was not ideal, flow profiles complied with the relevant standards.		
Other Stacks	None	None	None

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PART 2: SUPPORTING INFORMATION

REPORT NO: 4742v1 **CLIENT REF:** Purchase Order:8252

DATE OF VISIT: 12 – 13 September 2006 **CONTACT ON SITE:** Mr Phil Moran

DATE OF REPORT: 08 November 2006

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Permit Number: PPC 025	Operator and Installation:	Sandvik - Coventry ALcontrol Laboratories
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Approved by:		
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5 APPENDIX I

5.1 Field Staff Used

Permit Number: PPC 025

Name	MCERTS Registration No:	MCERTS Qualifications	Function
Andy Barnes	MM 03 235	Level 2, TE1, TE3 &TE4	Team Leader
Paul Calland	MM 03 212	Level 2, TE1 &TE4	Assistant

5.2 Field Monitoring Methods Used

5.2.1 Stack Velocity & Temperature Measurements

Stack velocity was measured using a pitot tube, conforming to the design specifications of ISO 3966-1977, coupled to an electronic manometer. Both are calibrated annually by a UKAS accredited supplier. Temperature measurements were taken using a K-type thermocouple connected to an electronic thermometer. Both are calibrated annually by a UKAS accredited supplier. Measurements fulfil the requirements of ISO10780:1994.

5.2.2 Particulate Matter

Periodic extractive sampling for particulate matter was conducted isokinetically using two Stackmite sampling trains, with the in stack filter configuration. The sampling systems are calibrated annually and are UKAS traceable.

Measurements fulfil the requirements of BS EN 13284-1:2002 & Environment Agency MID1.

5.2.3 Tungsten & Cobalt

Periodic extractive sampling for tungsten and cobalt was conducted isokinetically using an impinger train built into the Stackmite sampling trains above.

Measurements fulfil the requirements of BS EN 14385.

5.3 Analysis Methods

5.3.1 Techniques & Detection Limits

Analyte	Analysis Technique	Detection Limit	UKAS Accredited	Laboratory Method Reference
Total Particulate	Gravimetric	100 μg	Yes	In House
Tungsten	ICP	0.5 μg	Yes	R8b
Cobalt	ICP	5 μg	Yes	R8b

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6 APPENDIX II

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6.1 Particulate & Flowrate Calculation Spreadsheets

This Appendix contains 10 pages.

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