



AIRBORNE FIBRE MONITORING CERTIFICATE OF ANALYSIS

4-RAIL
Services Ltd

CLIENT: PAUL CANNOLL, LUL TEST DATE: 04/03/17
 ADDRESS: 15 WESTFERRY CIRCUS PAGE NO: 1 of 4
CANARY WHARF, E14 4HL JOB NUMBER: 161379
 SITE: MOSSGATE STATION STAIRS CERTIFICATE REF: C161379/040317/01
2/601 ISSUE NO: 001
 TYPE OF TEST(S): Static: Background (B)/ Leak (L)/ Reassurance (R)/ Clearance (C); Personal (P)
 ANALYSIS LOCATION: 4-RAIL QCLAB / STATION ME-SS ROOM NO OF SAMPLES: 04
 REMOVAL OPERATION: AFM DURING CLEARING AND ENCAPSULATING SUSPECTED AIR PACKING
 ASBESTOS REMOVAL CONTRACTOR (ARC): EDENBECIR LTD TYPE OF ASBESTOS: TO STAIRS 2/601
TO BE ANALYSED

SLIDE NO	TEST	LOCATION / OPERATION	START TIME	FINISH TIME	FLOW RATE (l/min)	VOL. OF AIR (litres)	FIBRES	FIELDS	LOQ* (f/ml)	CALC FIBRE CONC ^N (f/ml)	FIBRE CONC ^N (f/ml)
210236	R	P1 - TOP OF STAIRS 2/601	0915	1128	4.0	532	2.0	180	0.01	0.001	<0.01
210237	R	P2 - BOTTOM OF STAIRS 2/601	0915	1128	4.0	532	1.0	180	0.01	0.001	<0.01
210238	R	P3 - TOP OF STAIRS 2/601	1128	13.24	5.0	580	2.5	166	0.01	0.001	<0.01
210239	R	P4 - TOP OF BOTTOM OF STAIRS 2/601	1128	13.25	5.0	585	2.0	165	0.01	0.001	<0.01

Flow rate correction made for temperature or pressure? Y/N
 Test Method carried out in accordance with HSG248 and in-house test procedure 4R-E203. Fibres referred to may or may not be asbestos fibres. Samples taken will be held in the main laboratory and disposed of after a minimum period of six months.

* LOQ (LIMIT OF QUANTIFICATION) / UNCERTAINTY OF MEASUREMENT
 The lower limit of accurate measurement (fibre level, f/ml) of the above method is stated in HSG248 as 0.01 fibres/ml. When the sample volume is 480 litres and 200 graticule fields are examined the result is expressed as <0.01 fibres/ml. For sample volumes different to 480 litres and 200 graticule fields, the limit of accurate measurement will be different, as detailed in the table above.

LIMITS (limits, published in HSE documents, that are applicable to the above samples are ticked)
 HSE Recognised Clearance Indicator Limit: <0.01 fibres/ml. (applicable to static samples)
 HSE 4-hour Control Limit: 0.1 fibres/ml. (applicable to personal samples) Respirator: _____
 All the above results were below the applicable limits. Comments: _____

SAMPLING UNDERTAKEN BY: _____ POSITION: Senior Technologist /
 SLIDES COUNTED BY: _____ POSITION: Senior Technologist /
 CERTIFICATE ISSUED BY: _____ POSITION: Senior Technologist /
 SIGNATURE: _____ DATE: 04/03/2017

SLIDE NO	HEAD/PUMP NO.	START FLOW RATE (l/min)	START TIME	FINAL FLOW RATE (l/min)	FINISH TIME	FLOW RATE CHECK (l/min)	TIME	FLOW RATE CHECK (l/min)	TIME	FLOW RATE CHECK (l/min)	TIME	FLOW RATE CHECK (l/min)	TIME
210236	VC5 410607	4.0	0915	4.0	1128	4.0	0936	4.0	1049	-	-	-	-
210237	Rw2 410604	4.0	0915	4.0	1128	4.0	0936	4.0	1049	-	-	-	-
210238	VC11 410604	5.0	1128	5.0	1324	5.0	1157	5.0	1232	5.0	1307	-	-
210239	ACC3 410607	5.0	1128	5.0	1325	5.0	1157	5.0	1232	5.0	1307	-	-
(A large blue diagonal line is drawn across the remaining empty rows of the table.)													

START PRESSURE 1000 Mbar

FINAL PRESSURE 1000 mbar

PRESSURE MEASURED BY: NPL Website

START TEMPERATURE 11.5°C

FINAL TEMPERATURE: 11.5°C

THERMOMETER REF: 402616

MICROSCOPE & OTHER EQUIPMENT

MICROSCOPE NO. ¹⁰¹ 401339	FOCUS CONDENSER <input checked="" type="checkbox"/>	CENTRE CONDENSER <input checked="" type="checkbox"/>	ALIGN PHASE RINGS <input checked="" type="checkbox"/>
NPL TEST SLIDE NO. ³⁵²⁰ 4426	NO OF VISIBLE BANDS ^{5TH}	GRATICULE SLIDE NO. ¹³⁸⁷⁷ A407	GRATICULE DIAMETER ⁹⁹ 99 µm
NEXT CHECK DUE 30/03/17		NEXT CHECK DUE 30/03/17	
FILTER TYPE: MIXED CELLULOSE ESTERS/NITRATE, 25MM, WHITE GRIDDED	0.8 µm <input checked="" type="checkbox"/>	1.2 µm <input type="checkbox"/>	FILTER BATCH/ LOT NUMBER 16406-7DF-245
FLOW METER REFERENCE NO 402837	CHECK DUE DATE 05/04/17	FLOW METER REFERENCE NO ⁴⁰²⁸¹⁵	CHECK DUE DATE ^{05/04/17}
TALLY COUNTER NO.: 402842	DATE OF NEXT CHECK 30/03/17	TALLY COUNTER NO.: 402435	DATE OF NEXT CHECK 30/03/17
TIMEPIECE VC WATCH	CALIBRATION DUE DATE ^{21/03/17} 21/03/17		

INSPECTION PRIOR TO WORK COMMENCING: YES NO N/A

ENCLOSURE / WORKSITE SIZE: _____ M²/M³ TIME OF VISUAL INSPECTION: _____

ENCLOSURE INTACT YES NO COMMENTS: _____

SMOKE TEST* CARRIED OUT IN ENCLOSURE YES NO RESULT: SATISFACTORY UNSATISFACTORY

INSPECTION RESULT SATISFACTORY UNSATISFACTORY

COMMENTS: _____

* WITNESSING THE SMOKE TEST LIES OUTSIDE THE SCOPE OF ACCREDITATION

INSPECTION DURING REMOVAL: YES NO N/A

ENCLOSURE INTACT YES NO COMMENTS: _____

AIR EXTRACTION UNIT(S) OPERATING YES NO COMMENTS: _____

CONDITIONS OF ISSUE : THIS CERTIFICATE IS ISSUED TO THE CLIENT IN CONFIDENCE AND SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF 4-RAIL SERVICES. ANY QUERIES OR REQUESTS FOR ADDITIONAL INFORMATION ON THE SUBJECT OF THIS REPORT SHOULD BE ADDRESSED TO A CONSULTANT WHO MAY BE CONTACTED AT THE ADDRESS GIVEN ON THE FOOTER OF THIS PAGE.

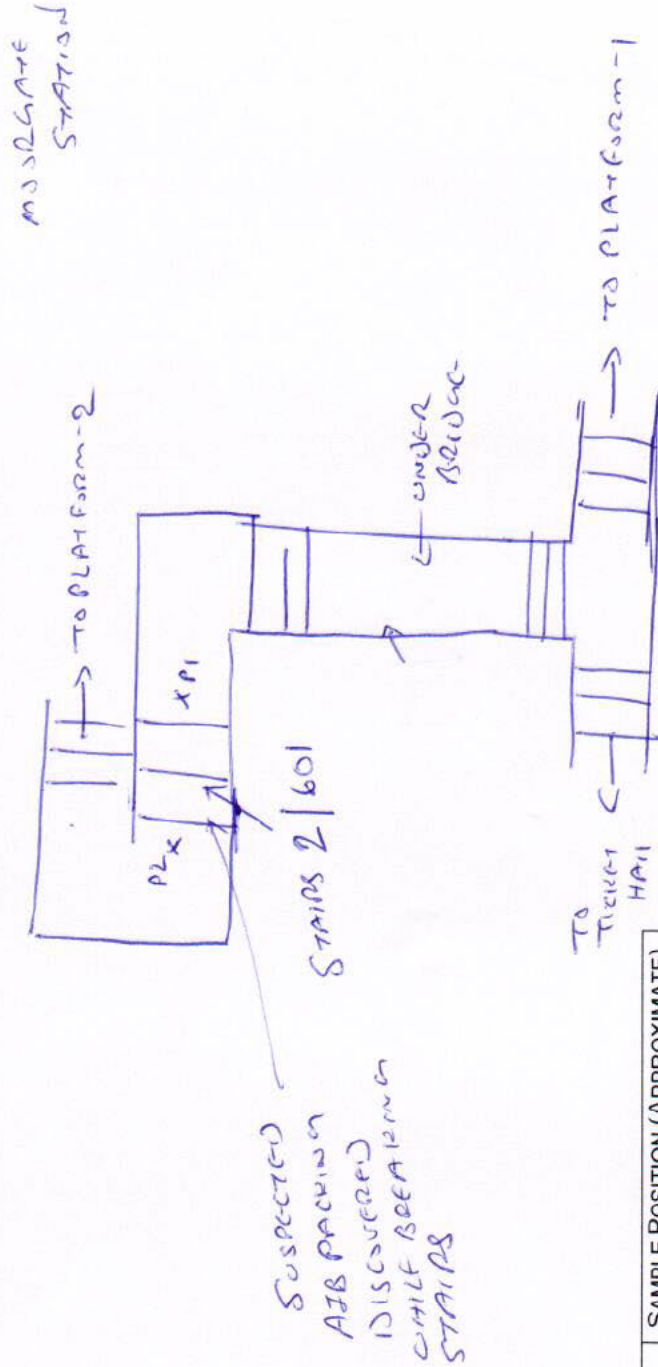


AIRBORNE FIBRE MONITORING SITE DIAGRAM



THE SITE DIAGRAM SHOULD INCLUDE THE LOCATION OF ACMs TO BE REMEDIATED, ENCLOSURE / WORK AREA INCLUDING AIRLOCKS AND BAGLOCKS, TRANSIT AND WASTE ROUTES, SKIP AND HYGIENE FACILITIES. IT SHOULD PROVIDE DETAILS OF SIZES AND DIMENSIONS.

NOT TO SCALE



X	SAMPLE POSITION (APPROXIMATE)
NPU	NEGATIVE PRESSURE UNIT
AL	AIRLOCK
BL	BAGLOCK
DCU	DECONTAMINATION UNIT
ACM	LOCATION OF ASBESTOS CONTAINING MATERIAL TO BE REMEDIATED. GIVE DETAILS:

ARC's REPRESENTATIVE ACKNOWLEDGEMENT
NAME [REDACTED] SIGNED [REDACTED]

DATE 04-03-17 TIME 1256

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AIRBORNE FIBRE MONITORING REMARKS & OBSERVATIONS

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The opinions and interpretations expressed herein are outside the scope of the UKAS Accreditation.

TO INCLUDE SPECIFIC ACTIVITIES OR EVENTS TAKING PLACE DURING SAMPLING, ANY RELEVANT ENVIRONMENTAL CONDITIONS

CONDITION OF SITE LABORATORY ASSESSED (E203 APP.1 7.0), IF APPROPRIATE:

AIR VELOCITY OF NPU, IF REQUIRED (M/S): NA

NPU FILTER AREA, IF REQUIRED (M²): NA

0720 RECEIVED FAULT FOR SUSPECTED AIR PACKER DISTURBANCE
WHILE BREAKING STAIRS 2/601 BY LUL TEAM FR 1842273

0828 LRS ON SITE AT MAIR GATE STATION AND MEET LUL
ON SITE MANAGER, SIGN IN AT POSSESSION DESK

ONE SAMPLE COLLECTED FOR ASBESTOS 11)

0915 AFM ACTIVATED AT STAIRS 2/601

1029 EDENBECR MATT SUMMERS ARRIVAL AT STATION

1103 EDENBECR SET UP WORK SITE IN STAIRS 2/601
AND START CLEANING LOOSE SUSPECTED AIR DERRIS
AND ENCAPSULATION AFTER

~~IRG~~

1116 LRS IRG ARRIVAL AT STATION SET UP LAB IN STATION MASS
ROOM

1128 AFM REPLACED

1205 EDENBECR COMPLETED WORK

1209 AREA CHECKED AND FOUND TO BE SATISFACTORY (VISUAL INSPEC
TION)

1216 AREA HANDLED BACK TO LUL TO SCREEN CONCRETE COVER

1325 ALL AFM COLLECTED

1341 ALL AFM RESULTS FOUND TO BE SATISFACTORY (0.01 F/G) ⁶²⁰¹

1355 LEAVE SITE (VC, IRG, EDENBECR)