ENVIRONMENTAL ESSENTIALS

Manchester Metropolitan University

Ryebank Fields
Chorlton-cum-Hardy
Manchester
M21 9NS

Consultancy Report – Issued 08 June 2020

Your Asbestos Management Partner

Consultancy
Survey
Management Plans
Removal Specifications
Analytical Support
Business Critical Data Management
Training

Background

Manchester Metropolitan University own this plot of land called Ryebank Fields, which is located adjacent to Longford Park in Chorlton. The site is approximately 4.6 Hectares in size. Local residents who use the land have identified suspect asbestos materials on the surface, which they have sampled and had UKAS Accredited analysis undertaken.

The resident submitted reports to the University which confirmed the location of the samples identified, the confirmed analysis results and comments relating to some of the materials identified being identified, bagged and removed on 7th May 2020. The samples were analysed by AEC on 14th May and although the photographic evidence seems to confirm the materials as being typical of asbestos cement, AEC's bulk certificate only confirms the materials as 'debris'. Out of the 7 samples analysed, 6 were classified as Chrysotile content and 1 sample as Chrysotile and Crocidolite. The resident confirms within his report that MMU were notified on 14th May.

Following receipt of this information the University promptly restricted access to the site via heras fencing and engaged the services of University approved licensed asbestos removal contractor OPS Environmental Ltd and University approved asbestos consultancy Environmental Essentials Ltd. Both parties attended site 7 days later (4 working days), in order to compile quotations, RAMS and allocate resource during the difficult Covid-19 epidemic and reduced work forces available.

On 20th May a further report was submitted by the resident which confirmed bore hole locations across the site and information that the area was used as a general tip from the 1940's until the 1970's, with the suggestion that buried asbestos is very likely. The suggestion in the report is that the hard core and soil used to cover the site is eroding in areas which is uncovering the asbestos materials identified.

OPS Environmental Ltd were engaged to remove suspect non-licensed asbestos materials from the external ground area, to remove any immediate visible debris, as far as practicable, across the full site. Environmental Essentials Ltd were engaged, at the same time, to provide static reassurance air monitoring and personal assessment air monitoring of OPS Environmental Ltd operatives undertaking the work. Environmental Essentials Ltd were also commissioned to sample suspect material identified during the 'litter pick' type removal exercise, to confirm, via UKAS Accredited analysis, the materials which were identified and removed (where deemed non-licensed work).

Strategy Summary

It was agreed between MMU and OPS Environmental that the removal work would be undertaken over 5 days. The field areas were broken down into 5 different grid areas / sections, with one grid / section to be completed each day. One additional day was required, 6 in total, in order to complete the making safe work with the asbestos insulation material identified.

As part of each grid area / days work, Environmental Essentials were to undertake static reassurance air monitoring, personal assessment air monitoring and bulk sampling of suspect materials. All results would be populated onto test certificates and site plans.

The scope of the abatement work was to remove any visible material to the surface only, in areas which could be accessed. The work did not involve any investigation, removal or sampling of materials beneath ground level.

Findings / Results

Bulk samples

In summary, asbestos cement debris proved to be widespread, although not in large quantities, throughout each grid area / day. This debris has been removed as far as practicable and where visible. Not every piece of asbestos cement was sampled, the samples were taken in representative locations to provide overall evidence of findings in each grid area, each day.

Asbestos insulation was identified, in localised areas, to the grid area on the drawing marked ‘day 1’ and ‘day 4’. The only way to remove this material in the two locations identified, in the opinion of OPS Environmental, would be to notify the removal via ASB5 and complete under fully controlled conditions. This is to be completed at a later date and the areas were therefore made safe via temporary sealing over the insulation material with gravel and fixed sheeting.

The full bulk certificate results and associated plan which illustrates the position of each material can be found in Appendix A.

Air Monitoring

Static reassurance air samples were taken over the course of 6 days. These were positioned in various locations, taking into consideration, wind direction, perimeter of work zones, close proximity of removal work being undertaken etc. These air tests provide a range of information, including the ambient fibre levels in the air, within the boundary of the field areas.

All static reassurance air test results, including those taken in close proximity to the insulation materials identified, proved to be satisfactory, being below the limit of quantification.

Personal assessment samples were attached to OPS Environmental operatives undertaking removal work in order to ensure that the respiratory equipment being used was adequate and to ensure that OPS Environmental did not exceed the estimated exposure levels of employees (as documented in the plan of work). As the sample head is positioned around the face area, his type of air test also provides useful information regarding the potential fibre levels being breathed in whilst generally accessing the field, and in this case, causing some minor disturbance of the materials during the removal process.

All personal assessment samples proved to be below the limit of quantification, below the protection factor of an orinasal P3 respirator and below the estimated exposure levels of the OPS operatives.

The full air monitoring test certificates and associated site layout drawings of the sample points can be found in Appendix B.

Conclusions / Recommendations

Although airborne fibre levels proved to be satisfactory there is an underlying problem with the site in terms of widespread physical asbestos debris. This has been removed as far as practicable, however during this period of the year there is much undergrowth, long grass etc. which made removal difficult.

There is evidence that buried asbestos materials are working their way to the surface in areas, meaning further asbestos materials may be uncovered moving forwards, including high risk asbestos materials which have been identified in two completely different sections of the site. This point is backed up by the report issued to the University by the resident who took the initial samples. It is documented within his report that some of the debris was now visible due to erosion of the ground.

Environmental Essentials were made aware of previous ground investigation work which also noted a potential asbestos issue beneath ground level.

MMU have a duty to manage asbestos at this site. The following actions would be recommended:

- Given the evidence to date and further investigation work potentially required, it would be suggested that the heras fencing be kept in situ (beyond the point of removing the immediate asbestos insulation), locked and warning signage fixed to prevent access to the public as far as practicable. Removing the heras fencing would send out the wrong message to the public that the asbestos problem has been resolved. If someone was to then detect further high risk asbestos materials and claim exposure to such materials then this would put the University in a vulnerable position, having identified a problem at this point. It is apparent from the site visits that members of the public will vandalise the fencing and force access, and whilst this will prove extremely difficult to stop, a weekly assessment would be recommended in order to attempt to re-secure. Visits should be recorded and photos taken of any damage and remediation undertaken to demonstrate steps taken as far as practicable to restrict access.
- The asbestos insulation material must be removed as far as practicable, taking the material slightly beneath the ground level and using an aggregate (such as gravel, or a layer of correx / sheeting then covered by soil) to cover the hole created and try to prevent further asbestos insulation in these immediate areas from working their way back to the surface.
- Until such point that the asbestos insulation material be removed, it is suggested that a weekly inspection be made to ensure the temporary making safe measures remain in tact. Such inspections should be recorded.
- It would be suggested that an inspection regime for the site in general be put in place, this could be on a monthly basis, following removal of the insulation materials, in order to sweep the site for any obvious debris issues. These inspections are to be undertaken by a competent and suitably trained asbestos person(s) and the findings recorded. Any further asbestos identified should be marked on a site drawing and a university approved licensed asbestos removal contractor engaged to remove the material at the earliest opportunity.

- It would be suggested that a further widespread inspection be undertaken in mid-late September, once plants etc. start to die back, but prior to trees sheading their leaves. This is important in the areas highlighted with red x symbols on the site plan below, which could not be accessed / inspected during this site visit in May 2020. Additional areas possible to inspect should be recorded on a site aerial view plan in order to update the records for the site, in terms of assessments made, and remediation planned at the earliest opportunity, should further suspect materials be identified.

- Procedures are to be put in place to ensure the ground on this site is not breached by maintenance activities. No disturbance should be made to the ground as this has the potential to uncover further asbestos materials, back to the surface. If maintenance has to be undertaken then consideration would need to be made as to who undertakes this work, how the work can be undertaken as safely as practicable, consideration for asbestos training, PPE / RPE, decontamination etc. and assessments made of the site upon completion of any work. Any such work must be channeled through the University asbestos team and procedures / methods etc. agreed.
- The University may wish to schedule a more detailed ground investigation exercise to attempt to gain further specific knowledge on the extent of the asbestos problem beneath ground level. It is unclear to Environmental Essentials at this stage what the future plans for this land are, therefore such further investigations / remediation work beneath ground level will be determined by the planned usage.

Adam Whalley

Environmental Essentials - Technical Operations Manager

Appendix A – Environmental Essentials Bulk Sample Certificates

Head Office: Unit 3 Arlington Court, Silverdale Enterprise Park, Cannel Row, Newcastle-under-Lyme, Staffordshire ST5 6SS
Telephone: 0345 456 9953 **Email:** enquiries@environmentalessentials.co.uk
www.environmentalessentials.co.uk

Registered in England Number: 5097507

Appendix B – Environmental Essentials Air Monitoring Certificates

Head Office: Unit 3 Arlington Court, Silverdale Enterprise Park, Cannel Row, Newcastle-under-Lyme, Staffordshire ST5 6SS
Telephone: 0345 456 9953 **Email:** enquiries@environmentalessentials.co.uk
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Ensuring people, places and spaces are safe

Newcastle-under-Lyme / Glasgow / Wakefield / Crawley / Abergele / Chesterfield

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Registered in England Number: 5097507

OUR PURPOSE & VALUES

Ensuring **people**, **places** and **spaces** are safe.

With more than 200 employees working from regional offices across the country, Environmental Essentials deliver a local service at a national level.

Priding ourselves on our excellent customer service, we have built our business on communication, hard work, attention to detail and quality assurance every step of the way. Our commitment to quality and safety is unrivalled.

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CERTIFICATE OF ANALYSIS

Project No:	P-369573	**Page:**	1 of 2
Client:	Manchester Metropolitan University 99 Oxford Road Manchester M1 7EL	**Issue date:**	08 June 2020
Site:	Ryebank Fields Chorlton-cum-Hardy Manchester M21 9NS		
Samples Taken:	21 - 28 May 2020		
Sampled by:	Jordan Longshaw		
Date analysed:	29 May 2020		
Analysed by:	Jordan Longshaw		
Laboratory:	Lab L1, Unit 3 Arlington Court, Silverdale Enterprise Park, Cannel Row, Staffordshire ST5 6SS		

Key: chrysotile 'white asbestos', asbestos grunerite [amosite] 'brown asbestos', crocidolite 'blue asbestos'

The analysis detailed in this certificate was undertaken by polarised light microscopy in accordance with our in-house procedure based upon HSG248 Asbestos: The analysts' guide for sampling, analysis and clearance procedures.

For samples submitted by the Client or Client's representative Environmental Essentials Ltd cannot be held responsible for the representative nature of the samples or accuracy of the sample descriptions.

The description of the type of product is based on a visual examination of the material and is given for guidance purposes only. Environmental Essentials accepts no liability for any actions the Client may take based on the material type/s detailed on this certificate.

***Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation**

Authorised by: Adam Whalley

Position: Technical Operations Manager

Signed:

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Environmental Essentials Limited

Head Office
Unit 3 Arlington Court
Cannel Row
Silverdale Enterprise Park
Newcastle-under-Lyme
Staffordshire
ST5 6SS

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CERTIFICATE OF ANALYSIS

Project No: P-369573 **Page:** 2 of 2

Sample Number	Location / Description	Analysis	Material identification*
P-369573/001	Ryebank Fields - Section One (Day One)	Chrysotile	Asbestos cement
P-369573/002	Ryebank Fields - Section One (Day One)	Chrysotile	Asbestos cement
P-369573/003	Ryebank Fields - Section One (Day One)	Chrysotile	Asbestos cement
P-369573/004	Ryebank Fields - Section One (Day One)	Chrysotile	Asbestos cement
P-369573/005	Ryebank Fields - Section One (Day One)	Crocidolite, Amosite, Chrysotile	Asbestos insulation
P-369573/006	Ryebank Fields - Section One (Day One)	Chrysotile	Asbestos cement
P-369573/007	Ryebank Fields - Section Two (Day Two)	Chrysotile	Asbestos cement
P-369573/008	Ryebank Fields - Section Two (Day Two)	Chrysotile	Asbestos cement
P-369573/009	Ryebank Fields - Section Two (Day Two)	Chrysotile	Asbestos cement
P-369573/010	Ryebank Fields - Section Two (Day Two)	Chrysotile	Asbestos cement
P-369573/011	Ryebank Fields - Section Two (Day Two)	Chrysotile	Asbestos cement
P-369573/012	Ryebank Fields - Section Three (Day Three)	Chrysotile	Asbestos cement
P-369573/013	Ryebank Fields - Section Three (Day Three)	Chrysotile	Asbestos cement
P-369573/014	Ryebank Fields - Section Three (Day Three)	Chrysotile	Asbestos cement
P-369573/015	Ryebank Fields - Section Four (Day Four)	Crocidolite, Amosite, Chrysotile	Asbestos insulation
P-369573/016	Ryebank Fields - Section Four (Day Four)	Chrysotile	Asbestos cement
P-369573/017	Ryebank Fields - Section Five (Day Five)	Chrysotile	Asbestos cement
P-369573/018	Ryebank Fields - Section Five (Day Five)	Chrysotile	Asbestos cement
P-369573/019	Ryebank Fields - Section Five (Day Five)	Chrysotile	Asbestos cement
	End of Report		

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Environmental Essentials Limited

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Staffordshire
ST5 6SS

Tel: 0845 456 9953 Fax: 0845 456 9954

SITE LAYOUT

Client Name and Address:	Manchester Metropolitan University, 99 Oxford Road, Manchester, M1 7EL, ,	Project Number:	P-369565
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Certificate Number:	20200530/JLO/001

NB DIAGRAM FOR CERTIFICATE OF RE-OCCUPATION MUST BE INCLUSIVE OF APPROXIMATE ENCLOSURE DIMENSIONS

KEY FOR DIAGRAM

	Air Locks		Polythene Sheeting	SKIP	Waste Skip		Viewing Panels
	Negative Pressure Unit		Flexible ducting	ARC	Asbestos Contractor Vehicle		Asbestos remaining
	Transit Route	DCU	Decontamination Unit	X	Sample Locations		

This diagram is only representative of the site layout and is not drawn to scale.

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AIR MONITORING TEST REPORT

Client Details	Manchester Metropolitan University	Project Number:	P-369565
	99 Oxford Road, Manchester, M1 7EL, ,	Shift Number:	1
		Certificate Number:	20200521/JLO/001
Site Address	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Issued Date:	21/05/2020
		Issued by (print):	Jordan Longshaw
		Issued by (signature):	

Environmental Essentials' Issuing Laboratory

Lab L1, Unit 3 Arlington Court, Silverdale Enterprise Park, Cannel Row, Staffordshire ST5 6SS

Four stage site clearance procedures, air monitoring and fibre counting are undertaken in accordance with Environmental Essentials' in-house procedures which are based on the methodologies specified within HSE document HSG 248 Asbestos: The analysts' guide for sampling, analysis and clearance procedures.

All air tests will have one of the following suffix codes which will indicate the purpose of the test:

Sample Type B – Background Testing.
This testing is undertaken to establish a background level of airborne fibres prior to any remediation works being carried out.

Sample Type L – Leak Testing.
This testing is undertaken during works involving asbestos around the perimeter of a 'live' removal enclosure, in order to assess the effectiveness of control measures in place in particular the enclosure itself. Usually a sample of at least 480 litres of air will be taken, however shorter sampling periods or "pooled" sampling strategies may be adopted if the analyst suspects an enclosure breach, for example.

Sample Type C – Clearance Testing.
This testing is undertaken following the removal or encapsulation of asbestos materials within an enclosure in order to ascertain the quantification of airborne fibres compared with the clearance indicator level of 0.01 f/ml. At least 480 litres of air must be taken per sample. A clearance test will also be undertaken when assessing the suitability of a decontamination unit following completion of works.
For an area to be deemed as suitable for normal occupancy following asbestos remediation, at least 80% of the air test results must be below the clearance indicator level, whilst all results must be below 0.015 f/ml.

Sample Type R – Reassurance Testing.
This testing is undertaken in certain circumstances to confirm that airborne fibre levels are below 0.01 f/ml. For example, following the removal of an asbestos removal enclosure or as an assessment of an area for continued normal occupancy. At least 480 litres of air must be taken per sample.

Sample Type A – Personal Assessment Testing.
This testing will be undertaken during abatement works involving asbestos in order to assess the suitability of the respiratory protective equipment being used and also the effectiveness of the dust suppression methods in place. At least 40 litres of air must be sampled and the quantification limit will be calculated accordingly.

Sample Type P – Personal Compliance Testing.
This testing is undertaken in order to assess whether or not personal exposures are in compliance with the 4-hour Control Limit as defined within the ACOP L143 – Control of Asbestos Regulations (CAR) 2012.

Sample Type FB – Field Blank.
Field blanks are generated from satifactory filter batches and treated in the same way as filters used for air sampling but without any air being drawn through them. In the event of elevated fibre counts on air samples, a field blank will be counted in order to exclude the possibilty of contamination causing the elevated fibre count.

Air sampling and fibre counting fall within Environmental Essentials' scope of UKAS accreditation however, opinions and interpretations that may be expressed within this report are outside the scope of UKAS accreditation.

Certificate of cleanliness following works with non-licensed materials which may have been undertaken and witnessed as part of this project are not covered by Environmental Essentials' scope of UKAS accreditation.

UKAS TESTING
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AIR MONITORING TEST CERTIFICATE

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Client Name and Address:	Manchester Metropolitan University, 99 Oxford Road, Manchester, M1 7EL, ,	Project Number:	P-369565
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Date:	21/05/2020
Work Location:	Field areas, as per aerial photo demarcation	Certificate Number:	20200521/JLO/001

Microscope No:	M39	NPL Test Slide	3558	Stage Micrometer:	SM42	Timepiece:	DB44
Testing Kit No:	A39	Test band observed:	5	Graticule Diameter(µm):	100	Exposed filter diameter:	22.0
Flow meter:	F35A & LF35A	Barometer/Thermometer:	DB44	Pressure (mb):	1011.7	Temperature (°C):	13.8

Sample Number	Sample Type	Pump No	Cowl No	Sample Location	Sampling Times		Duration (mins)	Flow Rates (l/min)		Mean Flow Rate (l/min)	Sample Volume (litres)	Fibres Counted	Graticule Fields	LoQ* (f/ml)	Calculated Result**	Reported Result (f/ml)
					Start	Finish		Start	Finish							
001	R	252	JLO01	External - Field areas, as per aerial photo demarcation - Front left side of parking space	09:23	10:23	60	8.0	8.0	8.00	480	1.0	200	0.01	0.0005	< 0.01
002	R	253	JLO02	External - Field areas, as per aerial photo demarcation - Front middle of parking space	09:24	10:24	60	8.0	8.0	8.00	480	3.5	200	0.01	0.0018	< 0.01
003	R	256	JLO03	External - Field areas, as per aerial photo demarcation - Front right side of parking space	09:25	10:25	60	8.0	8.0	8.00	480	1.5	200	0.01	0.0008	< 0.01
004	A	235	JLO04	External - Field areas, as per aerial photo demarcation - Attached to OPS operative Steve Murray wearing Cat 3 Type 5 overalls and half face mask while carrying out the removal of suspected asbestos cement to the external grounds.	09:26	11:46	140	2.0	2.0	2.00	280	1.5	200	0.02	0.0013	< 0.02
005	FB	-	JLOFB	Taken alongside 001R	-	-	-	-	-	-	-	Not Counted	Not Counted	-	-	-
006	R	252	JLO05	External - Field areas, as per aerial photo demarcation - Rear left of parking space	10:33	11:33	60	8.0	8.0	8.00	480	1.5	200	0.01	0.0008	< 0.01
007	R	253	JLO06	External - Field areas, as per aerial photo demarcation - Rear middle of parking space	10:34	11:34	60	8.0	8.0	8.00	480	2.0	200	0.01	0.001	< 0.01
008	R	257	JLO07	External - Field areas, as per aerial photo demarcation - Rear right of parking space	10:35	11:35	60	8.0	8.0	8.00	480	2.5	200	0.01	0.0013	< 0.01
009	R	252	JLO08	External - Field areas, as per aerial photo demarcation - Left side of field	12:31	13:31	60	8.0	8.0	8.00	480	2.5	200	0.01	0.0013	< 0.01
010	R	253	JLO09	External - Field areas, as per aerial photo demarcation - Middle of field	12:32	13:32	60	8.0	8.0	8.00	480	1.5	200	0.01	0.0008	< 0.01
011	R	257	JLO10	External - Field areas, as per aerial photo demarcation - Right side of field	12:33	13:33	60	8.0	8.0	8.00	480	2.5	200	0.01	0.0013	< 0.01
012	R	252	JLO01	External - Field areas, as per aerial photo demarcation - Rear right side of field	13:35	14:35	60	8.0	8.0	8.00	480	2.5	200	0.01	0.0013	< 0.01
013	R	253	JLO02	External - Field areas, as per aerial photo demarcation - Rear left side of field	13:36	14:36	60	8.0	8.0	8.00	480	2.0	200	0.01	0.001	< 0.01
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*LoQ = Limit of quantification **Calculated result is provided for information only and is not intended to imply any greater accuracy of result than the stated limit of quantification.

Comments:
Asbestos cement debris has been identified by a resident previous to commencement of these works. MMU have since fenced the fields off to restrict access and OPS have been commissioned to undertake a clean up of any suspect non-licensed materials, as far as reasonably practicable. OPS operative Steve Murray has sectioned off the field into 5 sections so each section can be remediated on a daily basis. Reassurance and personal assessment air tests were undertaken during the removal of cement debris and remediation / making safe work to seal over suspect insulation to the external ground areas, within this section of the field. All results proved to be satisfactory being below the limit of quantification and below the mask protection factor of the OPS operative(s) and OPS estimated exposure levels in the plan of work.

Analyst(s) (print):	Jordan Longshaw	Signature(s):		Date:	21/05/2020 17:20

SITE LAYOUT

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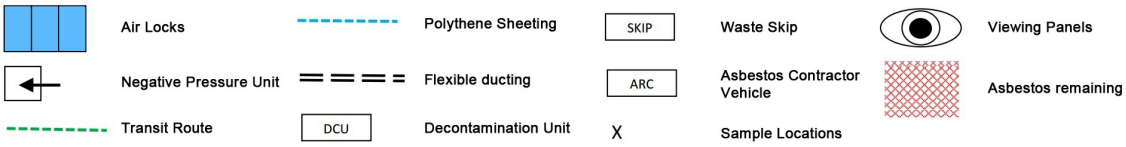
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Certificate Number:	20200521/JLO/001

NB DIAGRAM FOR CERTIFICATE OF RE-OCCUPATION MUST BE INCLUSIVE OF APPROXIMATE ENCLOSURE DIMENSIONS

KEY FOR DIAGRAM



This diagram is only representative of the site layout and is not drawn to scale.

Analyst Name(s):	Jordan Longshaw	ARC Supervisor Name:	N/A	Date: 21/05/2020
Analyst Signature(s):		ARC Supervisor Signature:	N/A	

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AIR MONITORING TEST REPORT

Client Details	Manchester Metropolitan University	Project Number:	P-369565
	99 Oxford Road, Manchester, M1 7EL, ,	Shift Number:	2
		Certificate Number:	20200522/JLO/001
Site Address	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Issued Date:	22/05/2020
		Issued by (print):	Jordan Longshaw
		Issued by (signature):	

Environmental Essentials' Issuing Laboratory

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Sample Type C – Clearance Testing.
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Sample Type R – Reassurance Testing.
This testing is undertaken in certain circumstances to confirm that airborne fibre levels are below 0.01 f/ml. For example, following the removal of an asbestos removal enclosure or as an assessment of an area for continued normal occupancy. At least 480 litres of air must be taken per sample.

Sample Type A – Personal Assessment Testing.
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Flow meter:	F35A/LF35A	Barometer/Thermometer:	DB44	Pressure (mb):	1021.5	Temperature (°C):	15.6

Sample Number	Sample Type	Pump No	Cowl No	Sample Location	Sampling Times		Duration (mins)	Flow Rates (l/min)		Mean Flow Rate (l/min)	Sample Volume (litres)	Fibres Counted	Graticule Fields	LoQ* (f/ml)	Calculated Result**	Reported Result (f/ml)
					Start	Finish		Start	Finish							
001	R	252	JLO01	External - Field areas, as per aerial photo demarcation - Front left side of field	08:41	09:29	48	10.0	10.0	10.00	480	1.5	200	0.01	0.0008	< 0.01
002	R	253	JLO02	External - Field areas, as per aerial photo demarcation - Front middle of field	08:42	09:30	48	10.0	10.0	10.00	480	2.5	200	0.01	0.0013	< 0.01
003	R	257	JLO03	External - Field areas, as per aerial photo demarcation - Front right side of field	08:43	09:31	48	10.0	10.0	10.00	480	1.5	200	0.01	0.0008	< 0.01
004	A	235	JLO04	External - Field areas, as per aerial photo demarcation - Attached to OPS operative Steve Murray wearing Cat 3 Type 5 overalls and half face mask while carrying out the removal of suspected asbestos cement to the external grounds.	08:50	11:47	177	2.0	2.0	2.00	354	1.5	200	0.01	0.001	< 0.01
005	FB	-	JLOFB	Taken alongside 001R	-	-	-	-	-	-	-	Not Counted	Not Counted	-	-	-
006	R	253	JLO05	External - Field areas, as per aerial photo demarcation - Middle left side of field	09:55	10:43	48	10.0	10.0	10.00	480	1.0	200	0.01	0.0005	< 0.01
007	R	252	JLO06	External - Field areas, as per aerial photo demarcation - Middle of field	09:56	10:44	48	10.0	10.0	10.00	480	2.0	200	0.01	0.001	< 0.01
008	R	253	JLO08	External - Field areas, as per aerial photo demarcation - Middle right side of field	10:58	11:46	48	10.0	10.0	10.00	480	2.0	200	0.01	0.001	< 0.01
009	R	253	JLO09	External - Field areas, as per aerial photo demarcation - Rear left side of field	10:59	11:47	48	10.0	10.0	10.00	480	3.0	200	0.01	0.0015	< 0.01
010	R	252	JLO01	External - Field areas, as per aerial photo demarcation - Rear middle of field	12:52	13:40	48	10.0	10.0	10.00	480	1.5	200	0.01	0.0008	< 0.01
011	R	253	JLO02	External - Field areas, as per aerial photo demarcation - Rear right side of field	12:53	13:41	48	10.0	10.0	10.00	480	2.0	200	0.01	0.001	< 0.01
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*LoQ = Limit of quantification **Calculated result is provided for information only and is not intended to imply any greater accuracy of result than the stated limit of quantification.

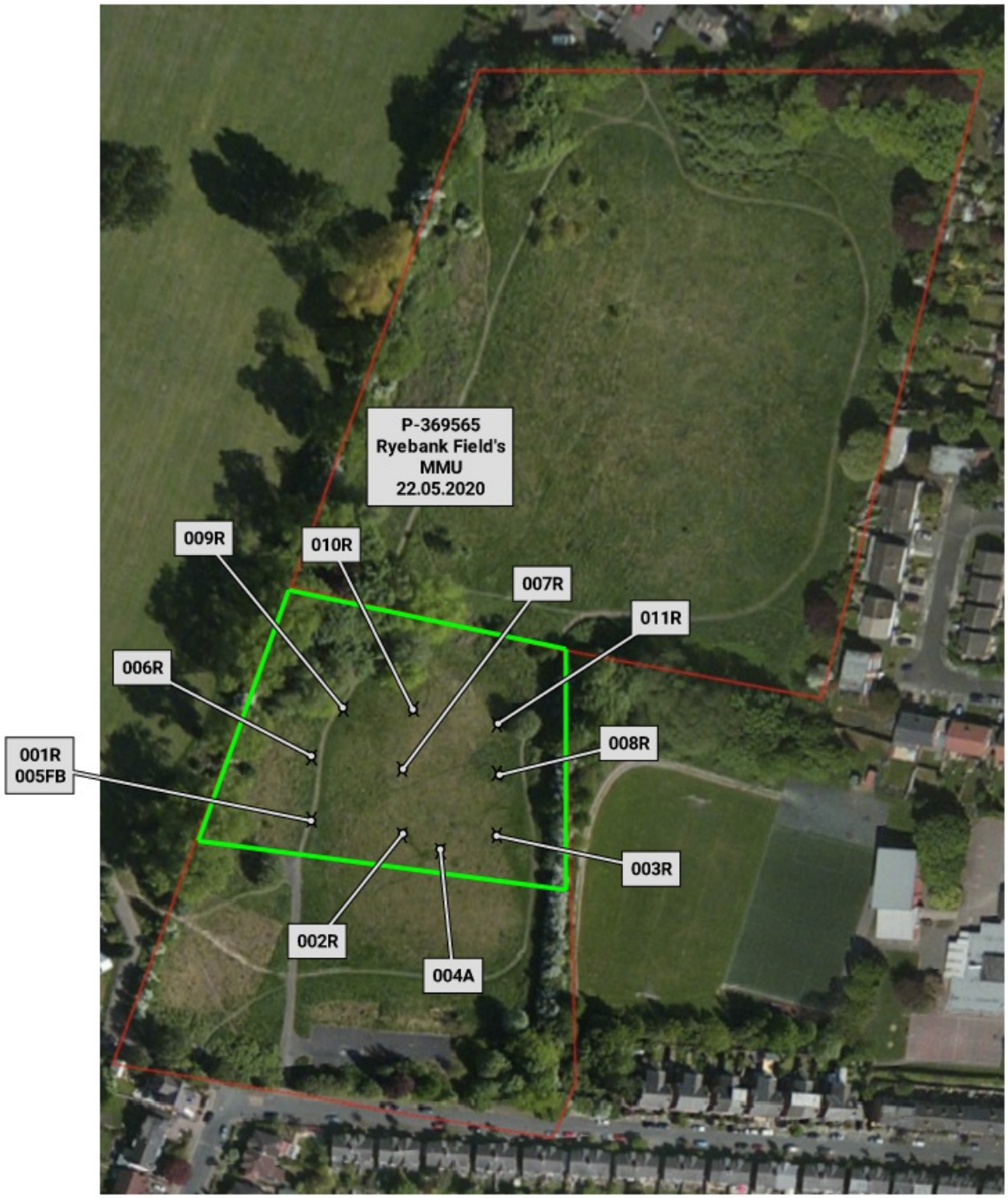
Comments:
Asbestos cement debris has been identified by a resident previous to commencement of these works. MMU have since fenced the fields off to restrict access and OPS have been commissioned to undertake a clean up of any suspect non-licensed materials, as far as reasonably practicable. OPS operative Steve Murray has sectioned off the field into 5 sections so each section can be remediated on a daily basis. Reassurance and personal assessment air tests were undertaken during the removal of cement debris and remediation / making safe work to seal over suspect insulation to the external ground areas, within this section of the field. All results proved to be satisfactory being below the limit of quantification and below the mask protection factor of the OPS operative(s) and OPS estimated exposure levels in the plan of work.

Analyst(s) (print):	Jordan Longshaw	Signature(s):		Date:	22/05/2020 17:30

SITE LAYOUT

Client Name and Address:	Manchester Metropolitan University, 99 Oxford Road, Manchester, M1 7EL, ,	Project Number:	P-369565
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Certificate Number:	20200522/JLO/001

NB DIAGRAM FOR CERTIFICATE OF RE-OCCUPATION MUST BE INCLUSIVE OF APPROXIMATE ENCLOSURE DIMENSIONS



KEY FOR DIAGRAM

	Air Locks		Polythene Sheeting	SKIP	Waste Skip		Viewing Panels
	Negative Pressure Unit		Flexible ducting	ARC	Asbestos Contractor Vehicle		Asbestos remaining
	Transit Route	DCU	Decontamination Unit	X	Sample Locations		

This diagram is only representative of the site layout and is not drawn to scale.

Analyst Name(s):	Jordan Longshaw	ARC Supervisor Name:	N/A	Date: 22/05/2020
Analyst Signature(s):		ARC Supervisor Signature:	N/A	

2719

AIR MONITORING TEST REPORT

Client Details	Manchester Metropolitan University	Project Number:	P-369565
	99 Oxford Road, Manchester, M1 7EL, ,	Shift Number:	3
		Certificate Number:	20200526/JLO/001
Site Address	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Issued Date:	26/05/2020
		Issued by (print):	Jordan Longshaw
		Issued by (signature):	

Environmental Essentials' Issuing Laboratory

Lab L1, Unit 3 Arlington Court, Silverdale Enterprise Park, Cannel Row, Staffordshire ST5 6SS

Four stage site clearance procedures, air monitoring and fibre counting are undertaken in accordance with Environmental Essentials' in-house procedures which are based on the methodologies specified within HSE document HSG 248 Asbestos: The analysts' guide for sampling, analysis and clearance procedures.

All air tests will have one of the following suffix codes which will indicate the purpose of the test:

Sample Type B – Background Testing.
This testing is undertaken to establish a background level of airborne fibres prior to any remediation works being carried out.

Sample Type L – Leak Testing.
This testing is undertaken during works involving asbestos around the perimeter of a 'live' removal enclosure, in order to assess the effectiveness of control measures in place in particular the enclosure itself. Usually a sample of at least 480 litres of air will be taken, however shorter sampling periods or "pooled" sampling strategies may be adopted if the analyst suspects an enclosure breach, for example.

Sample Type C – Clearance Testing.
This testing is undertaken following the removal or encapsulation of asbestos materials within an enclosure in order to ascertain the quantification of airborne fibres compared with the clearance indicator level of 0.01 f/ml. At least 480 litres of air must be taken per sample. A clearance test will also be undertaken when assessing the suitability of a decontamination unit following completion of works.
For an area to be deemed as suitable for normal occupancy following asbestos remediation, at least 80% of the air test results must be below the clearance indicator level, whilst all results must be below 0.015 f/ml.

Sample Type R – Reassurance Testing.
This testing is undertaken in certain circumstances to confirm that airborne fibre levels are below 0.01 f/ml. For example, following the removal of an asbestos removal enclosure or as an assessment of an area for continued normal occupancy. At least 480 litres of air must be taken per sample.

Sample Type A – Personal Assessment Testing.
This testing will be undertaken during abatement works involving asbestos in order to assess the suitability of the respiratory protective equipment being used and also the effectiveness of the dust suppression methods in place. At least 40 litres of air must be sampled and the quantification limit will be calculated accordingly.

Sample Type P – Personal Compliance Testing.
This testing is undertaken in order to assess whether or not personal exposures are in compliance with the 4-hour Control Limit as defined within the ACOP L143 – Control of Asbestos Regulations (CAR) 2012.

Sample Type FB – Field Blank.
Field blanks are generated from satifactory filter batches and treated in the same way as filters used for air sampling but without any air being drawn through them. In the event of elevated fibre counts on air samples, a field blank will be counted in order to exclude the possibilty of contamination causing the elevated fibre count.

Air sampling and fibre counting fall within Environmental Essentials' scope of UKAS accreditation however, opinions and interpretations that may be expressed within this report are outside the scope of UKAS accreditation.

Certificate of cleanliness following works with non-licensed materials which may have been undertaken and witnessed as part of this project are not covered by Environmental Essentials' scope of UKAS accreditation.

UKAS TESTING
2719

AIR MONITORING TEST CERTIFICATE

environmental essentials

Client Name and Address:	Manchester Metropolitan University, 99 Oxford Road, Manchester, M1 7EL, ,	Project Number:	P-369565
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Date:	26/05/2020
Work Location:	Field areas, as per aerial photo demarcation	Certificate Number:	20200526/JLO/001

Microscope No:	M39	NPL Test Slide	3558	Stage Micrometer:	SM42	Timepiece:	DB44
Testing Kit No:	A39	Test band observed:	5	Graticule Diameter(µm):	100	Exposed filter diameter:	22.0
Flow meter:	F35A/LF35A	Barometer/Thermometer:	DB44	Pressure (mb):	1033.1	Temperature (°C):	16.3

Sample Number	Sample Type	Pump No	Cowl No	Sample Location	Sampling Times		Duration (mins)	Flow Rates (l/min)		Mean Flow Rate (l/min)	Sample Volume (litres)	Fibres Counted	Graticule Fields	LoQ* (f/ml)	Calculated Result**	Reported Result (f/ml)
					Start	Finish		Start	Finish							
001	R	252	JLO01	External - Field areas, as per aerial photo demarcation - Front left side of field	09:48	10:36	48	10.0	10.0	10.00	480	1.5	200	0.01	0.0008	< 0.01
002	R	253	JLO02	External - Field areas, as per aerial photo demarcation - Front middle side of field	09:49	10:37	48	10.0	10.0	10.00	480	2.0	200	0.01	0.001	< 0.01
003	R	256	JLO03	External - Field areas, as per aerial photo demarcation - Front right side of field	09:50	10:38	48	10.0	10.0	10.00	480	1.5	200	0.01	0.0008	< 0.01
004	R	257	JLO04	External - Field areas, as per aerial photo demarcation - Middle left side of field	09:51	10:39	48	10.0	10.0	10.00	480	2.0	200	0.01	0.001	< 0.01
005	FB	-	JLOFB	Taken alongside 001R	-	-	-	-	-	-	-	Not Counted	Not Counted	-	-	-
006	R	252	JLO05	External - Field areas, as per aerial photo demarcation - Middle of the field	10:49	11:37	48	10.0	10.0	10.00	480	1.5	200	0.01	0.0008	< 0.01
007	R	256	JLO06	External - Field areas, as per aerial photo demarcation - Middle right side of field	10:50	11:38	48	10.0	10.0	10.00	480	2.0	200	0.01	0.001	< 0.01
008	R	200	JLO07	External - Field areas, as per aerial photo demarcation - Rear left side of field	10:51	11:39	48	10.0	10.0	10.00	480	2.0	200	0.01	0.001	< 0.01
009	R	252	JLO01	External - Field areas, as per aerial photo demarcation - Rear middle of field	13:00	13:48	48	10.0	10.0	10.00	480	2.0	200	0.01	0.001	< 0.01
010	R	256	JLO02	External - Field areas, as per aerial photo demarcation - Rear right side of field	13:01	13:49	48	10.0	10.0	10.00	480	1.5	200	0.01	0.0008	< 0.01
011	A	235	JLO09	External - Field areas, as per aerial photo demarcation - Attached to OPS operative Steve Murray wearing Cat 3 Type 5 overalls and half face mask while carrying out the removal of suspected asbestos cement to the external grounds.	13:10	14:15	65	2.0	2.0	2.00	130	2.5	200	0.04	0.0047	< 0.04
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*LoQ = Limit of quantification **Calculated result is provided for information only and is not intended to imply any greater accuracy of result than the stated limit of quantification.

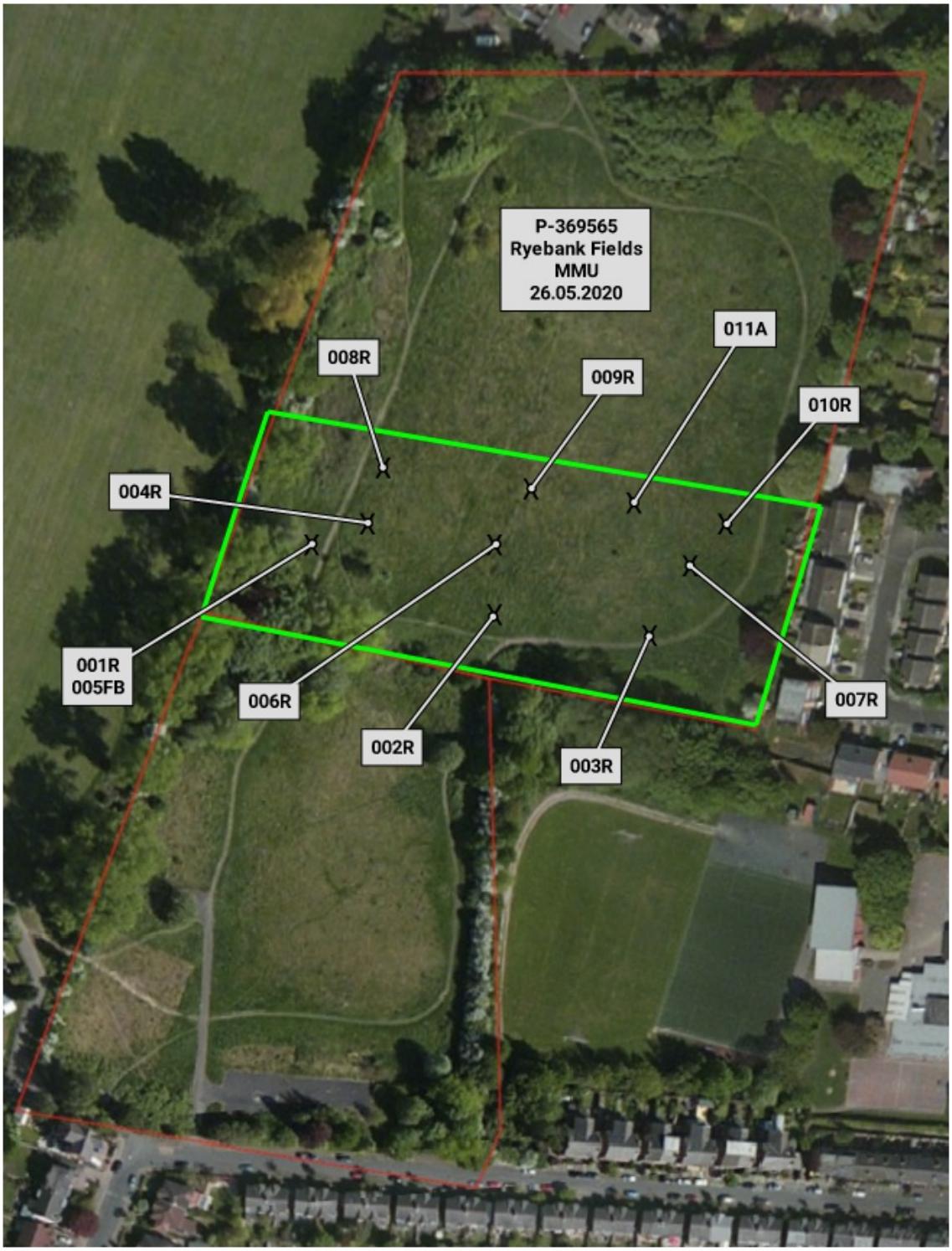
Comments:
Asbestos cement debris has been identified by a resident previous to commencement of these works. MMU have since fenced the fields off to restrict access and OPS have been commissioned to undertake a clean up of any suspect non-licensed materials, as far as reasonably practicable. OPS operative Steve Murray has sectioned off the field into 5 sections so each section can be remediated on a daily basis. Reassurance and personal assessment air tests were undertaken during the removal of cement debris and remediation / making safe work to seal over suspect insulation to the external ground areas, within this section of the field. All results proved to be satisfactory being below the limit of quantification and below the mask protection factor of the OPS operative(s) and OPS estimated exposure levels in the plan of work.

Analyst(s) (print):	Jordan Longshaw	Signature(s):		Date:	26/05/2020 15:17

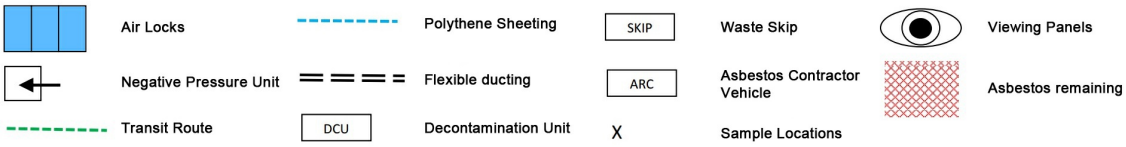
SITE LAYOUT

Client Name and Address:	Manchester Metropolitan University, 99 Oxford Road, Manchester, M1 7EL, ,	Project Number:	P-369565
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Certificate Number:	20200526/JLO/001

NB DIAGRAM FOR CERTIFICATE OF RE-OCCUPATION MUST BE INCLUSIVE OF APPROXIMATE ENCLOSURE DIMENSIONS



KEY FOR DIAGRAM



This diagram is only representative of the site layout and is not drawn to scale.

Analyst Name(s):	Jordan Longshaw	ARC Supervisor Name:	N/A	Date: 26/05/2020
Analyst Signature(s):		ARC Supervisor Signature:	N/A	

2719

AIR MONITORING TEST REPORT

Client Details	Manchester Metropolitan University	Project Number:	P-369565
	99 Oxford Road, Manchester, M1 7EL, ,	Shift Number:	4
		Certificate Number:	20200527/JLO/001
Site Address	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Issued Date:	27/05/2020
		Issued by (print):	Jordan Longshaw
		Issued by (signature):	

Environmental Essentials' Issuing Laboratory
Lab L1, Unit 3 Arlington Court, Silverdale Enterprise Park, Cannel Row, Staffordshire ST5 6SS

Four stage site clearance procedures, air monitoring and fibre counting are undertaken in accordance with Environmental Essentials' in-house procedures which are based on the methodologies specified within HSE document HSG 248 Asbestos: The analysts' guide for sampling, analysis and clearance procedures.

All air tests will have one of the following suffix codes which will indicate the purpose of the test:

Sample Type B – Background Testing.
This testing is undertaken to establish a background level of airborne fibres prior to any remediation works being carried out.

Sample Type L – Leak Testing.
This testing is undertaken during works involving asbestos around the perimeter of a 'live' removal enclosure, in order to assess the effectiveness of control measures in place in particular the enclosure itself. Usually a sample of at least 480 litres of air will be taken, however shorter sampling periods or "pooled" sampling strategies may be adopted if the analyst suspects an enclosure breach, for example.

Sample Type C – Clearance Testing.
This testing is undertaken following the removal or encapsulation of asbestos materials within an enclosure in order to ascertain the quantification of airborne fibres compared with the clearance indicator level of 0.01 f/ml. At least 480 litres of air must be taken per sample. A clearance test will also be undertaken when assessing the suitability of a decontamination unit following completion of works.
For an area to be deemed as suitable for normal occupancy following asbestos remediation, at least 80% of the air test results must be below the clearance indicator level, whilst all results must be below 0.015 f/ml.

Sample Type R – Reassurance Testing.
This testing is undertaken in certain circumstances to confirm that airborne fibre levels are below 0.01 f/ml. For example, following the removal of an asbestos removal enclosure or as an assessment of an area for continued normal occupancy. At least 480 litres of air must be taken per sample.

Sample Type A – Personal Assessment Testing.
This testing will be undertaken during abatement works involving asbestos in order to assess the suitability of the respiratory protective equipment being used and also the effectiveness of the dust suppression methods in place. At least 40 litres of air must be sampled and the quantification limit will be calculated accordingly.

Sample Type P – Personal Compliance Testing.
This testing is undertaken in order to assess whether or not personal exposures are in compliance with the 4-hour Control Limit as defined within the ACOP L143 – Control of Asbestos Regulations (CAR) 2012.

Sample Type FB – Field Blank.
Field blanks are generated from satifactory filter batches and treated in the same way as filters used for air sampling but without any air being drawn through them. In the event of elevated fibre counts on air samples, a field blank will be counted in order to exclude the possibilty of contamination causing the elevated fibre count.

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Certificate of cleanliness following works with non-licensed materials which may have been undertaken and witnessed as part of this project are not covered by Environmental Essentials' scope of UKAS accreditation.

UKAS TESTING
2719

AIR MONITORING TEST CERTIFICATE

environmental essentials

Client Name and Address:	Manchester Metropolitan University, 99 Oxford Road, Manchester, M1 7EL, ,	Project Number:	P-369565
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Date:	27/05/2020
Work Location:	Field areas, as per aerial photo demarcation	Certificate Number:	20200527/JLO/001

Microscope No:	M39	NPL Test Slide	3558	Stage Micrometer:	SM42	Timepiece:	DB44
Testing Kit No:	A39	Test band observed:	5	Graticule Diameter(µm):	100	Exposed filter diameter:	22.0
Flow meter:	LF35A/F35A	Barometer/Thermometer:	DB44	Pressure (mb):	1028.7	Temperature (°C):	16.9

Sample Number	Sample Type	Pump No	Cowl No	Sample Location	Sampling Times		Duration (mins)	Flow Rates (l/min)		Mean Flow Rate (l/min)	Sample Volume (litres)	Fibres Counted	Graticule Fields	LoQ* (f/ml)	Calculated Result**	Reported Result (f/ml)
					Start	Finish		Start	Finish							
001	R	200	JLO01	External - Field areas, as per aerial photo demarcation - Front left side of field	08:36	09:24	48	10.0	10.0	10.00	480	2.0	200	0.01	0.001	< 0.01
002	R	252	JLO02	External - Field areas, as per aerial photo demarcation - Front middle of field	08:37	09:25	48	10.0	10.0	10.00	480	1.5	200	0.01	0.0008	< 0.01
003	R	256	JLO03	External - Field areas, as per aerial photo demarcation - Front right side of field	08:38	09:26	48	10.0	10.0	10.00	480	2.0	200	0.01	0.001	< 0.01
004	FB	-	JLOFB	Taken alongside 001R	-	-	-	-	-	-	-	Not Counted	Not Counted	-	-	-
005	R	200	JLO04	External - Field areas, as per aerial photo demarcation - Middle right side of field	09:47	10:35	48	10.0	10.0	10.00	480	3.0	200	0.01	0.0015	< 0.01
006	R	252	JLO05	External - Field areas, as per aerial photo demarcation - Middle of field	09:48	10:36	48	10.0	10.0	10.00	480	1.5	200	0.01	0.0008	< 0.01
007	R	256	JLO06	External - Field areas, as per aerial photo demarcation - Middle left side of field	09:49	10:37	48	10.0	10.0	10.00	480	2.5	200	0.01	0.0013	< 0.01
008	R	200	JLO08	External - Field areas, as per aerial photo demarcation - Rear right side of field	12:28	13:16	48	10.0	10.0	10.00	480	2.5	200	0.01	0.0013	< 0.01
009	R	252	JLO09	External - Field areas, as per aerial photo demarcation - Rear middle of field	12:29	13:17	48	10.0	10.0	10.00	480	2.0	200	0.01	0.001	< 0.01
010	R	256	JLO10	External - Field areas, as per aerial photo demarcation - Rear left side of field	12:30	13:18	48	10.0	10.0	10.00	480	2.5	200	0.01	0.0013	< 0.01
011	A	235	JLO07	External - Field areas, as per aerial photo demarcation - Attached to OPS operative Steve Murray wearing Cat 3 Type 5 overalls and half face mask while carrying out the removal of suspected asbestos cement to the external grounds.	10:11	11:49	98	2.0	2.0	2.00	196	1.5	200	0.02	0.0019	< 0.02
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*LoQ = Limit of quantification **Calculated result is provided for information only and is not intended to imply any greater accuracy of result than the stated limit of quantification.

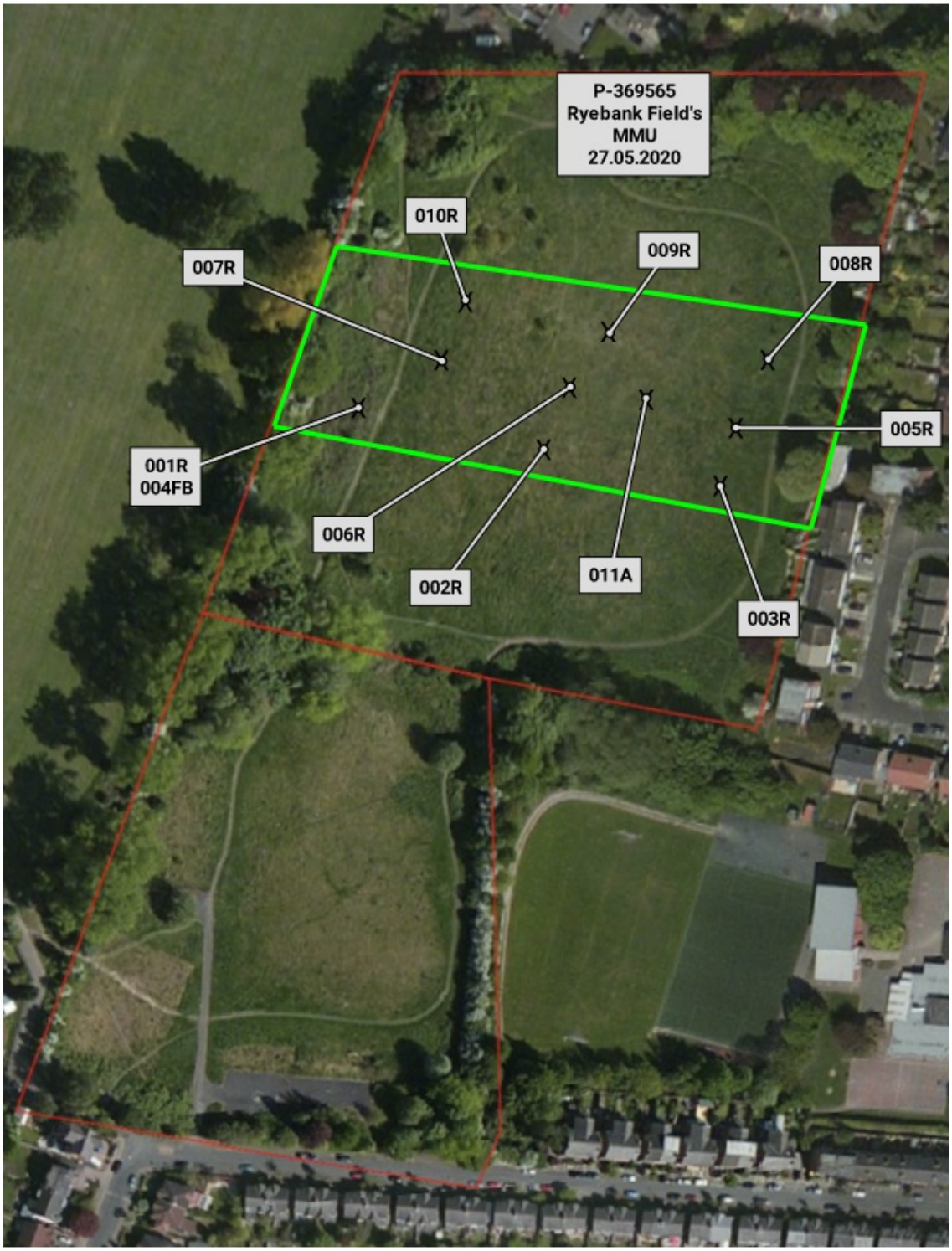
Comments:
Asbestos cement debris has been identified by a resident previous to commencement of these works. MMU have since fenced the fields off to restrict access and OPS have been commissioned to undertake a clean up of any suspect non-licensed materials, as far as reasonably practicable. OPS operative Steve Murray has sectioned off the field into 5 sections so each section can be remediated on a daily basis. Reassurance and personal assessment air tests were undertaken during the removal of cement debris and remediation / making safe work to seal over suspect insulation to the external ground areas, within this section of the field. All results proved to be satisfactory being below the limit of quantification and below the mask protection factor of the OPS operative(s) and OPS estimated exposure levels in the plan of work.

Analyst(s) (print):	Jordan Longshaw	Signature(s):		Date:	27/05/2020 14:35

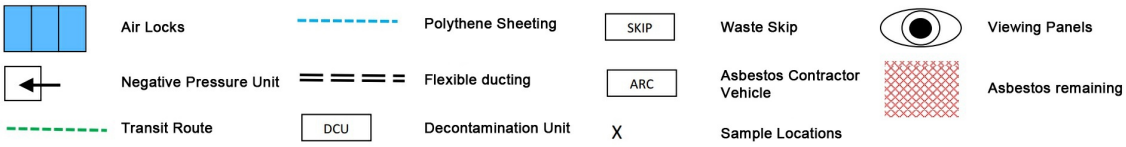
SITE LAYOUT

Client Name and Address:	Manchester Metropolitan University, 99 Oxford Road, Manchester, M1 7EL, ,	Project Number:	P-369565
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Certificate Number:	20200527/JLO/001

NB DIAGRAM FOR CERTIFICATE OF RE-OCCUPATION MUST BE INCLUSIVE OF APPROXIMATE ENCLOSURE DIMENSIONS



KEY FOR DIAGRAM



This diagram is only representative of the site layout and is not drawn to scale.

Analyst Name(s):	Jordan Longshaw	ARC Supervisor Name:	N/A	Date: 27/05/2020
Analyst Signature(s):		ARC Supervisor Signature:	N/A	

2719

AIR MONITORING TEST REPORT

Client Details	Manchester Metropolitan University	Project Number:	P-369565
	99 Oxford Road, Manchester, M1 7EL, ,	Shift Number:	5
		Certificate Number:	20200528/JLO/001
Site Address	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Issued Date:	28/05/2020
		Issued by (print):	Jordan Longshaw
		Issued by (signature):	

Environmental Essentials' Issuing Laboratory
Lab L1, Unit 3 Arlington Court, Silverdale Enterprise Park, Cannel Row, Staffordshire ST5 6SS

Four stage site clearance procedures, air monitoring and fibre counting are undertaken in accordance with Environmental Essentials' in-house procedures which are based on the methodologies specified within HSE document HSG 248 Asbestos: The analysts' guide for sampling, analysis and clearance procedures.

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Sample Type L – Leak Testing.
This testing is undertaken during works involving asbestos around the perimeter of a 'live' removal enclosure, in order to assess the effectiveness of control measures in place in particular the enclosure itself. Usually a sample of at least 480 litres of air will be taken, however shorter sampling periods or "pooled" sampling strategies may be adopted if the analyst suspects an enclosure breach, for example.

Sample Type C – Clearance Testing.
This testing is undertaken following the removal or encapsulation of asbestos materials within an enclosure in order to ascertain the quantification of airborne fibres compared with the clearance indicator level of 0.01 f/ml. At least 480 litres of air must be taken per sample. A clearance test will also be undertaken when assessing the suitability of a decontamination unit following completion of works.
For an area to be deemed as suitable for normal occupancy following asbestos remediation, at least 80% of the air test results must be below the clearance indicator level, whilst all results must be below 0.015 f/ml.

Sample Type R – Reassurance Testing.
This testing is undertaken in certain circumstances to confirm that airborne fibre levels are below 0.01 f/ml. For example, following the removal of an asbestos removal enclosure or as an assessment of an area for continued normal occupancy. At least 480 litres of air must be taken per sample.

Sample Type A – Personal Assessment Testing.
This testing will be undertaken during abatement works involving asbestos in order to assess the suitability of the respiratory protective equipment being used and also the effectiveness of the dust suppression methods in place. At least 40 litres of air must be sampled and the quantification limit will be calculated accordingly.

Sample Type P – Personal Compliance Testing.
This testing is undertaken in order to assess whether or not personal exposures are in compliance with the 4-hour Control Limit as defined within the ACOP L143 – Control of Asbestos Regulations (CAR) 2012.

Sample Type FB – Field Blank.
Field blanks are generated from satifactory filter batches and treated in the same way as filters used for air sampling but without any air being drawn through them. In the event of elevated fibre counts on air samples, a field blank will be counted in order to exclude the possibilty of contamination causing the elevated fibre count.

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Certificate of cleanliness following works with non-licensed materials which may have been undertaken and witnessed as part of this project are not covered by Environmental Essentials' scope of UKAS accreditation.

UKAS TESTING
2719

AIR MONITORING TEST CERTIFICATE

environmental essentials

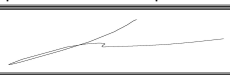
Client Name and Address:	Manchester Metropolitan University, 99 Oxford Road, Manchester, M1 7EL, ,	Project Number:	P-369565
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Date:	28/05/2020
Work Location:	Field areas, as per aerial photo demarcation	Certificate Number:	20200528/JLO/001

Microscope No:	M39	NPL Test Slide	3558	Stage Micrometer:	SM42	Timepiece:	DB44
Testing Kit No:	A39	Test band observed:	5	Graticule Diameter(µm):	100	Exposed filter diameter:	22.0
Flow meter:	F35A/LF35A	Barometer/Thermometer:	DB44	Pressure (mb):	1033.4	Temperature (°C):	15.8

Sample Number	Sample Type	Pump No	Cowl No	Sample Location	Sampling Times		Duration (mins)	Flow Rates (l/min)		Mean Flow Rate (l/min)	Sample Volume (litres)	Fibres Counted	Graticule Fields	LoQ* (f/ml)	Calculated Result**	Reported Result (f/ml)
					Start	Finish		Start	Finish							
001	R	252	JLO01	External - Field areas, as per aerial photo demarcation - Front left side of field	08:56	09:56	60	8.0	8.0	8.00	480	2.0	200	0.01	0.001	< 0.01
002	R	253	JLO02	External - Field areas, as per aerial photo demarcation - Front middle of field	08:57	09:57	60	8.0	8.0	8.00	480	1.5	200	0.01	0.0008	< 0.01
003	R	256	JLO03	External - Field areas, as per aerial photo demarcation - Front right side of field	08:58	09:58	60	8.0	8.0	8.00	480	2.5	200	0.01	0.0013	< 0.01
004	FB	-	JLOFB	Taken alongside 001R	-	-	-	-	-	-	-	Not Counted	Not Counted	-	-	-
005	R	252	JLO04	External - Field areas, as per aerial photo demarcation - Middle left side of field	10:11	11:11	60	8.0	8.0	8.00	480	1.5	200	0.01	0.0008	< 0.01
006	R	253	JLO05	External - Field areas, as per aerial photo demarcation - Middle of the field	10:12	11:12	60	8.0	8.0	8.00	480	3.0	200	0.01	0.0015	< 0.01
007	R	256	JLO06	External - Field areas, as per aerial photo demarcation - Middle right side of field	10:13	11:13	60	8.0	8.0	8.00	480	2.0	200	0.01	0.001	< 0.01
008	R	252	JLO07	External - Field areas, as per aerial photo demarcation - Rear left side of field	13:00	14:00	60	8.0	8.0	8.00	480	2.5	200	0.01	0.0013	< 0.01
009	R	253	JLO08	External - Field areas, as per aerial photo demarcation - Rear middle of the field	13:01	14:01	60	8.0	8.0	8.00	480	3.0	200	0.01	0.0015	< 0.01
010	R	256	JLO09	External - Field areas, as per aerial photo demarcation - Rear right side of field	13:02	14:02	60	8.0	8.0	8.00	480	2.0	200	0.01	0.001	< 0.01
011	A	235	JLO10	External - Field areas, as per aerial photo demarcation - Attached to OPS operative Steve Murray wearing Cat 3 Type 5 overalls and half face mask while carrying out the removal of suspected asbestos cement to the external grounds.	09:03	11:25	142	2.0	2.0	2.00	284	3.5	200	0.02	0.003	< 0.02
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*LoQ = Limit of quantification **Calculated result is provided for information only and is not intended to imply any greater accuracy of result than the stated limit of quantification.

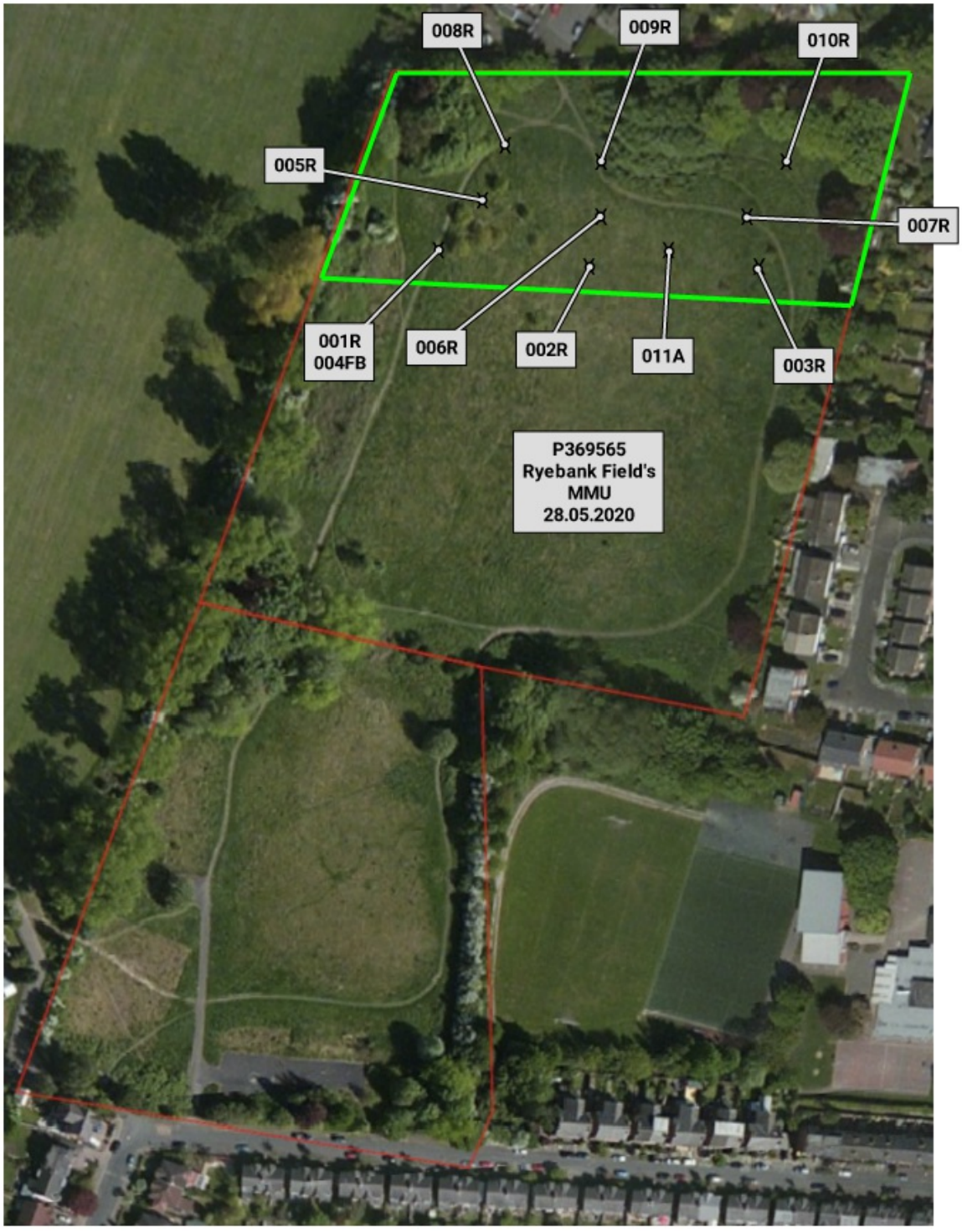
Comments:
Asbestos cement debris has been identified by a resident previous to commencement of these works. MMU have since fenced the fields off to restrict access and OPS have been commissioned to undertake a clean up of any suspect non-licensed materials, as far as reasonably practicable. OPS operative Steve Murray has sectioned off the field into 5 sections so each section can be remediated on a daily basis. Reassurance and personal assessment air tests were undertaken during the removal of cement debris and remediation / making safe work to seal over suspect insulation to the external ground areas, within this section of the field. All results proved to be satisfactory being below the limit of quantification and below the mask protection factor of the OPS operative(s) and OPS estimated exposure levels in the plan of work.

Analyst(s) (print):	Jordan Longshaw	Signature(s):		Date:	28/05/2020 15:30

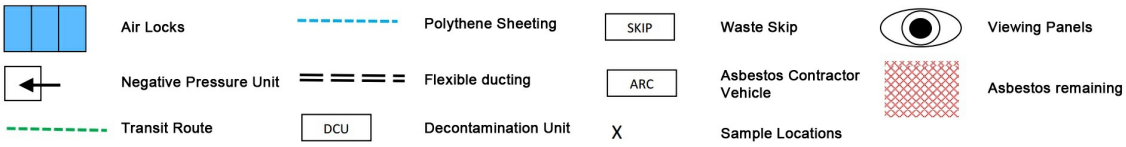
SITE LAYOUT

Client Name and Address:	Manchester Metropolitan University, 99 Oxford Road, Manchester, M1 7EL, ,	Project Number:	P-369565
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Certificate Number:	20200528/JLO/001

NB DIAGRAM FOR CERTIFICATE OF RE-OCCUPATION MUST BE INCLUSIVE OF APPROXIMATE ENCLOSURE DIMENSIONS



KEY FOR DIAGRAM



This diagram is only representative of the site layout and is not drawn to scale.

Analyst Name(s):	Jordan Longshaw	ARC Supervisor Name:	N/A	Date: 28/05/2020
Analyst Signature(s):		ARC Supervisor Signature:	N/A	

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AIR MONITORING TEST REPORT

Client Details	Manchester Metropolitan University	Project Number:	P-369565
	99 Oxford Road, Manchester, M1 7EL, ,	Shift Number:	6
		Certificate Number:	20200529/JLO/001
Site Address	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Issued Date:	29/05/2020
		Issued by (print):	Jordan Longshaw
		Issued by (signature):	

Environmental Essentials' Issuing Laboratory

Lab L1, Unit 3 Arlington Court, Silverdale Enterprise Park, Cannel Row, Staffordshire ST5 6SS

Four stage site clearance procedures, air monitoring and fibre counting are undertaken in accordance with Environmental Essentials' in-house procedures which are based on the methodologies specified within HSE document HSG 248 Asbestos: The analysts' guide for sampling, analysis and clearance procedures.

All air tests will have one of the following suffix codes which will indicate the purpose of the test:

Sample Type B – Background Testing.
This testing is undertaken to establish a background level of airborne fibres prior to any remediation works being carried out.

Sample Type L – Leak Testing.
This testing is undertaken during works involving asbestos around the perimeter of a 'live' removal enclosure, in order to assess the effectiveness of control measures in place in particular the enclosure itself. Usually a sample of at least 480 litres of air will be taken, however shorter sampling periods or "pooled" sampling strategies may be adopted if the analyst suspects an enclosure breach, for example.

Sample Type C – Clearance Testing.
This testing is undertaken following the removal or encapsulation of asbestos materials within an enclosure in order to ascertain the quantification of airborne fibres compared with the clearance indicator level of 0.01 f/ml. At least 480 litres of air must be taken per sample. A clearance test will also be undertaken when assessing the suitability of a decontamination unit following completion of works.
For an area to be deemed as suitable for normal occupancy following asbestos remediation, at least 80% of the air test results must be below the clearance indicator level, whilst all results must be below 0.015 f/ml.

Sample Type R – Reassurance Testing.
This testing is undertaken in certain circumstances to confirm that airborne fibre levels are below 0.01 f/ml. For example, following the removal of an asbestos removal enclosure or as an assessment of an area for continued normal occupancy. At least 480 litres of air must be taken per sample.

Sample Type A – Personal Assessment Testing.
This testing will be undertaken during abatement works involving asbestos in order to assess the suitability of the respiratory protective equipment being used and also the effectiveness of the dust suppression methods in place. At least 40 litres of air must be sampled and the quantification limit will be calculated accordingly.

Sample Type P – Personal Compliance Testing.
This testing is undertaken in order to assess whether or not personal exposures are in compliance with the 4-hour Control Limit as defined within the ACOP L143 – Control of Asbestos Regulations (CAR) 2012.

Sample Type FB – Field Blank.
Field blanks are generated from satifactory filter batches and treated in the same way as filters used for air sampling but without any air being drawn through them. In the event of elevated fibre counts on air samples, a field blank will be counted in order to exclude the possibilty of contamination causing the elevated fibre count.

Air sampling and fibre counting fall within Environmental Essentials' scope of UKAS accreditation however, opinions and interpretations that may be expressed within this report are outside the scope of UKAS accreditation.

Certificate of cleanliness following works with non-licensed materials which may have been undertaken and witnessed as part of this project are not covered by Environmental Essentials' scope of UKAS accreditation.

UKAS TESTING
2719

AIR MONITORING TEST CERTIFICATE

environmental essentials

Client Name and Address:	Manchester Metropolitan University, 99 Oxford Road, Manchester, M1 7EL, ,	Project Number:	P-369565
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Date:	29/05/2020
Work Location:	Field areas, as per aerial photo demarcation	Certificate Number:	20200529/JLO/001

Microscope No:	M39	NPL Test Slide	3558	Stage Micrometer:	SM42	Timepiece:	DB44
Testing Kit No:	A39	Test band observed:	5	Graticule Diameter(µm):	100	Exposed filter diameter:	22.0
Flow meter:	F35A/LF35A	Barometer/Thermometer:	DB44	Pressure (mb):	1031.1	Temperature (°C):	16.8

Sample Number	Sample Type	Pump No	Cowl No	Sample Location	Sampling Times		Duration (mins)	Flow Rates (l/min)		Mean Flow Rate (l/min)	Sample Volume (litres)	Fibres Counted	Graticule Fields	LoQ* (f/ml)	Calculated Result**	Reported Result (f/ml)
					Start	Finish		Start	Finish							
001	A	235	JLO01	External - Field areas, as per aerial photo demarcation - OPS operative Dexter Schofield	08:35	10:25	110	2.0	2.0	2.00	220	2.5	200	0.02	0.0028	< 0.02
002	R	252	JLO02	External - Field areas, as per aerial photo demarcation - Left side of the cordoned area	08:37	09:37	60	8.0	8.0	8.00	480	3.5	200	0.01	0.0018	< 0.01
003	R	253	JLO03	External - Field areas, as per aerial photo demarcation - Right side of the cordoned area	08:38	09:38	60	8.0	8.0	8.00	480	2.0	200	0.01	0.001	< 0.01
004	R	252	JLO04	External - Field areas, as per aerial photo demarcation - Left side of the cordoned area	09:49	10:49	60	8.0	8.0	8.00	480	2.0	200	0.01	0.001	< 0.01
005	R	253	JLO05	External - Field areas, as per aerial photo demarcation - Right side of the cordoned area	09:50	10:50	60	8.0	8.0	8.00	480	3.0	200	0.01	0.0015	< 0.01
006	FB	-	JLOFB	Taken alongside 002R	-	-	-	-	-	-	-	Not Counted	Not Counted	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*LoQ = Limit of quantification **Calculated result is provided for information only and is not intended to imply any greater accuracy of result than the stated limit of quantification.

Comments:
Return to site to further make safe the areas in which asbestos insulation had been identified. OPS are returning to sheet over and add a level of gravel over the areas. Re-assurance and personal tests to be carried out to provide assurances and to confirm ambient fibre levels. All tests came back satisfactory and below the limit of quantification.

Analyst(s) (print):	Jordan Longshaw	Signature(s):		Date:	29/05/2020 12:00

SITE LAYOUT

Client Name and Address:	Manchester Metropolitan University, 99 Oxford Road, Manchester, M1 7EL, ,	Project Number:	P-369565
Site Address:	Ryebank Fields, Chorlton-cum-Hardy, Manchester, M21 9NS	Certificate Number:	20200529/JLO/001

NB DIAGRAM FOR CERTIFICATE OF RE-OCCUPATION MUST BE INCLUSIVE OF APPROXIMATE ENCLOSURE DIMENSIONS

KEY FOR DIAGRAM

	Air Locks		Polythene Sheeting	SKIP	Waste Skip		Viewing Panels
	Negative Pressure Unit		Flexible ducting	ARC	Asbestos Contractor Vehicle		Asbestos remaining
	Transit Route	DCU	Decontamination Unit	X	Sample Locations		

This diagram is only representative of the site layout and is not drawn to scale.

Analyst Name(s):	Jordan Longshaw	ARC Supervisor Name:	N/A	Date: 29/05/2020
Analyst Signature(s):		ARC Supervisor Signature:	N/A	

OUR PURPOSE & VALUES

Ensuring **people**, **places** and **spaces** are safe.

With more than 200 employees working from regional offices across the country, Environmental Essentials deliver a local service at a national level.

Priding ourselves on our excellent customer service, we have built our business on communication, hard work, attention to detail and quality assurance every step of the way. Our commitment to quality and safety is unrivalled.