

09 / 0163



Title: Land contamination assessment
Location: Croxley Green Watercress Farm and Fisheries
Address: Rousebarn lane, Rickmansworth, Hertfordshire, WD3 3GG
Date: 4 August 2008
Document: 5
Version: 001

Asbestos solutions have been employed since May 2007 to the current date. They have managed the removal of asbestos from the site as identified in their assessment of 18 May 2007. Windsor waste management have removed the asbestos from site in dedicated asbestos skips and the disposal notes have been sent to the relevant environmental agencies.



Type 3 Asbestos Survey
Date: 18.05.07

Property Name: Rousebarn Farm Development



Type 3 Asbestos Survey

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Client: David Charmers
Facility contact: Paul

Site Address:
Rousebarn Farm
Watford

Asbestos Solutions Contact: Mr John Yuill

Site Surveyors: John Yuill
Inspected & Approved by:

Mr Phil Weston

Signature: *John Yuill*

Table of Contents

- **Introduction & Survey Type**
 - **The Site**
 - **Background**
 - **Limitations**
 - **Summary**
 - **Conclusions & Actions**
 - **Sampling Information**
 - **Sampling & Analysis**
 - **Results**
 - **Material Location & Identification**
 - **Sample Strategy Method**
 - **Material Assessment**
 - **Risk Assessment**
 - **Analytical Standards**
 - **Health & Safety**
 - **Surveyors Qualifications**
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Introduction

Survey to Identify Asbestos Containing Materials

This asbestos survey report document complies with current legislation and regulations. The document contains information for the client which allows further understanding, conclusions and recommendations for the safe management of any asbestos present.

Asbestos Solutions has received an invitation from David Charmers to provide a Type 3 Survey for Rousebarn Farm Development Area, Watford.

Survey & Register Type

This survey, report and register relates principally to asbestos bearing materials.

Type 1 Location & Assessment (Presumptive Survey)

Type 2 Standard Sampling, Identification & Assessment (Sampling Survey)

Type 3 **Full Access Sampling & Identification Survey**
(Pre-Demolition/Major Refurbishment Survey)

The purpose of the survey is to positively identify and record the location, type, extent and condition of visible asbestos bearing materials together with associated contamination and to advise upon the safe control, management and/or removal of any asbestos materials identified. It is also important to update this document at set and agreed intervals and to record any changes which have taken place.

This section of the document sets out the outline survey and sampling strategies that will be adopted by Asbestos Solutions; the purpose of which is to demonstrate that Asbestos Solutions has fully considered the risks and scope of the survey and has the resources, experience and expertise required to undertake and satisfactorily complete the work, in compliance with Current Legislation and Regulations.

Background

The development area has not been surveyed for asbestos previously and now requires a survey to record the position, location & condition of any asbestos present prior to a major re-development works commencing.

To enable this task to be undertaken all asbestos containing materials and their location must be sought out and identified and therefore a type 3 asbestos survey was deemed to be necessary.

The main purpose of adopting this approach is to enable those responsible for the Buildings to fulfil their obligations under:

- i) The Health and Safety at Work Act 1974
 - ii) The Management of Health and Safety at Work Regulations 1999 (MHSWR)
 - iii) Workplace (Health Safety and Welfare) Regulation 1992
 - iiii) The Construction, Design and Management Regulations 1994 (where applicable)
 - iv) The Control of Asbestos at Work Regulations (CAWR) 2002 (SI 2002 NO. 2675)
 - v) Approved Code of Practice L27 & 28 (Fourth edition)
 - vi) Approved Code of Practice and Guidance L21 (Second edition)
 - vii) The Workplace (Health, Safety and Welfare) Regulations 1992
 - viii) Approved Code of Practice and Guidance L24
 - ix) A new Approved Code of Practice and a minor amendment to the Health & Safety (Enforcing Authority) Regulations 1998
 - x) Asbestos (Licensing) Regulations 1983 (SI 1983 No. 1649)
 - xi) Asbestos (Licensing) (Amendment) Regulations 1998 (SI 1998 No. 3233)
 - xii) Asbestos and man-made fibres in buildings Practical Guidance DETR (Fourth edition)
 - xiii) Health & Safety in Construction HSG150
 - xiv) General COSHH ACOP 2002
 - xv) Managing asbestos in workplace buildings INDG223
 - xvi) The Occupiers Liability Acts 1957 & 1984
 - xvii) MDHS 100 July 2001
 - xviii) MDHS 77 June 1994
 - xix) A Comprehensive Guide to Managing Asbestos in Premises HSG227
-

Limitations

Whilst Asbestos Solutions make every effort to access and record each and every occurrence of asbestos containing materials within the buildings surveyed, some suspect materials may remain inaccessible until such times as major disturbance of the plant or building structure occurs, therefore we cannot guarantee that all asbestos containing materials present have been identified.

It is not always possible to detect materials within the deepest fabric of a building. Some service ducts and floor voids, buried pipe work, partition walling which may have been plastered or decorated including inaccessible areas are not easily detected.

Without resorting to a type 3 survey where the fabric of the building is disturbed it will not be possible to guarantee detection.

We try whenever practical to inform the client of areas which may be a cause of concern. However, where buildings have undergone extensive refurbishment, there is always a risk that unidentified asbestos materials, which may lay hidden, could be disturbed during future building works.

To ensure the safety of the surveyor and the maintenance and continuity of supply please note that, none of the electrical or control equipment on the site will be sampled without the permission of the client and that there may be asbestos materials present within this equipment.

This is usually the case in equipment which has been installed prior to 1975 and in order to detect any asbestos present in this equipment it is recommended that a separate survey be carried out using a system of isolations and inspections under the guidance of a site electrical engineer.

Any recommendations contained within this survey are based on the information available at the time during which the survey was undertaken, and we are unable to take account of future developments or changes in legislation. It is therefore recommended that this register be regularly updated annually or more frequently to record any changes and to include for changes.

The interpretation or use of this report does not negate the user of the responsibility of understanding the requirements of the present appropriate legislation and regulations. Further information and guidance can be obtained from Asbestos Solutions, at the address in the front of this report.

Every care has been taken with respect to the survey procedure and with the preparation of this report. However, if you suspect any inaccuracy to the contents of this report please contact Asbestos Solutions as soon as possible for verification.

Which ever type of survey, there remains a potential for hidden asbestos to be discovered. If during the course of any structural alterations or maintenance works, a suspect material, not already covered by this report, is encountered – then work must cease immediately. The affected work area should be evacuated until such time as the suspect material can be positively identified.

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Summary

Asbestos is visibly present in the confines of the development area in the form of asbestos cement (**Chrysotile**)

Building location	Area/Size	Material	Material & Risk Score
1 Site Area 1	Shed 1	Asbestos cement	5+ 18 = 23
2 Site Area 1	Debris	Asbestos cement	5+ 18 = 23
3 Site Area 2	Shed 2	Asbestos cement	5+ 18 = 23
4 Site Area 3	Debris	Asbestos cement	5+ 18 = 23
5 Site Area 4	Shed 3	Asbestos cement	5+ 18 = 23
6 Site Area 5	Debris	Asbestos cement	5+ 18 = 23
7 Site Area 6	Debris	Asbestos cement	5+ 18 = 23
8 Site Area 6	Debris	Asbestos cement	5+ 18 = 23
9 Site Area 6	Debris	Asbestos cement	5+ 18 = 23
10 Site Area 6	Debris	Asbestos cement	5+ 18 = 23
11 Site Area 6	Debris	Asbestos cement	5+ 18 = 23
12 Site Area 6	Debris	Asbestos cement	5+ 18 = 23
13 Site Area 6	Debris	Asbestos cement	5+ 18 = 23
14 Site Area 6	Debris	Asbestos cement	5+ 18 = 23
15 Site Area 7	Shed 4	Asbestos cement	5+ 18 = 23
16 Site Area 8	Shed 5	Asbestos cement	5+ 18 = 23
17 Site Area 9	Shed 6	Asbestos cement	5+ 18 = 23

Please Note:

The Materials and Risk Score above is made up of the material algorithm and the priority assessment algorithm scores and shows the overall potential for the material, its condition and its position to release asbestos fibres and to expose workers or visitors to asbestos fibres.

A low score in both categories shows a relatively low risk and any high total scores should be dealt with urgently taking into account the recommendations within the survey document.

Low Risk Scores:	2 to 8 –	Usually no action required
		Ongoing monitoring
Medium Risk scores:	9 to 17 –	Some action required
		Urgent but not immediate
High risk scores:	18 to 30	usually urgent or immediate
		action required

Further and fuller details and identification of the areas surveyed and any asbestos present throughout the building are indicated in the survey location and identification register section. In addition the section below on conclusions gives greater depth in recommending the actions required to safely manage any asbestos present and prevent exposure.

Conclusions and Actions

In line with current HSE recommendations the asbestos present can be managed in the following way:

All pump house buildings cladding requires removal and safe disposal 70 to 80 square metres

All surface asbestos cement debris on site requires locating, collecting and safe removal and disposal. At a rough approximation this could be in the region of several tonnes

The main area of buried asbestos as described in the site plan requires covering with a layer of gravel, hard core or dolomite. This would effectively eliminate any disturbance of the buried asbestos cement.

This is an approximate area of 2500 to 3000 square metres

Digging up this asbestos contamination material is a wasted exercise as the spoil would only have to be buried again at an asbestos licensed tip.

The substantial cost would also be prohibitive. It is much more effective to prevent the contamination being disturbed by covering with a layer of hard core which could facilitate a car park area or similar facility.

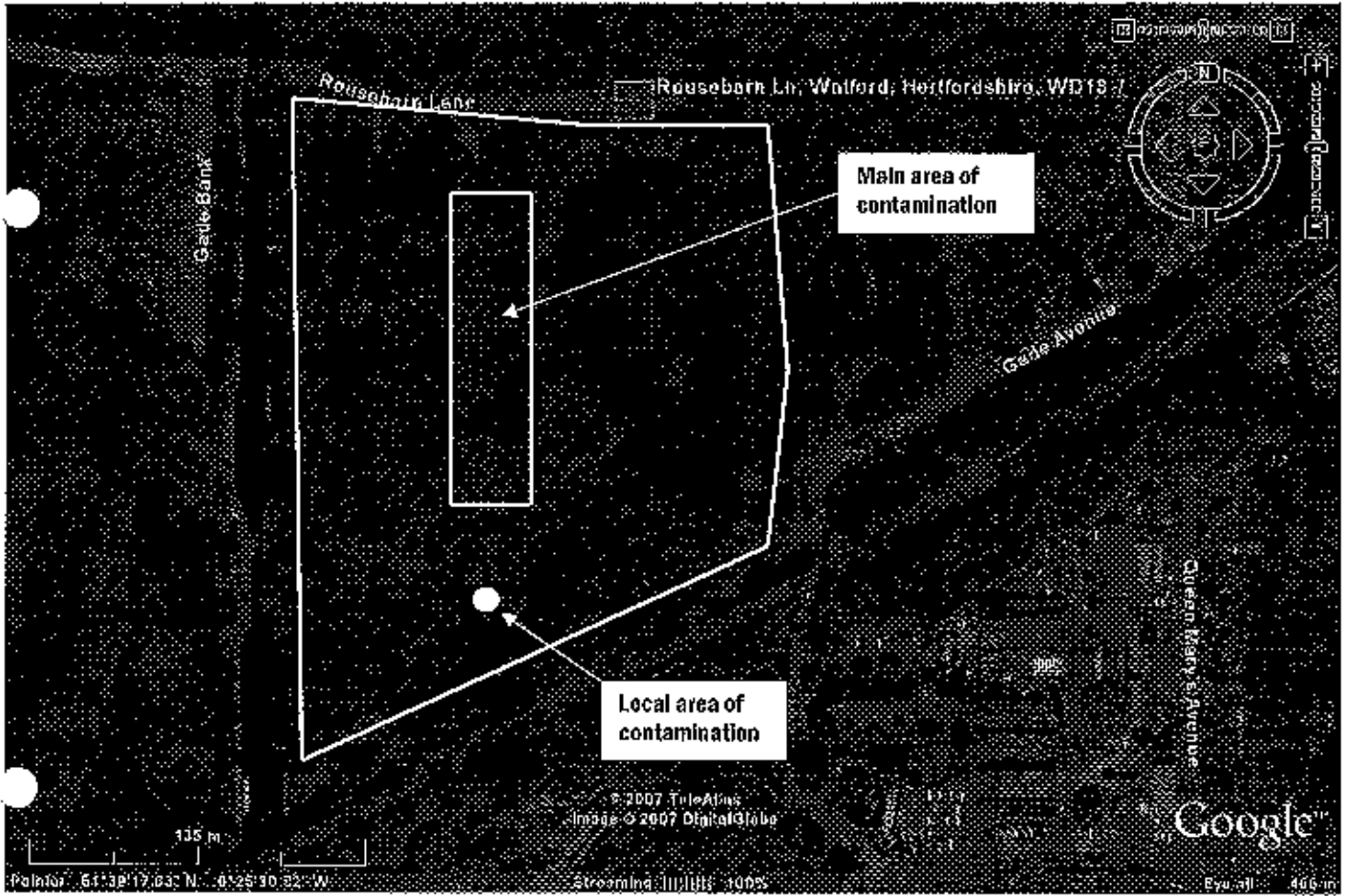
Please note that giggering of the covered area would have to be prohibited and a copy of the asbestos survey must be available on site for reference.

Any electrical or site services would be required to be run within the hard core layer to prevent disturbance of the underlying contamination.

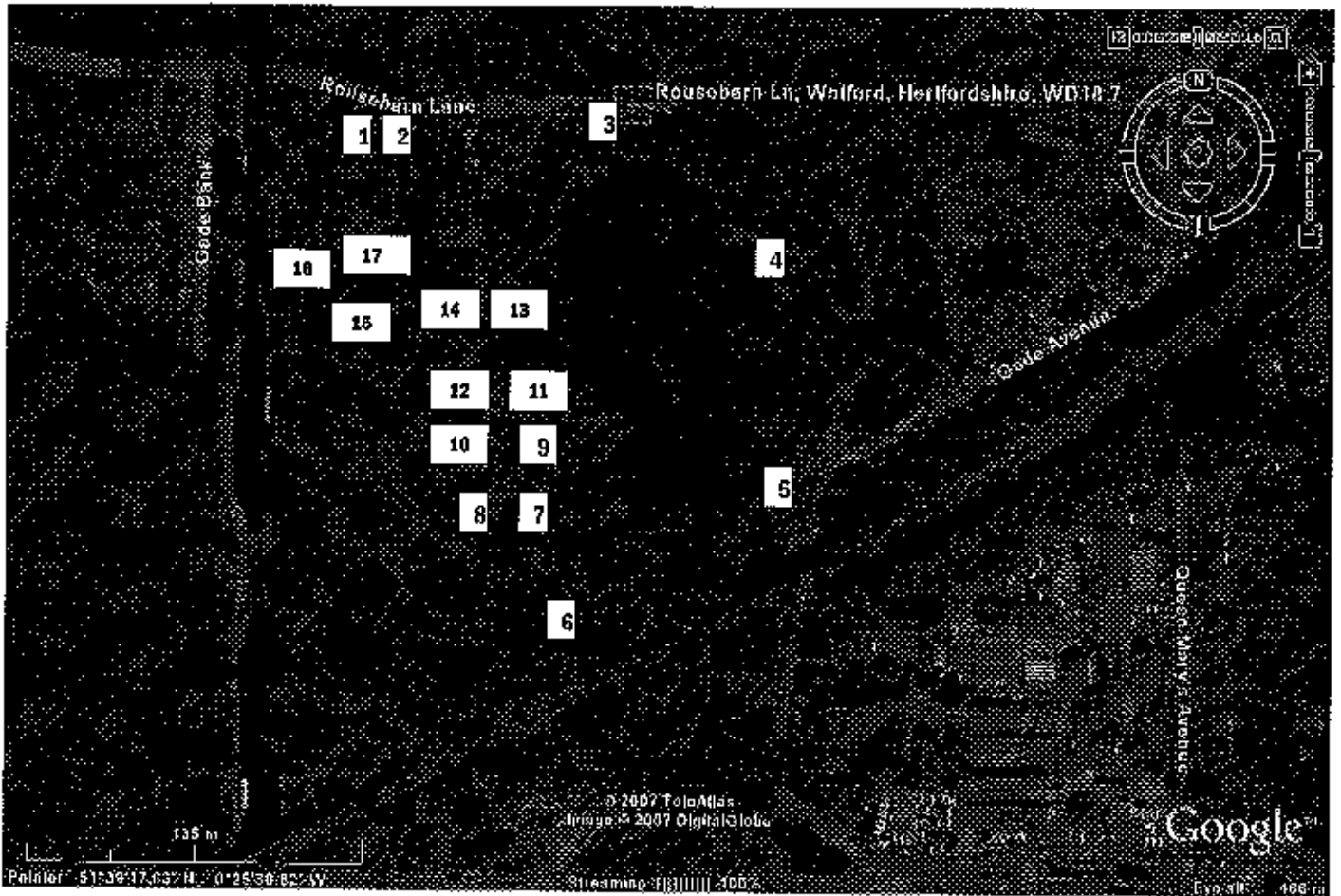
The surveyor is willing to assist the client in the understanding and interpretation of the register documents.

Site Plans

Site Plan A showing sheds & main areas of contamination



Site Plan B showing position of samples



Sampling Information

Asbestos containing materials (ACM) are in Red, None asbestos materials are in Green.

MATERIAL ASSESSMENT ALGORITHM

Property/Site/Rousebarn Farm development area									
Reference	Location	Product type	Extent of Damage/Deterioration	Surface treatment	Asbestos type	Total score	Potential to release fibres	Cert. of Analytical result	Material Extent approx
001	Site area 1 shed 1	AC=1	H=3	G=0	CH=1	5	LOW	EA/01	35 M ²
002	Site area 1	AC=1	H=3	G=0	CH=1	5	LOW	EA/02	Unknown
003	Site area 2 shed 2	AC=1	H=3	G=0	CH=1	5	LOW	EA/03	5 M ²
004	Site area 3	AC=1	H=3	G=0	CH=1	5	LOW	EA/04	Unknown
005	Site area 4 shed 3	AC=1	H=3	G=0	CH=1	5	LOW	EA/05	12 M ²
006	Site area 5	AC=1	H=3	G=0	CH=1	5	LOW	EA/06	Unknown
007	Site area 6	AC=1	H=3	G=0	CH=1	5	LOW	EA/07	Unknown
008	Site area 6	AC=1	H=3	G=0	CH=1	5	LOW	EA/08	Unknown
009	Site area 6	AC=1	H=3	G=0	CH=1	5	LOW	EA/09	Unknown
010	Site area 6	AC=1	H=3	G=0	CH=1	5	LOW	EA/010	Unknown
011	Site area 6	AC=1	H=3	G=0	CH=1	5	LOW	EA/011	Unknown
012	Site area 6	AC=1	H=3	G=0	CH=1	5	LOW	EA/012	Unknown
013	Site area 6	AC=1	H=3	G=0	CH=1	5	LOW	EA/013	Unknown
014	Site area 6	AC=1	H=3	G=0	CH=1	5	LOW	EA/014	Unknown
015	Site area 7 shed 4	AC=1	H=3	G=0	CH=1	5	LOW	EA/015	6 M ²
016	Site area 7 shed 5	AC=1	H=3	G=0	CH=1	5	LOW	EA/016	8 M ²
017	Site area 7 shed 6	AC=1	H=3	G=0	CH=1	5	LOW	EA/017	6 M ²

KEY						
TYPE OF ASBESTOS	A = 2 points Amphibole ex Crocidolite	CH = 1 point Chrysotile	CR = 3 points Crocidolite	P = 3 points Presumed		
Product type	AC=1 Asbestos cement	SP=3 Sprayed Coating	TI=3 Thermal insulation	AG=2 Asbestos Gasket	AIB=2 Asbestos Insulation	
	BV=1 bonded vinyl	RF=1 roofing felt		Rope	Board	
Extent of damage/deterioration	G=0 Good condition	L=1 Low damage	M=2 medium damage	H=3 High damage		
Surface treatment	0=composite materials resins, vinyl tiles, Plastics	1= Enclosed Sprays, lagging Painted AIB cement	2= Unsealed AIB or encapsulated lagging and sprays	3= Unsealed lagging and sprays		

Sampling & Analysis Results



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Analysis Report

Page 1 of 3

Report No: B7968
Job Number: 7968

Final Issue Date: 23/05/07
Client Job Number: SAMPLE 1-17

Private & Confidential
FAO: MR JYLLI
GLOBAL ENVIRONMENTAL ENGINEERS
PO BOX 270
HARTLEPOOL
TS27 3WA

Premises of Sample Origin:
ROUSEBARN FARM PROJECT
WATFORD

Analyst: F BELL
Date of Sample Receipt: 23/05/07

Sampled By: F BELL
Date(s) of Analysis: 23/05/07

Laboratory sample Reference Number	Sample Location & Description	Asbestos Fibre Type
057-1746	SAMPLE 001 Cement	CHRYSOTILE
057-1746	SAMPLE 002 Cement	CHRYSOTILE
057-1747	SAMPLE 003 Cement	CHRYSOTILE
057-1748	SAMPLE 004 Cement	CHRYSOTILE
057-1749	SAMPLE 005 Cement	CHRYSOTILE
057-1750	SAMPLE 006 Cement	CHRYSOTILE
057-1751	SAMPLE 007 Cement	CHRYSOTILE

Notes:

Method Statement: Testing was performed in accordance with the Quality Control Manual in-house method of Eton Analytical based on the published method HSE248. These results only apply to the sample analysed. Eton Analytical cannot accept responsibility for any discrepancy or inaccuracy arising from collection or labelling of samples by the client. Sample description as provided by client.
NAD = No Asbestos Detected in Sample

Authorised Signatory
Mrs F Bell
Quality Manager

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ASBESTOS SOLUTIONS



eton analytical ltd
Analysis Report

Page 2 of 3

Report No: B7958
Job Number: 7968

Final Issue Date: 23/05/07
Client Job Number: SAMPLE 1-17

Private & Confidential:
FAC: MR J YUILL
GLOBAL ENVIRONMENTAL ENGINEERS
PO BOX 270
HARTLEPOOL
TS27 3WA

Provenance of Sample Origin:
ROUSEBARN FARM PROJECT
WATFORD

Analyst: F. BELL
Date of Sample Receipt: 23/05/07

Sampled By: F. BELL
Date(s) of Analysis: 23/05/07

Laboratory sample Reference Number	Sample Location & Description	Asbestos Fibre Type
057-1752	SAMPLE 008 Cement	CHRYSTOLE
057-1753	SAMPLE 009 Cement	CHRYSTOLE
057-1754	SAMPLE 010 Cement	CHRYSTOLE
057-1755	SAMPLE 011 Cement	CHRYSTOLE
057-1756	SAMPLE 012 Cement	CHRYSTOLE
057-1757	SAMPLE 013 Cement	CHRYSTOLE
057-1758	SAMPLE 014 Cement	CHRYSTOLE

Notes:

Method Statement: Testing was performed in accordance with the Quality Control Manual in-house method of Eton Analytical, based on the published method HSG248. These results only apply to the sample analysed. Eton Analytical cannot accept responsibility for any discrepancy or inaccuracy arising from collection or labelling of samples by the client. Sample description as provided by client.
NAD = No Asbestos Detected in Sample

Authorised Signatory
Mrs F Bell

Quality Manager

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ASBESTOS SOLUTIONS



Elon Analytical Ltd

Page 3 of 3

Analysis Report

Report No: 07968
Job Number: 7968

Final Issue Date: 23/05/07
Client Job Number: SAMPLE 1-17

Private & Confidential
FAO: MR J YUILL
GLOBAL ENVIRONMENTAL ENGINEERS
PO BOX 270
HARTLEPOOL
TS27 3WA

Premises of Sample Origin:
ROUSEBARN FARM PROJECT
WATFORD

Analyst: F BELL
Date of Sample Receipt: 23/05/07

Sampled By: F BELL
Date(s) of Analysis: 23/05/07

Laboratory sample Reference Number	Sample Location & Description	Asbestos Fibre Type
057-1750	SAMPLE 015 Cement	CHRYSOTILE
057-1760	SAMPLE 016 Cement	CHRYSOTILE
057-1760a	SAMPLE 017 Cement	CHRYSOTILE
END OF REPORT		

Notes

Method Statement: Testing was performed in accordance with the Quality Control Manual In-house method of Elon Analytical, based on the published method HSG248. These results only apply to the sample analysed. Elon Analytical cannot accept responsibility for any discrepancy or inaccuracy arising from collection or labelling of samples by the client. Sample description as provided by client.
NAD = No Asbestos Detected in Sample

Authorised Signatory
Mrs F Bell

Quality Manager

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MATERIAL LOCATION & IDENTIFICATION

The findings of the sampling and observations have been recorded on the following pages using a Survey Location and Identification method.

Typically the probable sites/locations for the most common asbestos containing materials would be;

Roof and Exterior walls: Roof sheets, guttering and drainpipes, wall cladding, soffit boards, panels beneath windows, roofing felt and coating to metal wall cladding.

Boiler, Vessels & Pipework: Lagging on boiler- pipework- calorifier, damaged lagging and associated debris, Paper lining under none asbestos pipe lagging, gaskets in pipe and vessel joints, rope seals on boiler access hatches and between cast iron sections, paper lining inside steel boiler casings, boiler flues.

Walls, Doors & Windows: Lining on both walls and doors, frames, cheeks, panels above doors, interior soffits, sandwich panels in walls and doors, insulation strips around metal window frames.

Ceilings: Spray coating to ceilings, walls, beams, columns, loose asbestos in ceiling/floor cavity, tiles, slates, canopies, and firebreaks above ceilings, textured coatings and paints.

Flooring materials: Floor tiles, linoleum and paper backing, lining to suspended floor.

Air handling systems: Lagging, gaskets, anti-vibration gaiter.


Domestic appliances: Gaskets, rope seals and panels in domestic boilers, 'Capsil' insulating blocks, panels, paper, string etc in domestic heaters, string seals on radiators.

Other: Fire blankets, water tanks, brake/clutch linings.

The list does not show all possible uses or locations for asbestos containing materials. It will be the duty of the surveyor to locate and identify all asbestos containing materials present.

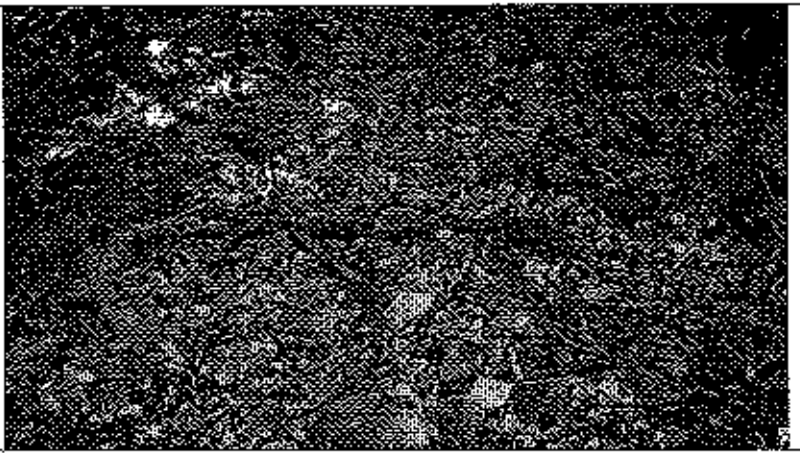
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ASBESTOS LOCATION & IDENTIFICATION

Location			
North west corner of site Shed 1			
Material			
Asbestos cement cladding			
Sample Number: 001			
Analytical Result			
Chrysotile			
Observations:			
Material Assessment Algorithm			
Product type	AC		= 1
Extent of damage/deterioration	H		= 3
Surface treatment	C		= 0
Asbestos type	CH		= 1
Total			= 05
Material Assessment Score	05	Potential to release Fibres LOW	
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	
	F =	0	Total Score = 18
Material Assessment Score	05	Priority Assessment Score	13
		Total Score: 23	
Recommendations		Overall Priority	
Label	Colour Code	1 Immediate Action	
Protect/Enclose	Seal/Encapsulate	2 Over three Months	
Repair	Remove	3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date	
		MAY 2007	
		Review Date	
		MAY 2007	


ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
North west corner of site			
Material			
Asbestos cement debris			
Sample Number: 002			
Analytical Result			
Chrysotile			
Observations:			
Material Assessment Algorithm			
Product type	AC	=	1
Extent of damage/deterioration	H	=	3
Surface treatment	C	=	0
Asbestos type	CH	=	1
Total			= 05
Material Assessment Score	05	Potential to release Fibres	LOW
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	
	F =	0	Total Score = 18
Material Assessment Score	05	Priority Assessment Score	13 Total Score: 23
Recommendations	Colour Code	Overall Priority	
Label	Seal/Encapsulate	1 Immediate Action	
Protect/Enclose	Remove	2 Over three Months	
Repair		3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date	MAY 2007
		Review Date	MAY 2007


ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
North east corner of site Shed 2			
Material			
Asbestos cement cladding			
Sample Number: 003			
Analytical Result			
Chrysotile			
Observations:			
Material Assessment Algorithm			
Product type	AC		= 1
Extent of damage/deterioration	H		= 3
Surface treatment	C		= 0
Asbestos type	CH		= 1
Total			= 05
Material Assessment Score	05	Potential to release Fibres	LOW
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	
	F =	0	Total Score = 18
Material Assessment Score	05	Priority Assessment Score	13 Total Score: 23
Recommendations	Colour Code	Overall Priority	
Label	Seal/Encapsulate	1 Immediate Action	
Protect/Enclose	Remove	2 Over three Months	
Repair		3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date	MAY 2007
		Review Date	MAY 2007

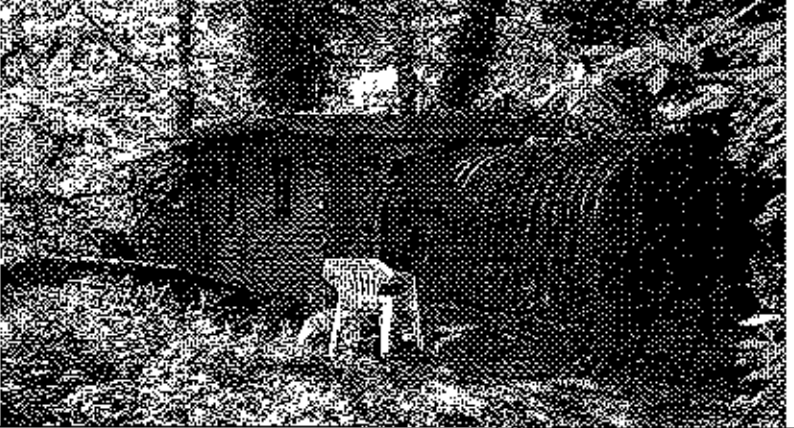
ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
East side of site			
Material			
Asbestos cement debris			
Sample Number: 004			
Analytical Result			
<u>Chrysotile</u>			
Observations:			
Material Assessment Algorithm			
Product type	AC	=	1
Extent of damage/deterioration	H	=	3
Surface treatment	C	=	0
Asbestos type	CH	=	1
Total		=	05
Material Assessment Score	05	Potential to release Fibres	<u>LOW</u>
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	Total Score = 18
	F =	0	
Material Assessment Score	05	Priority Assessment Score	13
		Total Score: 23	
Recommendations	Colour Code	Overall Priority	
Label		1 Immediate Action	
Protect/Enclose	<u>Seal/Encapsulate</u>	2 Over three Months	
Repair	<u>Remove</u>	3 <u>Over Six Months</u>	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date	
		MAY 2007	
		Review Date	
		MAY 2007	


ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
East side of site Shed 3			
Material			
Asbestos cement debris			
Sample Number: 005			
Analytical Result			
Chrysotile			
Observations:			
Material Assessment Algorithm			
Product type	AC	=	1
Extent of damage/deterioration	H	=	3
Surface treatment	C	=	0
Asbestos type	CH	=	1
Total		=	05
Material Assessment Score	05	Potential to release Fibres	LOW
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	Total Score = 18
	F =	0	
Material Assessment Score	05	Priority Assessment Score	18
		Total Score: 23	
Recommendations		Overall Priority	
Label	Colour Code	1 Immediate Action	
Protect/Enclose	Seal/Encapsulate	2 Over three Months	
Repair	Remove	3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date	
		MAY 2007	
		Review Date	
		MAY 2007	


ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
South side of site buried remnants of shed			
Material			
Asbestos cement debris			
Sample Number: 006			
Analytical Result			
Chrysotile			
Observations:			
Material Assessment Algorithm			
Product type	AC	=	1
Extent of damage/deterioration	H	=	3
Surface treatment	C	=	0
Asbestos type	CH	=	1
Total		=	05
Material Assessment Score	05	Potential to release Fibres	LOW
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	0 Total Score = 18
	F =	0	
Material Assessment Score	05	Priority Assessment Score	13 Total Score: 23
Recommendations		Overall Priority	
Label	Colour Code	1 Immediate Action	
Protect/Enclose	Seal/Encapsulate	2 Over three Months	
Repair	Remove	3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date MAY 2007	
		Review Date MAY 2007	


ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
Central site main area for contamination			
Material			
Asbestos cement debris			
Sample Number: 007			
Analytical Result			
Chrysotile			
Observations:			
Material Assessment Algorithm			
Product type	AC	= 1	
Extent of damage/deterioration	H	= 3	
Surface treatment	C	= 0	
Asbestos type	CH	= 1	
Total		= 05	
Material Assessment Score	05	Potential to release Fibres LOW	
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	
	F =	0	
		Total Score = 18	
Material Assessment Score	05	Priority Assessment Score	18
		Total Score: 23	
Recommendations		Overall Priority	
Label	Colour Code	1 Immediate Action	
Protect/Enclose	Seal/Encapsulate	2 Over three Months	
Repair	Remove	3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date	
		MAY 2007	
		Review Date	
		MAY 2007	

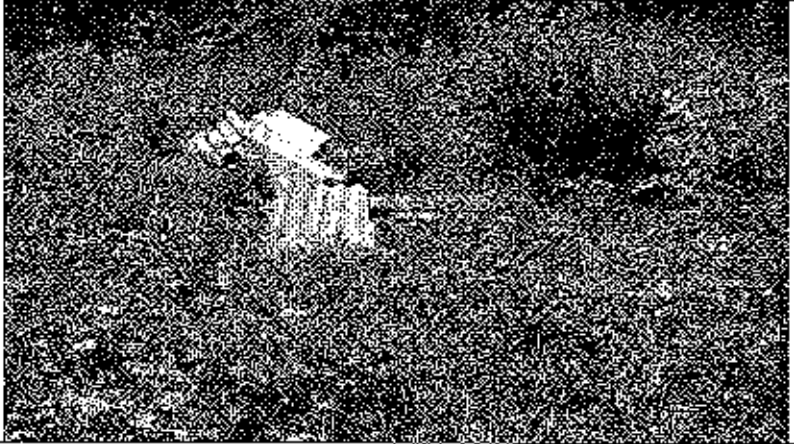
ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
Central site main area for contamination			
Material			
Asbestos cement debris			
Sample Number: 008			
Analytical Result			
<u>Chrysotile</u>			
Observations:			
Material Assessment Algorithm			
Product type	AC	=	1
Extent of damage/deterioration	H	=	3
Surface treatment	C	=	0
Asbestos type	CH	=	1
Total		=	05
Material Assessment Score	05	Potential to release Fibres	<u>LOW</u>
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	0 Total Score = 18
	F =	0	
Material Assessment Score	05	Priority Assessment Score	13 Total Score: 23
Recommendations		Overall Priority	
Label	Colour Code	1 Immediate Action	
Protect/Enclose	Seal/Encapsulate	2 Over three Months	
Repair	Remove	3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date	
		MAY 2007	
		Review Date	
		MAY 2007	


ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location				
Central site main area for contamination				
Material				
Asbestos cement debris				
Sample Number: 009				
Analytical Result				
Chrysotile				
Observations:				
Material Assessment Algorithm				
Product type	AC	= 1		
Extent of damage/deterioration	H	= 3		
Surface treatment	C	= 0		
Asbestos type	CH	= 1		
Total		= 05		
Material Assessment Score	05	Potential to release Fibres LOW		
Priority Assessment Algorithm				
Normal Occupant Activity	M =	2		
	S =	2		
Likelihood of Disturbance	L =	0		
	A =	2		
	E =	3		
Human Exposure Potential	N =	3		
	F =	3		
	A =	3		
Maintenance Activity	T =	0		
	F =	0		
		Total Score = 18		
Material Assessment Score	05	Priority Assessment Score	18	Total Score: 23
Recommendations: Label Protect/Enclose Repair NONE		Colour Code Seal/Encapsulate Remove	Overall Priority 1 Immediate Action 2 Over three Months 3 Over Six Months 4 Over 1 year 5 NONE	
Actions Taken and Date:		Date MAY 2007 Review Date MAY 2007		


ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
Central site main area for contamination			
Material			
Asbestos cement debris			
Sample Number: 010			
Analytical Result			
<u>Chrysotile</u>			
Observations:			
Material Assessment Algorithm			
Product type	AC	=	1
Extent of damage/deterioration	H	=	3
Surface treatment	C	=	0
Asbestos type	CH	=	1
Total		=	05
Material Assessment Score	05	Potential to release Fibres	LOW
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	Total Score = 18
	F =	0	
Material Assessment Score	05	Priority Assessment Score	18 Total Score: 23
Recommendations	Overall Priority		
Label	Colour Code	1 Immediate Action	
Protect/Enclose	<u>Seal/Encapsulate</u>	2 Over three Months	
Repair	<u>Remove</u>	3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:	Date		
	MAY 2007		
	Review Date		
	MAY 2007		

ASBESTOS SOLUTIONS

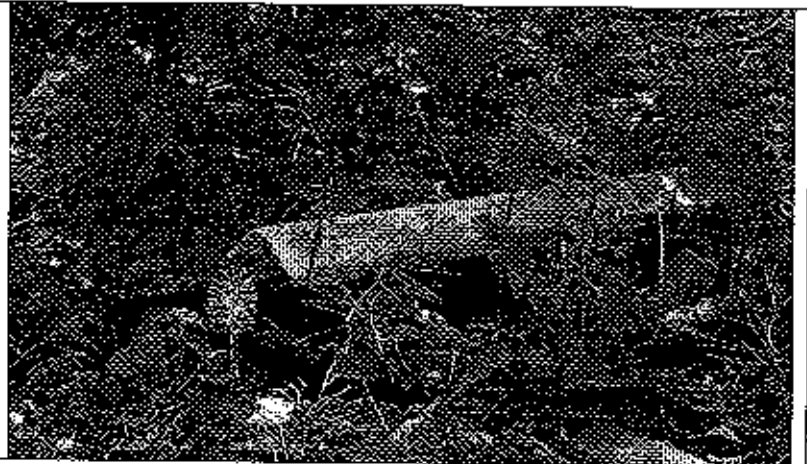
ASBESTOS LOCATION & IDENTIFICATION

Location			
Central site main area for contamination			
Material			
Asbestos cement debris			
Sample Number: 011			
Analytical Result			
Chrysotile			
Observations:			
Material Assessment Algorithm			
Product type	AC	=	1
Extent of damage/deterioration	H	=	3
Surface treatment	C	=	0
Asbestos type	CH	=	1
Total		=	05
Material Assessment Score	05	Potential to release Fibres	LOW
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	Total Score = 18
	F =	0	
Material Assessment Score	05	Priority Assessment Score	13
		Total Score: 23	
Recommendations		Overall Priority	
Label	Colour Code	1 Immediate Action	
Protect/Enclose	Seal/Encapsulate	2 Over three Months	
Repair	Remove	3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date	
		MAY 2007	
		Review Date	
		MAY 2007	

ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location
Central site main area for contamination
Material
Asbestos cement debris
Sample Number: 012
Analytical Result
Chrysotile



Observations:

Material Assessment Algorithm

Product type	AC	= 1
Extent of damage/deterioration	H	= 3
Surface treatment	C	= 0
Asbestos type	CH	= 1
Total		= 05

Material Assessment Score	05	Potential to release Fibres	LOW
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Priority Assessment Algorithm

Normal Occupant Activity	M =	2
	S =	2
Likelihood of Disturbance	L =	0
	A =	2
	E =	3
Human Exposure Potential	N =	3
	F =	3
	A =	3
Maintenance Activity	T =	0
	F =	0
		Total Score = 18


Material Assessment Score	05	Priority Assessment Score	13	Total Score: 23
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Recommendations Label Protect/Enclose Repair NONE	Colour Code Seal/Encapsulate Remove	Overall Priority 1 Immediate Action 2 Over three Months 3 Over Six Months 4 Over 1 year 5 NONE
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Actions Taken and Date:	Date MAY 2007 Review Date MAY 2007
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ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
Central site main area for contamination			
Material			
Asbestos cement debris			
Sample Number: 013			
Analytical Result			
Chrysotile			
Observations:			
Material Assessment Algorithm			
Product type	AC	=	1
Extent of damage/deterioration	H	=	3
Surface treatment	C	=	0
Asbestos type	CH	=	1
Total		=	05
Material Assessment Score	05	Potential to release Fibres	LOW
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	Total Score = 18
	F =	0	
Material Assessment Score	05	Priority Assessment Score	13
		Total Score: 23	
Recommendations		Overall Priority	
Label	Colour Code	1 Immediate Action	
Protect/Enclose	Seal/Encapsulate	2 Over three Months	
Repair	Remove	3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date	
		MAY 2007	
		Review Date	
		MAY 2007	


ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
Central site main area for contamination			
Material			
Asbestos cement debris			
Sample Number: 014			
Analytical Result			
Chrysotile			
Observations:			
Material Assessment Algorithm			
Product type	AC	=	1
Extent of damage/deterioration	H	=	3
Surface treatment	C	=	0
Asbestos type	CH	=	1
Total		=	05
Material Assessment Score	05	Potential to release Fibres	LOW
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	Total Score = 18
	F =	0	
Material Assessment Score	05	Priority Assessment Score	13
		Total Score: 23	
Recommendations	Overall Priority		
Label	Colour Code Seal/Encapsulate Remove	1 Immediate Action	
Protect/Enclose		2 Over three Months	
Repair		3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:	Date		
	MAY 2007		
	Review Date		
	MAY 2007		


ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
East side of site			
Shed 4			
Material			
Asbestos cement debris			
Sample Number: 015			
Analytical Result			
Chrysotile			
Observations:			
Material Assessment Algorithm			
Product type	AC	=	1
Extent of damage/deterioration	H	=	3
Surface treatment	C	=	0
Asbestos type	CH	=	1
Total		=	05
Material Assessment Score	05	Potential to release Fibres	LOW
Priority Assessment Algorithm			
Normal Occupant Activity	M =		2
	S =		2
Likelihood of Disturbance	L =		0
	A =		2
	E =		3
Human Exposure Potential	N =		3
	F =		3
	A =		3
Maintenance Activity	T =		0
	F =		0
Total Score = 18			
Material Assessment Score	05	Priority Assessment Score	13
		Total Score: 23	
Recommendations		Overall Priority	
Label	Colour Code	1 Immediate Action	
Protect/Enclose	Seal/Encapsulate	2 Over three Months	
Repair	Remove	3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date	
		MAY 2007	
		Review Date	
		MAY 2007	

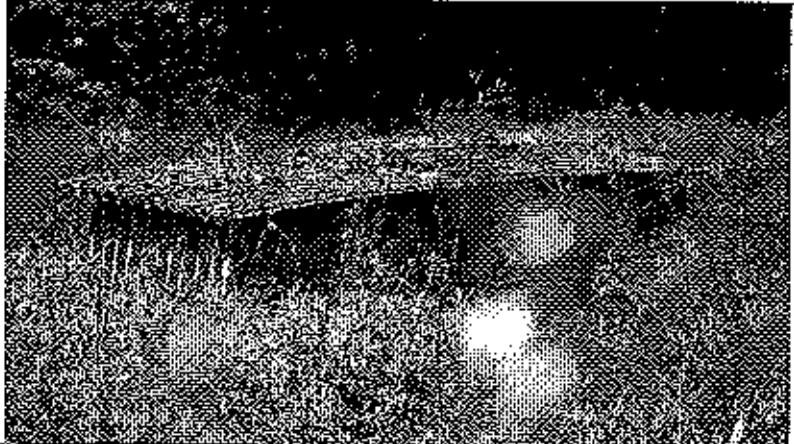
ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location			
East side of site			
Shed 5			
Material			
Asbestos cement debris			
Sample Number: 016			
Analytical Result			
Chrysotile			
Observations:			
Material Assessment Algorithm			
Product type	AC		= 1
Extent of damage/deterioration	H		= 3
Surface treatment	C		= 0
Asbestos type	CH		= 1
Total			= 05
Material Assessment Score	05	Potential to release Fibres	LOW
Priority Assessment Algorithm			
Normal Occupant Activity	M =	2	
	S =	2	
Likelihood of Disturbance	L =	0	
	A =	2	
	E =	3	
Human Exposure Potential	N =	3	
	F =	3	
	A =	3	
Maintenance Activity	T =	0	Total Score = 18
	F =	0	
Material Assessment Score	05	Priority Assessment Score	13
		Total Score: 23	
Recommendations		Overall Priority	
Label	Colour Code	1 Immediate Action	
Protect/Enclose	Seal/Encapsulate	2 Over three Months	
Repair	Remove	3 Over Six Months	
NONE		4 Over 1 year	
		5 NONE	
Actions Taken and Date:		Date	
		MAY 2007	
		Review Date	
		MAY 2007	

ASBESTOS SOLUTIONS

ASBESTOS LOCATION & IDENTIFICATION

Location				
East side of site				
Shed 6				
Material				
Asbestos cement debris				
Sample Number: 017				
Analytical Result				
Chrysotile				
Observations:				
Material Assessment Algorithm				
Product type	AC	=	1	
Extent of damage/deterioration	H	=	3	
Surface treatment	C	=	0	
Asbestos type	CH	=	1	
Total			= 05	
Material Assessment Score	05	Potential to release Fibres	LOW	
Priority Assessment Algorithm				
Normal Occupant Activity	M =	2		
	S =	2		
Likelihood of Disturbance	L =	0		
	A =	2		
	E =	3		
Human Exposure Potential	N =	3		
	F =	3		
	A =	3		
Maintenance Activity	T =	0	0 Total Score = 18	
	F =	0		
Material Assessment Score	05	Priority Assessment Score	13	Total Score: 23
Recommendations	Colour Code Seal/Encapsulate Remove		Overall Priority 1 Immediate Action 2 Over three Months 3 Over Six Months 4 Over 1 year 5 NONE	
Label	NONE			
Protect/Enclose				
Repair				
Actions Taken and Date:			Date MAY 2007 Review Date MAY 2007	

Material Assessment

The purpose of the material assessment is to establish the relative ability of various types of asbestos containing materials (ACM's) to release fibres into the air, should they be disturbed. The type of fibre is also taken into account. This assessment will be carried out as an integral part of the survey. A simple four parameter additive algorithm will be used to assess the likely magnitude of release from the material, given a standard disturbance. This will be evaluated using four categories, **HIGH**, **MEDIUM**, **LOW** and **VERY LOW**.

The four main parameters which will determine the amount of fibre release from an ACM when subject to a standard disturbance are:

- Product Type
- Extent of damage or deterioration
- Surface treatment
- Asbestos type

Each parameter is scored as: High = 3, Medium = 2 or Low = 1
Two categories also score a nil score.

The value assigned to each of the four parameters is added together to give a total score of between 2 and 12.

Materials with assessment scores of 10 or more are regarded as having a **HIGH** potential to release fibres, if disturbed.

Scores of between 7 and 9 are regarded as having a **MEDIUM** potential.

Scores of between 5 and 6 a **LOW** potential.

Scores of 4 or less have a **VERY LOW** potential to release fibres.

The material assessment score will be calculated and recorded as an integral part of this survey.

The material assessment identifies the high risk materials, those which will most readily release airborne fibres if disturbed. It does not automatically follow that those materials assigned the highest score in the material assessment will be the materials that should be given priority for remedial action.

The management priority must be determined carrying out a risk assessment which will also take into account factors such as:

Maintenance Activity, Occupant Activity, Likelihood of Disturbance, Human Exposure Potential

Material Assessment Algorithm

Sample Variable	Score	Examples of Scores
Product Type	1	Asbestos reinforced composites (plastics, resins, mastics, Roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc
	2	Asbestos insulating board, mill boards, other low density insulation boards, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt
	3	Thermal insulation (eg pipe and boiler lagging), sprayed asbestos, loose asbestos, asbestos mattresses and parking
Extent of Damage	0	Good condition: no visible damage
	1	Low damage: a few scratches or surface marks; broken edges on boards, tiles etc
	2	Medium damage: significant breakage of materials or several small areas where material has been damaged revealing loose asbestos fibres
	3	High damage or delamination of materials, sprays and thermal insulation. Visible asbestos debris
Surface Treatment	0	Composite materials containing asbestos: reinforced plastics, resins, vinyl tiles
	1	Enclosed sprays and lagging, asbestos insulating board (with exposed face painted or encapsulated), asbestos cement sheets etc
	2	Unsealed asbestos insulating board, or encapsulated lagging and sprays
Asbestos Type	3	Unsealed lagging and sprays
	1	Chrysotile
	2	Amphibole excluding Crocidolite
Total Score	3	Crocidolite

Material with assessment scores of 10 or more are regarded as having
 Scores of between 7 and 9 have
 Scores of between 5 and 6 are
 Scores of 4 or less have a
 to release fibres, if disturbed.

High Potential
 Medium Potential
 Low Potential
 Very Low Potential

RISK ASSESSMENT

The risk assessment includes a material assessment and a priority assessment.

The material assessment looks at the type and condition of the asbestos containing material (ACM) and the ease with which it will release fibres if disturbed.

The priority assessment looks at the likelihood of someone disturbing the ACM.

In order to undertake the risk assessment a detailed knowledge of all the above is necessary. It is therefore essential that the surveyor and the duty holder combine their information to complete the risk assessment.

Upon completion risk assessment will form the basis of the management plan and therefore it is vital that it is accurate.

The following pages show the Priority Assessment format:

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Priority Assessment Algorithm

Assessment Factor	Score	Examples of Score Variables
Normal occupant activity (Main type of activity in area)	0	Rare disturbance activity (e.g. little used store room)
	1	Low disturbance activity (e.g. office type activity)
	2	Periodic disturbance (e.g. industrial or vehicular activity which may contact ACM's)
	3	High level of disturbance, (e.g. fire door with asbestos insulating board sheet in constant use)
Secondary activities in area	As above	As above
Likelihood of Disturbance		
Location	0	Outdoors
	1	Large rooms or well-ventilated areas
	2	Rooms up to 100 M
	3	Confined spaces
Accessibility	0	Usually inaccessible or unlikely to be disturbed
	1	Occasionally likely to be disturbed
	2	Easily disturbed
	3	Routinely disturbed
Extent/amount	0	Small amounts or items (e.g. strings, gaskets)
	1	<10 M ² or < 10 M pipe run
	2	>10 M ² to 50 M ² or > 10 M to 50 M pipe run
	3	>50 M ² or 50 M pipe run
Human Exposure Potential		
Number of Occupants	0	None
	1	1 to 3
	2	4 to 10
	3	>10
Frequency of use of area	0	Infrequent
	1	Monthly
	2	Weekly
	3	Daily
Average time area is in use	0	<1 hour
	1	>1 to <3 hours
	2	>3 to <6 hours
	3	>6 hours
Maintenance Activities		
Type of maintenance activity	0	Minor disturbance (e.g. possibility of contact when gaining access)
	1	Low disturbance (e.g. changing light bulbs in asbestos insulating board ceiling)
	2	Medium disturbance (e.g. lifting one or two asbestos insulating board ceiling tiles to access a valve)
	3	High levels of disturbance (e.g. removing a number of asbestos insulating board ceiling tiles to replace a valve)
Frequency of maintenance activity	0	ACM unlikely to be disturbed for maintenance
	1	<1 per year
	2	>1 per year
	3	>1 per month
Total Score		

ANALYTICAL STANDARDS

Asbestos Solutions use only (UKAS) United Kingdom Accreditation Service accredited laboratories for:

- **Sampling and Counting Asbestos Fibres in Air**
- **Sampling and identification of Asbestos in Bulk Materials**

The standards implemented by UKAS (United Kingdom Accreditation Services) are made by the European Committee for standardisation (CEN) and its Electro technical equivalent CEN ELEC - these bodies publish standards on the operation and accreditation of laboratories.

Laboratories meeting UKAS requirements for calibration and testing activities comply with the relevant requirements of BS5750/ISO 9000 series of standards.

The benefits of Asbestos Solutions use of accredited expertise, particularly in reports and certification issued are:

- Assurance that the work has been carried out to the highest standards.
- Independent experts have stringently assessed the laboratory issuing the certificate.
- Assurance that the agreed or specified methods and procedures have been followed.
- Measurements are traceable to national and international standards.

In addition, in order to comply with the requirements of MDSH 100 employers should ensure that laboratories, which they use for asbestos fibre counting, have the necessary facilities, expertise and quality control procedures to provide accurate results. This can be guaranteed by using laboratories accredited by UKAS.

In addition, in order to comply with Regulation 19 and 20 of the Control of Asbestos at Work Regulations (2002), employers should ensure that laboratories, which they use for asbestos fibre counting, have the necessary facilities, expertise and quality control procedures to provide accurate results. This can be guaranteed by using laboratories accredited by UKAS.

ASBESTOS SOLUTIONS

Bulk Analysis

Analysis of any samples taken will be carried out using Scopes Analysis Consultants in-house methods approved by the United Kingdom Accreditation Services. (UKAS)

The samples are initially examined under the stereo binocular microscope at low magnification using incident illumination. Representative sub-samples of the fibres observed in each sample are selected, cleaned and mounted on clean microscope slides in Cargille Liquids of known refractive index. Identification will be made by means of polarisers, dispersion staining and quartz "tint" plate.

Asbestos Solutions use Laboratories Accredited by UKAS for identification of asbestos fibres

Analysis Results & Inspection Certification

All analysis results for bulk sample identification and air tests will be provided on Scopes Analysis Consultants certification.

HEALTH AND SAFETY

Asbestos Solutions discussed details of the client safety requirements, together with any information on known hazards.

Asbestos Solutions have complied with The Manager responsible for safety on existing building and site requirements with regards to Health and Safety, during the course of the survey.

Information provided by the client representative has been incorporated into the developed survey strategy.

Surveyor Qualifications

