

Client Reference: 41112, Castle Hill Preliminary ESA

Method ID	Methodology Summary
AS4964-2004	Qualitative identification of asbestos type fibres in bulk using Polarised Light Microscopy and Dispersion Staining Techniques.

Envirolab Reference: 38463
Revision No: R 00



Page 5 of 6

Report Comments:

Asbestos was analysed by Approved Identifier: Matt Mansfield

INS: Insufficient sample for this test NT: Not tested PQL: Practical Quantitation Limit <: Less than >: Greater than
RPD: Relative Percent Difference NA: Test not required LCS: Laboratory Control Sample NR: Not requested

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria:

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the sample batch were within laboratory acceptance criteria.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for

SVOC and speciated phenols is acceptable. Surrogates: 60-140% is acceptable for general organics and 10-140% for SVOC and speciated phenols.



CHAIN OF CUSTODY

PROJECT NO.: 4112				LABORATORY BATCH NO.			
PROJECT NAME: CASTLE HILL PRELIMINARY ESA				SAMPLERS: Michael Samuel			
SEND REPORT TO: Michael Samuel				PHONE: 83381011			
DATE NEEDED BY: 3 Standard				EMAIL: msamuel@jbsgroup.com.au			
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:				QC LEVEL: NEPM 1999 ()			
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	PH	NOTES	
1-HA01-0-0-1	SOIL	2/3/10		1 x bag			
2-HA02-0-0-1							
3-HA03-0-0-1							
4-HA03-0-2-0-3							
5-HA04-0-0-1							
6-HA05-0-0-1							
7-HA05-0-2-0-3							
8-HA06-0-0-1							
9-HA07-0-0-1							
10-HA08-0-0-1							
11-HA09-0-0-1							
12-HA10-0-0-1							
13-HA11-0-0-1							
14-HA12-0-0-1							
15-HA13-0-0-1							
16-HA14-0-0-1							
17-HA15-0-0-1							
18-HA16-0-0-1							
RELINQUISHED BY: Michael Samuel				RECEIVED BY: Hu			
NAME: Michael Samuel				NAME: Hu			
DATE: 3/3/10				DATE: 3/3/10			
TRANSPORT CO. JBS				TRANSPORT CO. ELS			
NAME: JBS				NAME: ELS			
DATE:				DATE:			
TRANSPORT CO.				TRANSPORT CO.			
NAME:				NAME:			
DATE:				DATE:			
OF:				OF:			
Container: 3 Preservative Codes: P - Plastic; J - Seal Jar; S - Glass Beaker; H - Water; A - Plastic; C - Sodium Hydroxide Preservative; VC - Vacuum Sealed; D - Dry; M - Moist; OS - Substrate Add Preservative; V - Substrate Add Preservative; Z - Zinc; Prod: E - EDTA Preservative; ST - Sterile; S - Sterile; O - Other				FOR RECEIVING LAB USE ONLY:			
				COOLER SEAL - Yes No Intact Broken			
				COOLER TEMP - deg C			
				COOLER SEAL - Yes No Intact Broken			
				COOLER TEMP - deg C			

JBS Environmental Pty Ltd ABN 67 071 842 638
Phone: (02) 8338-1011
Fax: (02) 8338-1700
ISO Form 013 - Chain of Custody

Suite 2, 595 Gardeners Road MASCOT NSW 2020
PO Box 940 MASCOT NSW 1460
www.jbsgroup.com.au



CHAIN OF CUSTODY

JBS Environmental Pty Ltd ABN 57 071 842 638
 Phone: (02) 8338-1011
 Fax: (02) 8338-1700
 JMSO Forms013 - Chain of Custody



EnviroLab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

CERTIFICATE OF ANALYSIS 38463-A

Client:

JBS Environmental
P.O. Box 940
MASCOT
NSW 1460

Attention: Michael Samuel

Sample log in details:

Your Reference:
No. of samples:
Date samples received:
Date completed instructions received:

41112, Castle Hill Preliminary ESA
Additional Testing on 1 Soil
03/03/10
19/03/10

Analysis Details:

Please refer to the following pages for results and methodology summary.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Note, even after disintegration it can be difficult to detect the presence of asbestos in some asbestos -containing bulk materials using PLM and dispersion staining. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.

Report Details:

Date results requested by: 19/03/10
Date of Preliminary Report: Not Issued
Issue Date: 19/03/10

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This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:

Asbestos was analysed by Approved Identifier: Matt Mansfield

M. Mansfield
Matt Mansfield
Chemist



Envirolab Ref:	Sample ID:	Date analysed	Sample Description	Asbestos ID in soil	Trace Analysis
--	--	-	-	-	-
38463-A-19	SP01	19/3/10	Approx 20g Soil & Stones	No asbestos found at reporting limit of 0.1g/kg	Respirable fibres not detected

Method ID	Methodology Summary
AS4964-2004	Qualitative identification of asbestos type fibres in bulk using Polarised Light Microscopy and Dispersion Staining Techniques.

Aileen Hie

From: Michael Samuel [MSamuel@jbsgroup.com.au]
Sent: Friday, 19 March 2010 08:49 AM
To: Aileen Hie
Subject: Extra analysis Batch# 38463

Hi Aileen,

Could I please get some extra analysis completed on a sample from batch # 38463 (JBS# 41112)

Could I please get sample SP01 analysed for asbestos only. 19

If possible could I get the results today?

Let me know if there are any problems.

Sincerely,

Michael Samuel
Environmental Scientist
JBS Environmental Pty Ltd
128 O'Riordan Street, Mascot, NSW, 2020
(ph) 02 8338 1011 (fax) 02 8338 1700 www.jbsgroup.com.au

If you would like to send me large electronic files (>10MB), please use JBS Environmental's secure internet-based file delivery system located at <http://dropbox.yousendit.com/JBSENVIRONMENTAL>

This message is intended solely for the individual(s) and entity(s) addressed. It is confidential and may contain legally privileged information. The use, copying or distribution of this message or any information it contains, by anyone other than the addressee, is prohibited. If you have received this message in error, please notify the sender by return email at msamuel@jbsgroup.com.au

EnviroLab Ref: 38463A
We: 19/3/10
same day T/A.

19/03/2010



Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

CERTIFICATE OF ANALYSIS 39240

Client:

JBS Environmental
P.O. Box 940
MASCOT
NSW 1460

Attention: Michael Samuel

Sample log in details:

Your Reference:	<u>41112, Castle Hill ESA</u>
No. of samples:	10 Soils
Date samples received:	24/03/10
Date completed instructions received:	24/03/10

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by:	25/03/10
Date of Preliminary Report:	Not Issued
Issue Date:	25/03/10

NATA accreditation number 2901. This document shall not be reproduced except in full.

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Results Approved By:

M. Mansfield
Matt Mansfield
Chemist

Envirolab Reference: 39240
Revision No: R 00

Page 1 of 4



Asbestos ID - soils Our Reference: Your Reference Type of sample	UNITS ----- -----	39240-1 SP2 Soil	39240-2 SP4 Soil	39240-3 SP5 Soil	39240-4 SP6 Soil	39240-5 SP7 Soil
Date analysed	-	25/3/10	25/3/10	25/3/10	25/3/10	25/3/10
Sample Description	-	Approx 40g Soil, Shale & Stones	Approx 40g Soil & Stones	Approx 40g Soil & Stones	Approx 35g Clay	Approx 40g SOil & Stones
Asbestos ID in soil	-	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg
Trace Analysis	-	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected

Asbestos ID - soils Our Reference: Your Reference Type of sample	UNITS ----- -----	39240-6 SP8 Soil	39240-7 SP9 Soil	39240-8 SP10 Soil	39240-9 SP11 Soil	39240-10 SP12 Soil
Date analysed	-	25/3/10	25/3/10	25/3/10	25/3/10	25/3/10
Sample Description	-	Approx 25g Clay	Approx 40g Soil	Approx 40g Clay Soil & Stones	Approx 30g Clay Soil & Stones	Approx 30g Clay
Asbestos ID in soil	-	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg
Trace Analysis	-	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected

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SVOC and speciated phenols is acceptable. Surrogates: 60-140% is acceptable for general organics and 10-140% for SVOC and speciated phenols.



CHAIN OF CUSTODY

PROJECT NO.: 41112				LABORATORY BATCH NO.			
PROJECT NAME: Castle Hill GSA				SAMPLERS: M. Samuel			
SEND REPORT TO: Michael Samuel				PHONE: 83381011			
SEND INVOICE TO: Anywhere				EMAIL: msamuel@jbsgroup.com.au			
DATE NEEDED BY: 24th JAN				QC LEVEL: NEPM 1999 ()			
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:							
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	PH	NOTES	
SP2	SOIL	23/3/10		1 x bag			
SP4							
SP5							
SP6							
SP7							
SP8							
SP9							
SP10							
SP11							
SP12							

Job No: 39240

Date received: 24/3/10

Time received: 2pm

Received by: JML

Temp: 000 Ambient

Cooling: 100 Impact

Washing: 100 Impact

RELINQUISHED BY:		METHOD OF SHIPMENT:		RECEIVED BY:		FOR RECEIVING LAB USE ONLY:	
NAME: Michael Samuel	DATE: 24/3/10	CONSIGNMENT NOTE NO. TRANSPORT CO.	NAME:	DATE:	COOLER SEAL - Yes No	Intact Broken	
OF: JBS			OF:		COOLER TEMP deg C		
NAME: Juliana Lammert	DATE: 24/3/10	CONSIGNMENT NOTE NO. TRANSPORT CO. <td>NAME:<td>DATE:<td>COOLER SEAL - Yes No<td>Intact Broken</td></td></td></td>	NAME: <td>DATE:<td>COOLER SEAL - Yes No<td>Intact Broken</td></td></td>	DATE: <td>COOLER SEAL - Yes No<td>Intact Broken</td></td>	COOLER SEAL - Yes No <td>Intact Broken</td>	Intact Broken	
OF: ELS			OF:		COOLER TEMP deg C		

Container & Preservative Codes: D = Plastic; N = Soil Inc. B = Glass Bottle; C = Sodium Hydroxide Pres. VC = Hydrochloric Acid Pres. V5 = Sulfuric Acid Pres. V6 = Sulfuric Acid Pres. V7 = Zinc Phos. E = EDTA Pres. ST = Sealtite Bottle; O = Other

JBS Environmental Pty Ltd ABN 67 071 842 638
Phone: (02) 8338-1011
Fax: (02) 8338-1700

Suite 2, 595 Gardeners Road MASCOT NSW 2020
PO Box 940 MASCOT NSW 1460
www.jbsgroup.com.au



Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph: 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

JBS Environmental
P.O. Box 940
MASCOT NSW 1460

ph: 8338 1013
Fax: 8338 1700

Attention: Michael Samuel

Sample log in details:

Your reference:
Envirolab Reference:
Date received:
Date results expected to be reported:

41112, Castle Hill ESA
39240
24/03/10
25/03/10

Samples received in appropriate condition for analysis:	YES
No. of samples provided	10 Soils
Turnaround time requested:	24hr
Temperature on receipt	Not applicable
Cooling Method:	None

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst
ph: 02 9910 6200 fax: 02 9910 6201
email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

Appendix K
Stockpiled Material Classification

JBS 41112- 14825

25 March 2010

Harlan Hall
KMSJ Pty Ltd & Lanox Pty Ltd
(via email: harlanhall@ozemail.com.au)

CC: Bob Stewart
Complete Infrastructure Services Pty Ltd
(via email: bob@cisnsw.com.au)

Stockpiled Material Classification – 370 Old Northern Road, Castle Hill, NSW

Dear Harlan,

1. Introduction & Background

JBS Environmental Pty Ltd was engaged by KMSJ Pty Ltd & Lanox Pty Ltd (KMSJ) to undertake a materials classification of stockpiled material proposed for off site disposal at 370 Old Northern Road, Castle Hill, NSW (the site) as shown in **Figure 1**. Based on the site inspection it is estimated that the stockpiled material is approximately 30m³.

This report details material sampling and classification conducted from the stockpiled materials at the site on 2 March and 23 March 2010 and provides a classification for stockpiled silty clay materials at the site.

2. Scope of Works

One soil sample (SP01) and two fragment samples (SP01-F1 and SP01-F2) were collected from the stockpiled material during the site visit on 2 March 2010. Each sample was collected by hand wearing a new pair of disposable nitrile gloves. The samples were immediately transferred to zip lock bags. The sample bags were transferred to a storage container for sample preservation prior to and during shipment to the testing laboratory.

During the collection of the samples, features such as seepage, discolouration, staining, odours and other indications of contamination were noted on field sheets.

The samples were transported under chain of custody conditions to Envirolab Services Pty Ltd (Envirolab), an analytical laboratory certified by the National Association of Testing Authorities (NATA) for the required analyses, where the samples were analysed for asbestos.

3. Material Characterisation

3.1. Site Description

The site is located at 370 Old Northern Road, Castle Hill NSW and covers an area of approximately 29,000m². It is understood that the site is proposed for subdivision and redevelopment into low density housing. The site was unsealed with a dense grass cover and sloped generally to the south west away from Old Northern Road at varying gradients. A single storey brick building was observed on the site with a separate small brick garage.

Approximately 30m³ of stockpiled material reported to have originated from the construction of a driveway from Old Northern Road onto the site, was located in the central western portion of the site. A number of suspected asbestos containing material (ACM) fragments were observed on the stockpile.

Inspection of the site area and historical searches of the site did not identify any other significant obvious potential contamination sources concerning the site.

3.2. Material Classification

Fieldworks were completed by JBS field personnel on 2nd and 23rd March 2010. This included sampling of the stockpiled material on the 2nd March, and a detailed inspection of the remainder of the stockpile on 23rd March 2010. Other soil investigations were completed across the broader site area during the site works on 2nd March 2010.

The stockpiled material was comprised of light brown heterogeneous silty clay with suspected asbestos containing material (ACM) fragments and concrete pieces mixed throughout the material. Approximately ten suspected asbestos containing material (ACM) fragments with an average size of 50mm length and 50mm width and approximately 5mm depth were observed within the stockpile.

4. Results

Laboratory results for the three samples, SP01, SP01-F1 and SP01-F2, analysed for asbestos can be summarized as follows:

- There was no asbestos detected at the laboratory limit of reporting of 0.1mg/kg and no respirable fibres detected within sample SP01;
- There was no asbestos detected within the fragment sample SP01-F1; and
- Chrysotile (white asbestos) was detected within fragment sample SP01-F2.

Laboratory reports and associated chain of custody documentation are provided in **Attachment 3**.

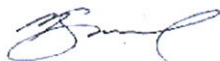
5. Conclusions

Based on the results of this investigation, and subject to the limitations in **Attachment 1**, the assessment conclusions are:

- The material, consisting of light brown, heterogeneous silty clay with concrete pieces and bonded asbestos fragments is consistent with Special Waste (Asbestos Waste) as per DECC 2009;
- The stockpiled material does not contain respirable fibres; and
- The material should be removed from site and must be taken to a facility lawfully able to accept these wastes.

If you require any further assistance, please do not hesitate to contact me on (02) 8338 1011 or by email msamuel@JBSgroup.com.au.

Prepared by,



Michael Samuel
Environmental Scientist
JBS Environmental Pty Ltd

Reviewed by,



Charlie Furr
Principal, Contaminated Land
JBS Environmental Pty Ltd

Attachments: (1) Limitations

(2) Figures

(3) Laboratory Results and Chain of Custody Documentation

Attachment 1

Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS Environmental Pty Ltd accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS Environmental Pty Ltd, and should not be relied upon by other parties, who should make their own enquires.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS Environmental Pty Ltd reserves the right to review the report in the context of the additional information. Advice pertaining to notation on title is of a general nature and is not subject to specific Development Application requirements for the site that are unknown to JBS Environmental.

Attachment 2 – Figures

N



© 2010 JBS Environmental Pty Ltd

Figure 1

Site Plan
370 Old Northern Road, Castle Hill

Attachment 3 – Laboratory Results and Chain of Custody Documentation

Laboratory results are included in **Appendix J**.

Appendix L
Waste Documentation

1. The first part of the report is a general introduction to the project. It describes the purpose of the study and the objectives that were set at the beginning. It also provides a brief overview of the methodology that was used throughout the project.

2. The second part of the report is a detailed description of the data that was collected. It includes information about the sources of the data, the methods used to collect it, and the characteristics of the data itself. This section is important because it provides the reader with a clear understanding of the data that was used in the analysis.

3. The third part of the report is a description of the analysis that was performed on the data. It includes information about the statistical methods that were used, the results of the analysis, and the interpretation of those results. This section is the core of the report and is where the reader will find the most important findings of the study.

4. The fourth part of the report is a conclusion that summarizes the main findings of the study. It also discusses the implications of those findings and provides some suggestions for future research. This section is important because it provides the reader with a clear understanding of the overall results of the study and what they mean for the field.

5. The fifth part of the report is a list of references that includes all of the sources that were cited in the report. This section is important because it provides the reader with a way to find the original sources of the information that was used in the study.

6. The sixth part of the report is a list of appendices that includes any additional information that was used in the study but that is not included in the main body of the report. This section is important because it provides the reader with a way to find more information about the study if they need it.

7. The seventh part of the report is a list of figures and tables that includes any visual representations of the data that were used in the study. This section is important because it provides the reader with a way to see the data for themselves and to understand the results of the analysis more clearly.

8. The eighth part of the report is a list of footnotes that includes any additional information that was used in the study but that is not included in the main body of the report. This section is important because it provides the reader with a way to find more information about the study if they need it.

9. The ninth part of the report is a list of acknowledgments that includes any people or organizations that helped with the study. This section is important because it provides the reader with a way to find out who helped with the study and what their contributions were.

10. The tenth part of the report is a list of appendices that includes any additional information that was used in the study but that is not included in the main body of the report. This section is important because it provides the reader with a way to find more information about the study if they need it.

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Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
A	Michael Samuel	Charlie Furr	Charlie Furr		6/04/2010



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Mascot NSW 2020
Tel: +61 2 8338 1011
Fax: +61 2 8338 1700

www.jbsgroup.com.au



Appendix No. 13

**Findings of Geotechnical Peer Review
Investigations (July 2006) and
Supplementary Geotechnical Advice (March 2010)**