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27 February 2017

Austral 1 Pty Ltd
C/O Vantage Property Pty Ltd
Suite 205, 12 O'Connel Street
Sydney NSW 2000

SUBJECT: **Phase 2 Environmental Assessment Addendum - Soil Delineation Sampling**

SITE: **60 - 80 Edmondson Avenue, Austral NSW**

Dear Denis

Geo-Logix was engaged by Vantage Property Pty Ltd on behalf of Austral 1 Pty Ltd to undertake soil sampling to delineate the extent of friable and bonded asbestos impact to soil identified at 60 - 80 Edmondson Avenue, Austral NSW (Figure 1). Environmental investigations completed by Geo-Logix in August 2015 identified the following contamination issues at the property;

- Asbestos in the form of loose fibre bundles and as bonded fragments in shallow soil at location SS2 in the vicinity of the dwelling in the southern portion of the site (60 Edmondson Avenue); and
- Asbestos in the form of bonded ACM at location S21 in former market gardening areas in the south eastern portion of the site.

Further assessment was required to determine the extent of asbestos impact and facilitate remediation / management of impacted soils.

SITE INFORMATION

The investigation area comprised the following property:

Street Address	Lot and Deposited Plan (DP)	Approximate Area (m^2)
60 - 80 Edmondson Avenue, Austral NSW 2179	Lot A DP 416093	17,160

The site is located within a rural residential area on the corner of Sixth Avenue and Edmondson Avenue, Austral NSW. The site is accessed via Edmondson Avenue and consists of one rectangular lot encompassing an area of 17,160 m^2. At the time of inspection, the site was occupied by two separate residential dwellings, landscaped gardens and grassed paddocks.

SCOPE OF WORK

To define the extent of asbestos impact to soils in the vicinity of SS2 the following scope of works was undertaken. Sampling locations are shown on Figure 2.

- Collection and analysis of a soil sample 0.3 m deep from location SS2 to assess the vertical extent of asbestos fibre contamination;

- Collection of surface soil and deeper soil (0.3 m) from four additional locations to the north, south, east and west of SS2 to delineate the lateral extent of asbestos impact; and
- Analysis of surface samples for asbestos identification. Deeper samples were placed on hold.

To define the extent of asbestos impact to site's soils in the vicinity of S21 the following scope of works was undertaken:

- Collection and analysis of a soil sample 0.3 m deep from location S21 to assess the vertical extent of asbestos contamination;
- Collection of surface soil and deeper soil (0.3 m) from four additional locations to the north, south, east and west of S21 to delineate the lateral extent of asbestos impact; and
- Analysis of the surface samples for asbestos identification, deeper samples were placed on hold.

METHODOLOGY

Soil Sampling Methodology

Soil samples were collected using a shovel to a depth of approximately 0.3 mbg. Soil samples were collected directly from the blade of the shovel. Soil samples were placed in laboratory prepared jars, labelled and placed in an esky for transport under chain of custody to a NATA accredited laboratory (Eurofins | MGT) for asbestos identification.

Assessment Criteria

NEPM Asbestos Criteria

NEPM provides health screening levels for asbestos. The assessment criteria for asbestos at the site includes:

- No visible asbestos on the sites surface;
- Concentrations of bonded ACM are below the residential health screening level of 0.01% w/w; and
- Concentrations of friable ACM are below the residential health screening level of 0.001% w/w;

SOIL ANALYTICAL RESULTS

Soil analytical results are summarised in Table 1. Laboratory reports are presented in Attachment A.

Asbestos

Friable asbestos was detected at concentrations greater than the assessment criteria in sample locations SS2/D1 and SS2/D4 in shallow surface soils (0.0-0.15 mbg) (Table 1). Asbestos as bonded ACM was also identified in shallow surface soils at these two locations. Bonded and friable forms of asbestos were not detected in all remaining samples analysed.

DISCUSSION AND CONCLUSIONS

Results of the investigation identified bonded and friable forms of asbestos in shallow surface soils and fill to the north of the dwelling at 60 Edmondson Avenue in the vicinity of sample location SS2 (Figure 3). Friable and bonded asbestos in the southern portion of the impacted area is confined to shallow surface soil (0.0-0.1 m) with asbestos in the northern portion associated with building waste including brick, glass and ceramics to an approximate depth of 0.25 mbg.

The approximate volume of impacted material is approximately 7 - 9 m^3. As the concentration of friable asbestos exceeds residential land use criteria, remediation of asbestos impacted material is required for the site to be considered suitable for residential land use.

No additional fragments of bonded ACM were identified in the vicinity of S21. The fragment previously identified (Geo-Logix, 2016) was likely an isolated occurrence and does not warrant remediation and / or management.

Please do not hesitate to contact Geo-Logix should you require further information.

Yours sincerely

Tim Gunns
BSc Hons, MSc
Project Scientist

Ben Pearce
BSc Hons, CEnvP# 321
Principal

Figures

Figure 1: Site Location
Figure 2: Sample Location Map
Figure 3: Asbestos Impacted Area

Tables

Table 1: Summary of Soil Analytical Data – Asbestos

Attachments

Attachment A: Laboratory Reports

REFERENCES

Australian Standard (2005) AS 4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Volatile and Semi-volatile compounds. Standards Australia.

Geo-Logix (2016) Phase 2 Environment Site Assessment Report, 60-80 Edmondson Avenue, Austral NSW. Report Ref 1601114_Rpt01FinalV01_9Dec16.

NEPC (1999) *Amended National Environmental Protection Measure (2013)*, National Environmental Protection Council.

LIMITATIONS

This report should be read in full, and no executive summary, conclusion or other section of the report may be used or relied on in isolation, or taken as representative of the report as a whole. No responsibility is accepted by Geo-Logix, and any duty of care that may arise but for this statement is excluded, in relation to any use of any part of this report other than on this basis.

This report has been prepared for the sole benefit of and use by the Client. No other person may rely on the report for any purpose whatsoever except with Geo-Logix' express written consent. Any duty of care to third parties that would or may arise in respect of persons other than the Client, but for this statement, is excluded.

Geo-Logix owns the copyright in this report. No copies of this report are to be made or distributed by any person without express written consent to do so from Geo-Logix. If the Client provides a copy of this report to a third party, without Geo-Logix' consent, the Client indemnifies Geo-Logix against all loss, including without limitation consequential loss, damage and/or liability, howsoever arising, in connection with any use or reliance by a Third Party.

The works undertaken by Geo-Logix are based solely on the scope of works, as agreed by the Client (**Scope of Works**). No other investigations, sampling, monitoring works or reporting will be carried out other than as expressly provided in the Scope of Works. **A COPY OF THE SCOPE OF WORKS IS AVAILABLE ON REQUEST.**

To the extent permitted by law, Geo-Logix makes no warranties or representations as to the:

(a) suitability of the Site for any specific use, or category of use, or

(b) potential statutory requirements for remediation, if any, of the Site,

(c) approvals, if any, that may be needed in respect of any use or category of use, or

(d) level of remediation, if any, that is warranted to render the Site suitable for any specific use, or category of use, or

(e) level of ongoing monitoring of Site conditions, if any, that is required in respect of any specific use, or category of use, or

(f) presence, extent or absence of any substance in, on or under the Site,

other than as expressly stated in this report.

The conclusions stated in this report are based solely on the information, Scope of Works, analysis and data that are stated or expressly referred to in this report.

To the extent that the information and data relied upon to prepare this report has been conveyed to Geo-Logix by the Client or third parties orally or in the form of documents, Geo-Logix has assumed that the information and data are completely accurate and has not sought independently to verify the accuracy of the information or data. Geo-Logix assumes no responsibility or duty of care in respect of any errors or omissions in the information or data provided to it.

Without limiting the paragraph above, where laboratory tests have been carried out by others on Geo-Logix' behalf, the tests are reproduced in this report on the assumption that the tests are accurate. Geo-Logix has not sought independently to verify the accuracy of those tests and assumes no responsibility in respect of them.

Geo-Logix assumes no responsibility in respect of any changes in the condition of the Site which have occurred since the time when Geo-Logix gathered data and/or took samples from the Site on its site inspections dated **15/02/2017.**

Given the nature of asbestos, and the difficulties involved in identifying asbestos fibres, despite the exercise of all reasonable due care and diligence, thorough investigations may not always reveal its presence in either buildings or fill. Even if asbestos has been tested for and those tests' results do not reveal the presence of asbestos at those specific points of sampling, asbestos or asbestos containing materials may still be present at the Site, particularly if fill has been imported at any time, buildings constructed prior to 1980 have been demolished on the Site or materials from such buildings have been disposed of on the Site.

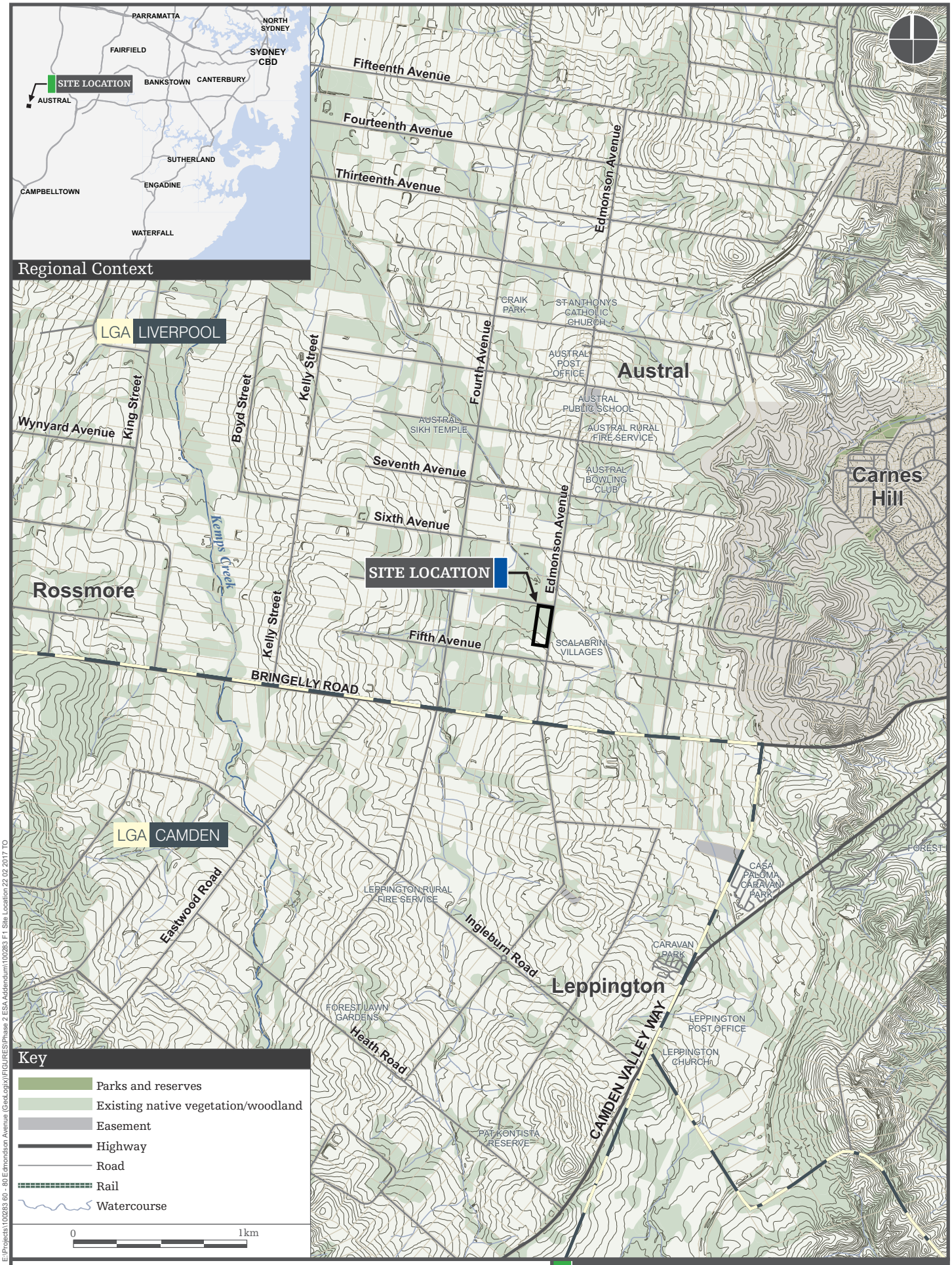
Where the Scope of Works does not include offsite investigations, Geo-Logix provides no warranty as to offsite conditions, including the extent if any to which substances in the Site may be emanating off site, and if so whether any adjoining sites have been or may be impacted by contamination originating from the Site.

Where the Scope of Works does not include the investigation, sampling, monitoring or other testing of groundwater in, on or under the Site, Geo-Logix provides no warranty or representation as to the quality of groundwater on the Site or the actual or potential migration of contamination in groundwater across or off the Site.

Subsurface site conditions are typically heterogeneous, and may change with time. Samples taken from different points on the Site may not enable inferences to be drawn about the condition of areas of the Site significantly removed from the sample points, or about the condition of any part of the Site whatsoever, in particular where the proposed inferences are to be drawn a long time after the date of the report.

Geo-Logix has prepared this report with the diligence, care and skill which a reasonable person would expect from a reputable environmental consultancy and in accordance with environmental regulatory authority and industry standards, guidelines and assessment criteria applicable as at the date of this report. Industry standards and environmental criteria change frequently, and may change at any time after the date of this report.

FIGURES



E:\Projects\100283 60 - 80 Edmondson Avenue (GeoLogix)\FIGURES\Phase 2 ESA Addendum\100283 F1 Site Location 22 02 2017 TO

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SITE LOCATION

Phase 2 Environmental Site Assessment Addendum
60 - 80 Edmondson Avenue
Austral, New South Wales

Project No. 1701011

Figure 1

E:\Projects\100283 60 - 80 Edmondson Avenue (GeoLogix)\FIGURES\Phase 2 ESA Addendum\100283 F2 Sample Location Map 22 02 2017 TO

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SAMPLE LOCATION MAP

Phase 2 Environmental Site Assessment Addendum
60 - 80 Edmondson Avenue
Austral, New South Wales

Project No. 1701011

Figure 2

Inset

SS2/D1

SS2/D3

SS2

SS2/D2

SS2/D4

Key

- Site boundary
- Fenceline
- Bonded and friable asbestos in fill associated with building waste
- Bonded and friable asbestos in surface soils
- Judgmental sample location (Geo-Logix, 2016)
- Delineation sample Location

0 5m

E:\Projects\100283 60 - 80 Edmondson Avenue (GeoLogix)\FIGURES\Phase 2 ESA Addendum\100283 F3 Asbestos Impacted Area 23 02 2017 TO

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ASBESTOS IMPACTED AREA

Phase 2 Environmental Site Assessment Addendum
60 - 80 Edmondson Avenue
Austral, New South Wales

Project No. 1701011

Figure 3

TABLES

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Table 1 : Summary of Soil Analytical Data - Asbestos

Phase 2 Environmental Site Assessment Addendum

Project No.: 1701011

60 - 80 Edmondson Avenue
Austral NSW

	Criteria 1	Sample ID	S21	S21/D1	S21/D2	S21/D3	S21/D4
	HSLs - D	Depth (m)	0.25-0.3	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
	Asbestos	Type	Fill	Fill	Fill	Fill	Fill
	in Soil	Date	15-02-17	15-02-17	15-02-17	15-02-17	15-02-17
Laboratory Identification							
Bonded Asbestos (ACM)	-		ND	ND	ND	ND	ND
Loose Asbestos Fibre Bundles	-		ND	ND	ND	ND	ND
Laboratory Analysis							
Fines/Fibrous Asbestos (AF/FA)	0.001 (ND for 0-0.1 mbg)		-	-	-	-	-

Notes:

Criteria 1 = NEPM (1999) Amended 'D' Commercial/industrial Health Screening Levels for asbestos contamination in soil.
Total concentrations in %w/w
- = assessment criteria not available
D1 = field duplicate of S1
RPD = relative percent difference of field duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.5 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed

Table 1 : Summary of Soil Analytical Data - Asbestos

Phase 2 Environmental Site Assessment Addendum

Project No.: 1701011

60 - 80 Edmondson Avenue
Austral NSW

	Criteria 1	Sample ID	SS2	SS2/D1	SS2/D2	SS2/D3	SS2/D4
	HSLs - D	Depth (m)	0.25-0.3	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
	Asbestos	Type	Fill	Fill	Fill	Fill	Fill
	in Soil	Date	15-02-17	15-02-17	15-02-17	15-02-17	15-02-17
Laboratory Identification							
Bonded Asbestos (ACM)	-		-	-	-	-	-
Loose Asbestos Fibre Bundles	-		-	-	-	-	-
Laboratory Analysis							
Fines/Fibrous Asbestos (AF/FA)	0.001 (ND for 0-0.1 mbg)		<0.001	**0.014**	<0.001	<0.001	**0.0024**

Notes:

Criteria 1 = NEPM (1999) Amended 'D' Commercial/industrial Health Screening Levels for asbestos contamination in soil.
Total concentrations in %w/w
- = assessment criteria not available
D1 = field duplicate of S1
RPD = relative percent difference of field duplicate/triplicate
nc = RPD not calculated, one or both samples below laboratory reporting limit
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.5 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed

ATTACHMENT A

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Geo-Logix P/L
Bld Q2 Level 3, 2309/4 Daydream St
Warriewood
NSW 2102

Attention:	Tim Gunns
Report	534533-AID
Project Name	AUSTRAL DELINEATION 60-80
Project ID	1701011
Received Date	Feb 16, 2017
Date Reported	Feb 24, 2017

Methodology:

Asbestos ID	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. Bulk samples include building materials, soils and ores.
Subsampling Soil Samples	The whole sample submitted is first dried and then sieved through a 10mm sieve followed by a 2mm sieve. All fibrous matter viz greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) Iron ores - Sampling and Sample preparation procedures is employed. Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis in accordance with AS 4964-2004.
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated and where required interfering organic fibres or matter may be removed by treating the sample for several hours at a temperature not exceeding 400 ± 30°C. The resultant material is then ground and examined in accordance with AS 4964-2004.
Limit of Reporting	The nominal detection limit of the AS4964 method is around 0.01%. The examination of large sample sizes (at least 500 ml is recommended) may improve the likelihood of identifying asbestos material in the greater than 2 mm fraction. The NEPM screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. NOTE: NATA News, September 2011 – page 34, states, “Weighing of fibres is problematic and can lead to loss of fibres and potential exposure for laboratory analysts. To request laboratories to report information which is outside the scope of AS 4964-2004 and the scope of their accreditation is misleading and is most unwise” therefore such values reported are outside the scope of Eurofins | mgt NATA accreditation as designated by an asterisk.

Project Name AUSTRAL DELINEATION 60-80
Project ID 1701011
Date Sampled Feb 15, 2017
Report 534533-AID

Client Sample ID	Eurofins | mgt Sample No.	Date Sampled	Sample Description	Result
S21/0.25-0.3	17-Fe16675	Feb 15, 2017	Approximate Sample 496g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected. Organic fibre detected. No respirable fibres detected.
S21/D1/0.0-0.15	17-Fe16676	Feb 15, 2017	Approximate Sample 367g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected. Organic fibre detected. No respirable fibres detected.
S21/D1/0.25-0.3	17-Fe16677	Feb 15, 2017	Approximate Sample 646g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected. Organic fibre detected. No respirable fibres detected.
S21/D2/0.0-0.15	17-Fe16678	Feb 15, 2017	Approximate Sample 449g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected. Organic fibre detected. No respirable fibres detected.
S21/D2/0.25-0.3	17-Fe16679	Feb 15, 2017	Approximate Sample 656g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected. Organic fibre detected. No respirable fibres detected.
S21/D3/0.0-0.15	17-Fe16680	Feb 15, 2017	Approximate Sample 344g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected. Organic fibre detected. No respirable fibres detected.
S21/D3/0.25-0.3	17-Fe16681	Feb 15, 2017	Approximate Sample 502g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected. Organic fibre detected. No respirable fibres detected.
S21/D4/0.0-0.15	17-Fe16682	Feb 15, 2017	Approximate Sample 334g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected. Organic fibre detected. No respirable fibres detected.
S21/D4/0.25-0.3	17-Fe16683	Feb 15, 2017	Approximate Sample 493g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected. Organic fibre detected. No respirable fibres detected.
SS2/0.25-0.3	17-Fe16684	Feb 15, 2017	Approximate Sample 552g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.

Client Sample ID	Eurofins | mgt Sample No.	Date Sampled	Sample Description	Result
SS2/D1/0.0-0.15	17-Fe16685	Feb 15, 2017	Approximate Sample 433 Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	FA: Chrysotile asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.20g Estimated asbestos content in FA = 0.059g* Total estimated asbestos concentration in FA = 0.014% w/w* Organic fibre detected.[M11]
SS2/D1/0.25-0.3	17-Fe16686	Feb 15, 2017	Approximate Sample 441g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.[M11]
SS2/D2/0.0-0.15	17-Fe16687	Feb 15, 2017	Approximate Sample 395g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.[M11]
SS2/D2/0.25-0.3	17-Fe16688	Feb 15, 2017	Approximate Sample 437g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.[M11]
SS2/D3/0.0-0.15	17-Fe16689	Feb 15, 2017	Approximate Sample 413g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.[M11]
SS2/D3/0.25-0.3	17-Fe16690	Feb 15, 2017	Approximate Sample 482g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.[M11]
SS2/D4/0.0-0.15	17-Fe16691	Feb 15, 2017	Approximate Sample 436.88g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	FA: Chrysotile, amosite and crocidolite asbestos detected in weathered fibre cement fragments. Approximate raw weight of FA = 0.018g Estimated asbestos content in FA = 0.011g* Total estimated asbestos concentration in FA = 0.0024% w/w* Organic fibre detected.[M11]
SS2/D4/0.25-0.3	17-Fe16692	Feb 15, 2017	Approximate Sample 409g Sample consisted of: Dark brown coarse grain soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.[M11]

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Feb 24, 2017	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Feb 24, 2017	Indefinite

eurofins | mgt

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NATA # 1261
Site # 1254 & 14271

Sydney
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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
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NATA # 1261
Site # 18217

Company Name: Geo-Logix P/L
Address: Bld Q2 Level 3, 2309/4 Daydream St
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Project Name: AUSTRAL DELINEATION 60-80
Project ID: 1701011

Order No.:
Report #: 534533
Phone: 02 9979 1722
Fax: 02 9979 1222

Received: Feb 16, 2017 12:33 PM
Due: Feb 23, 2017
Priority: 5 Day
Contact Name: Tim Gunns

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 18217							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	S21/0.25-0.3	Feb 15, 2017		Soil	S17-Fe16675		X
2	S21/D1/0.0-0.15	Feb 15, 2017		Soil	S17-Fe16676		X
3	S21/D1/0.25-0.3	Feb 15, 2017		Soil	S17-Fe16677		X
4	S21/D2/0.0-0.15	Feb 15, 2017		Soil	S17-Fe16678		X
5	S21/D2/0.25-0.3	Feb 15, 2017		Soil	S17-Fe16679		X
6	S21/D3/0.0-0.15	Feb 15, 2017		Soil	S17-Fe16680		X

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Brisbane
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Perth
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Phone : +61 8 9251 9600
NATA # 1261
Site # 18217

Company Name:	Geo-Logix P/L	**Order No.:**		**Received:**	Feb 16, 2017 12:33 PM
Address:	Bld Q2 Level 3, 2309/4 Daydream St Warriewood NSW 2102	**Report #:**	534533	**Due:**	Feb 23, 2017
		Phone:	02 9979 1722	**Priority:**	5 Day
		Fax:	02 9979 1222	**Contact Name:**	Tim Gunns
Project Name:	AUSTRAL DELINEATION 60-80				
Project ID:	1701011				

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 18217							
7	S21/D3/0.25-0.3	Feb 15, 2017		Soil	S17-Fe16681		X
8	S21/D4/0.0-0.15	Feb 15, 2017		Soil	S17-Fe16682		X
9	S21/D4/0.25-0.3	Feb 15, 2017		Soil	S17-Fe16683		X
10	SS2/0.25-0.3	Feb 15, 2017		Soil	S17-Fe16684		X
11	SS2/D1/0.0-0.15	Feb 15, 2017		Soil	S17-Fe16685	X	
12	SS2/D1/0.25-0.3	Feb 15, 2017		Soil	S17-Fe16686	X	
13	SS2/D2/0.0-0.15	Feb 15, 2017		Soil	S17-Fe16687	X	
14	SS2/D2/0.25-	Feb 15, 2017		Soil	S17-Fe16688	X	

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		Phone:	02 9979 1722	**Priority:**	5 Day
		Fax:	02 9979 1222	**Contact Name:**	Tim Gunns
Project Name:	AUSTRAL DELINEATION 60-80				
Project ID:	1701011				

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 18217							
	0.3						
15	SS2/D3/0.0-0.15	Feb 15, 2017		Soil	S17-Fe16689	X	
16	SS2/D3/0.25-0.3	Feb 15, 2017		Soil	S17-Fe16690	X	
17	SS2/D4/0.0-0.15	Feb 15, 2017		Soil	S17-Fe16691	X	
18	SS2/D4/0.25-0.3	Feb 15, 2017		Soil	S17-Fe16692	X	
Test Counts						8	10

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
COC	Chain of custody
SRA	Sample Receipt Advice
ISO	International Stardards Organisation
AS	Australian Standards
WA DOH	Western Australia Department of Health
NOHSC	National Occupational Health and Safety Commission
ACM	Bonded asbestos-containing material means any material containing more than 1% asbestos and comprises asbestos-containing-material which is in sound condition, although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin. Common examples of ACM include but are not limited to: pipe and boiler insulation, sprayed-on fireproofing, troweled-on acoustical plaster, floor tile and mastic, floor linoleum, transite shingles, roofing materials, wall and ceiling plaster, ceiling tiles, and gasket materials. This term is restricted to material that cannot pass a 7 mm x 7 mm sieve. This sieve size is selected because it approximates the thickness of common asbestos cement sheeting and for fragments to be smaller than this would imply a high degree of damage and hence potential for fibre release.
FA	FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or was previously bonded and is now significantly degraded (crumbling).
PACM	Presumed Asbestos-Containing Material means thermal system insulation and surfacing material found in buildings, vessels, and vessel sections constructed no later than 1980 that are assumed to contain greater than one percent asbestos but have not been sampled or analyzed to verify or negate the presence of asbestos.
AF	Asbestos fines (AF) are defined as free fibres, or fibre bundles, smaller than 7mm. It is the free fibres which present the greatest risk to human health, although very small fibres (< 5 microns in length) are not considered to be such a risk. AF also includes small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve. (Note that for bonded ACM fragments to pass through a 7 mm x 7 mm sieve implies a substatntial degree of damage which increases the potential for fibre release.)
AC	Asbestos cement means a mixture of cement and asbestos fibres (typically 90:10 ratios).

Comments

Fe16885- 16892:Sample received was less than the nominal 500mL as recommended in Section 4.10 of the NEPM Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N/A	Not applicable
M11	NATA accreditation does not cover the performance of this service.

Authorised by:

Nibha Vaidya — Senior Analyst - Asbestos(NSW)

Glenn Jackson
National Operations Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

eurofins | mgt

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 18217

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**Geo-Logix P/L**
Contact name:	Tim Gunns
Project name:	AUSTRAL DELINEATION 60-80
Project ID:	1701011
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Feb 16, 2017 12:33 PM
Eurofins | mgt reference:	**534533**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 9.5 degrees Celsius.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Nibha Vaidya on Phone : +61 (2) 9900 8400 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Tim Gunns - tgunns@geo-logix.com.au.

CHAIN OF CUSTODY

Geo-Logix

Geo-Logix Pty Ltd
Building Q2, Level 3 Unit 2309/4
Daydream St, Warriewood
NSW 2102

ABN: 86 116 892 936

P: (02) 9979 1722

Project Manager: Tim Gunns
Contact Email: tgunns@geo-logix.com.au
Project Name: Austral Delineation 60-80
Project Number: 1701011
Date Submitted: 16-02-17

Purchase Order No: PO1768
Quote Reference:
Invoice to: accounts@geo-logix.com.au
TAT required: STD

ANALYSIS REQUIRED

Lab ID	Sample ID	Date	Matrix: Soil	Water	Air	Paint / ACM	Other	Comments	AS BETOS ID
	S21/0.25-0.3	15-02-17	X						X
	S21/D1/0.0-0.15	15-02-17	X						X
	S21/D1/0.25-0.3	15-02-17	X						X
	S21/D2/0.0-0.15	15-02-17	X						X
	S21/D2/0.25-0.3	15-02-17	X						X
	S21/D3/0.0-0.15	15-02-17	X						X
	S21/D3/0.25-0.3	15-02-17	X						X
	S21/D4/0.0-0.15	15-02-17	X						X
	S21/D4/0.25-0.3	15-02-17	X						X
	SS2/0.25-0.3	15-02-17	X						X
	SS2/D1/0.0-0.15	15-02-17	X						X
	SS2/D1/0.25-0.3	15-02-17	X						X
	SS2/D2/0.0-0.15	15-02-17	X						X
	SS2/D2/0.25-0.3	15-02-17	X						X
	SS2/D3/0.0-0.15	15-02-17	X						X
	SS2/D3/0.25-0.3	15-02-17	X						X
	SS2/D4/0.0-0.15	15-02-17	X						X
	SS2/D4/0.25-0.3	15-02-17	X						X

Eurofins | MGT Suite Codes

B1	TRH/BTEXN
B1A	TRH/MAH
B2	TRH/BTEXN/Pb
B2A	TRH/MAH/Pb
B3	PAH/Phenols
B4	TRH/BTEXN/PAH
B4A	TRH/BTEXN/PAH/Phenols
B5	TRH/BTEXN/M7
B6	TRH/BTEXN/M8
B7	TRH/BTEXN/PAH/M8
B7A	TRH/BTEXN/PAH/Phenols/M8
B8	TRH/VOC/PAH/M8
B9	TRH/BTEXN/PAH/OCP/M8
B10	TRH/BTEXN/PAH/OCP/OPP/M8
B11	Na/K/Ca/Mg/Cl/SO4/CO3/HCO3/NH3/NO3
B11A	B11/Alkalinity
B11B	B11/EC/TDS
B12	TRH/BTEXN/Oxygenates/Ethanol
B12A	TRH/BTEXN/Oxygenates
B13	OCP/PCB
B14	OCP/OPP
B15	OCP/OPP/PCB
B16	TDS/SO4/CH4/Alk/BOD/COD/HPC/CUB
B17	SO4/NO3/Fe++/HPC/CUB
B18	Cl-/SO4/pH
B19	N/P/K
B20	CEC/%ESP/Ca/Ma/Na/K
R21	%Fe/ CEC/ pH(CaCl2)/ TOC/ % Clay

CHAIN OF CUSTODY

Relinquished by: TG Date/Time: 16-2-17 Signature:

Received by: Date/Time: 16-2-17 Signature:

Smriti Uprety

From: Nibha Vaidya
Sent: Friday, 24 February 2017 12:11 PM
To: Smriti Uprety
Cc: Matthew Quigley
Subject: RE: Samples Insufficient for Asbestos WA Guidelines

Categories: Red Category

Smriti – Has this been sorted?

Smriti 24/02/2017 12:22 pm am

Kind Regards,

Nibha Vaidya
Phone : +61 2 9900 8415
Mobile : +61 499 900 805
Email : NibhaVaidya@eurofins.com

From: Nibha Vaidya
Sent: Friday, 24 February 2017 9:37 AM
To: Smriti Uprety
Cc: Matthew Quigley
Subject: FW: Samples Insufficient for Asbestos WA Guidelines

Smriti – Can you please change the test in ELVIS as per Tim's email below and inform Vivian? Client needs the results ASAP.

Kind Regards,

Nibha Vaidya
Phone : +61 2 9900 8415
Mobile : +61 499 900 805
Email : NibhaVaidya@eurofins.com

From: Tim Gunns [mailto:tgunns@geo-logix.com.au]
Sent: Friday, 24 February 2017 8:24 AM
To: Nibha Vaidya
Subject: RE: Samples Insufficient for Asbestos WA Guidelines

Hi Nibha

Don't worry about running Report 534598 for WA DOH just asbestos ID is fine.

For report 534533 please only run Fe16684 to Fe16692 for WA DOH

Thanks

Tim

Tim Gunns | Project Scientist
Unit 2309/4 Daydream St, Warriewood NSW 2102
T: 02 9979 1722 | M: 0411 724 429 | W: www.geo-logix.com.au