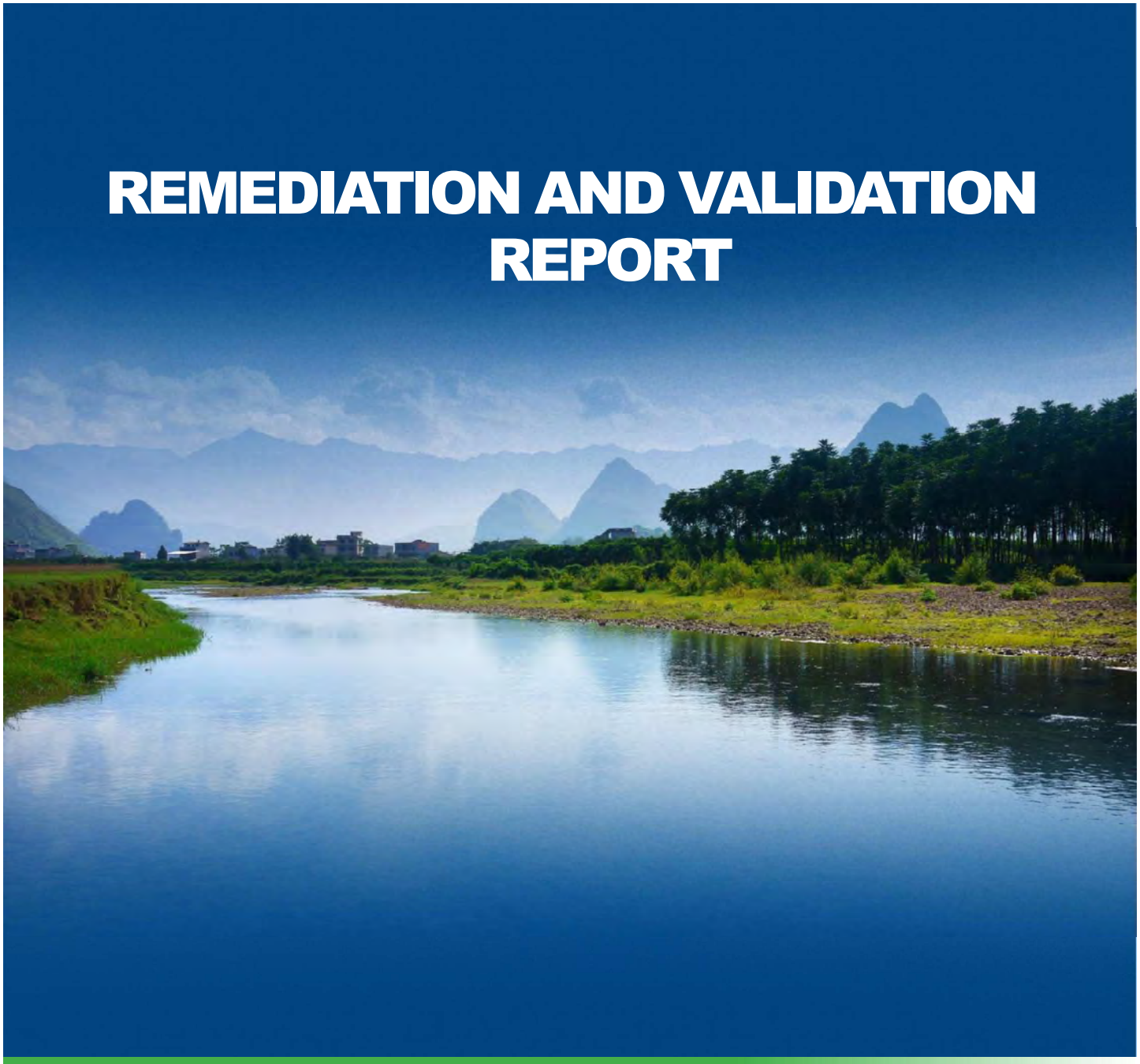
REMEDIATION AND VALIDATION REPORT



1901 Botany Road (South)
Matraville, NSW 2036

Horme Group Limited – July 2019

Geo-Logix
environment • geotech

DOCUMENT CONTROL

REMEDIATION AND VALIDATION REPORT

1901 Botany Road (South)
Matraville NSW 2036

PREPARED FOR

Horme Group Pty Ltd
C/- Agy Dassakis
Spirecorp Pty Ltd
Suite 1B, 207 Young Street
Waterloo NSW 2017

Report reference: 1801089Rpt01FinalV01_17July19

Date: 17 July 2019

DISTRIBUTION AND REVISION REGISTER

Revision Number	Date	Description	Recipient	Deliverables
V01	17/07/2019	Draft Report 1801089Rpt01FinalV01_17July19	Geo Logix Pty Ltd	1 electronic copy
V01	17/07/2019	Draft Report 1801089Rpt01FinalV01_17July19	Horme Group Pty Ltd C/- Spirecorp Pty Ltd	1 electronic copy

Issued by: Geo-Logix Pty Ltd

ABN: 86 116 892 936

Kiran Baby
B.Eng, MSc (Civil)
Environmental Scientist

Ben Pearce
BSc (Hons), CEnvP#321
Principal

EXECUTIVE SUMMARY

Geo-Logix Pty Ltd (Geo-Logix) was engaged by Spire Corp Pty Ltd on behalf Horme Group Pty Ltd (Horme Group) to provide environmental consultancy services to facilitate the remediation and validation of an area of filling on the southern portion of 1901 Botany Road, Matraville NSW. The area of filling is zoned as IN1 General Industrial and RE1 Public Recreation. Remediation of asbestos impacted fill was required to render the site suitable for land uses allowable under the respective zonings. All civil works associated with remedial activities were completed by Macquarie Environmental Projects Pty Ltd.

Detailed investigation of the fill unit was completed by Geo-Logix in January 2018. The scope of work comprised the excavation of 51 test pits on a 10 m grid based pattern and collection and analysis of 130 soil samples for asbestos. The objective of the works was to identify the presence of asbestos hotspots of a critical size (11.8 m diameter or larger). The results of the investigation identified bonded asbestos containing material (ACM) in three fill samples and asbestos fines (AF) in 11 fill samples at concentrations greater than commercial/industrial landuse. In total, asbestos was identified at concentrations exceeding commercial/ industrial criteria in 13 of the 130 samples analysed. The exceedances were considered asbestos contamination hotspots with a potential size of 11.8 m diameter or larger that required remediation.

The objective of remediation was to:

- Excavate and dispose the hotspot material off-site so the remaining fill could be considered free of critical size hotspots of 11.8 m diameter or greater and suitable for commercial and industrial land uses; and
- Render land zoned as RE1 Public Recreation as suitable for all land uses specified under the zoning, including use as a child care centre and other sensitive land uses.

Remediation and validation was completed over the period November 2018 to April 2019. The scope of work comprised:

- Waste classification of fill earmarked for off-site disposal to facilitate remediation. Fill was classified as Special Waste (asbestos) in the General Solid Waste (non-putrescible) category;
- Excavation and lawful off-site disposal of asbestos hotspots to landfill (A total of 1,867.92 tonnes of asbestos impacted fill was disposed off-site to landfill). All asbestos remediation works were supervised by a Class A Licensed Asbestos Removalist. Airborne asbestos fibre monitoring was completed by an independent Licensed Asbestos Assessor;
- Validation of the remedial excavations to demonstrate removal of the hotspot material; and
- Excavation and relocation of fill suitable for commercial/industrial land use criteria from Lot 1 DP219847, zoned RE1 Public Recreation, to portions of the site zoned IN1 General Industrial in order to render Lot 1 suitable for all land uses specified under zoning RE1 Public Recreation.

With regard to fill impacted by asbestos at concentrations above commercial/industrial landuse, the fill unit on the southern portion of the site can be considered free of asbestos contaminated circular hotspots of 11.8 m diameter or larger and with thickness of 1 m at a 95% degree of statistical certainty. On this basis, the remediated fill unit is considered suitable for use on Industrial IN1 zoned land on the site on the condition it is covered with a minimum of 0.1 m of material that is visually free of asbestos containing material.

All fill material on Lot 1 DP219847 was excavated and relocated to other parts of the site. Clearance inspection by a Licensed Asbestos Assessor concluded the site as free of asbestos containing material. Lot 1 is considered suitable for allowable uses under Public Recreation RE1 zoning.

TABLE OF CONTENTS

FIGURES

TABLES

ATTACHMENTS

1. INTRODUCTION

Geo-Logix Pty Ltd (Geo-Logix) was engaged by Spire Corp Pty Ltd on behalf Horme Group Pty Ltd (Horme Group) to provide environmental consultancy services to facilitate the remediation and validation of an area of filling on the southern portion of 1901 Botany Road, Matraville NSW (Figure 1).

Previous investigation of the fill identified asbestos in the form of bonded asbestos containing material (ACM) fragments and asbestos fines (AF) at concentrations above land use suitability criteria. The area of filling is zoned as IN1 General Industrial and RE1 Public Recreation. Remediation of asbestos impacted fill was required to render the site suitable for land uses allowable under the respective zonings.

This report documents the remediation and validation of the impacted fill. The report has been completed in accordance with NSW OEH (2011) Guidelines for Consultants Reporting on Contaminated Sites.

2. SITE IDENTIFICATION

2.1 Address and Lot Identification

Street Address	Lot and Deposited Plan (DP)	Approximate Area (m^2)
1897–1901 Botany Road, Matraville, NSW	Part Lot 101 DP534364	8,883
	Part Lot 30 DP236738	
	Part Lot C DP398532	
1903 Botany Road, Matraville, NSW	Part Lot 1 DP219847	

2.2 Zoning and Land Use

Lot 1 DP219847 is zoned as RE1 Public Recreation. Allowable development under this zoning include sensitive land uses including child care centre. The remainder of the site is zoned IN1 General Industrial.

3. OBJECTIVE

The objective of remediation was to:

- Excavate and dispose the hotspot material off-site so the remaining fill could be considered free of critical size hotspots of 11.8 m diameter or greater and suitable for commercial and industrial land uses; and
- Render land zoned as RE1 Public Recreation as suitable for all land uses specified under the zoning, including use as a child care centre and other sensitive land uses.

Geo-Logix undertook the following scope of work from November 2018 to April 2019 in order to meet the objectives:

- Establish environmental safeguards so that remediation is undertaken in an environmentally acceptable manner;
- Define Work Health and Safety (WHS) requirements to protect site workers undertaking site remediation;

- Waste classification of fill earmarked for off-site disposal to facilitate remediation;
- Complete excavation and disposal of identified hotspots in order to remediate the onsite fill soils to achieve suitability for commercial/industrial land uses as specified under IN1 General Industrial zoning;
- Relocate fill suitable for commercial/industrial land use criteria from Lot 1 DP219847, zoned RE1 Public Recreation, to portions of the site zoned IN1 General Industrial to render Lot 1 DP219847 suitable for all land uses specified under zoning RE1 Public Recreation; and
- Preparation of this Remediation and Validation Report documenting all activities associated with remediation and validation works.

4. SITE INFORMATION

4.1 Site Description

The following site descriptions are based on a site inspection conducted by Geo-Logix in January 2018. A photographic log is presented in Attachment A.

The site occupies an irregularly shaped but roughly triangular parcel of land at the northeast corner of Botany Road and Brotherson Avenue. The site, accessed from Botany Road to the south, is bound by residential properties to the north, vacant land to the east and by an abandoned Orora paper recycling facility to the west. The site was undeveloped and surfaced with grass, weeds and sparse trees in parts at the time of the remediation. Fragments of bonded asbestos containing material (ACM) and demolition waste materials were observed across the ground surface.

A paved access road ran from south to north on the western side of the site. In the remainder of the site, the southern portion appeared to be imported fill graded level with a steep (1H:1V) bank on the northern side sloping down a level terrace 7–15 m wide below. To the north of the terrace the land sloped down at approximately 1H:2V to a water course (Bunnerong Creek) running from east to west across the northern portion of the site.

4.2 Surrounding Land Use

At the time of site inspection the surrounding land use comprised the following:

- **North –** Bunnerong Creek and remainder of the site**;**
- **East –** Vacant land;
- **South –** Botany Road with electrical substation beyond; and
- **West –** Abandoned Orora Paper building.

4.3 Geology

Site geology comprises a wedge of fill thickening from south to north towards Bunnerong Creek. The fill overlies Quaternary aged fine grained marine sands and podzols (DMR, 1983).

4.4 Surface Water

The nearest surface water is Bunnerong Creek located immediately north of the remediation area.

4.5 Hydrogeology

Groundwater is expected to follow regional topography and generally flow north towards Bunnerong Creek. One groundwater monitoring well is located at the southern portion of the site and is used as a monitoring bore by NSW Office of Water. Reference to the Australian Groundwater Explorer (NSW Government, 2015) indicates there are 24 registered groundwater bores within 500 m radius of the site.

5. PREVIOUS INVESTIGATIONS

5.1 Stage 2 Detailed Site Investigation

Geo-Environmental Engineering Pty Ltd (GEE) was engaged by Spirecorp on behalf of Horme Group to undertake a Stage 2 Detailed Site Investigation (DSI) of 1901 Botany Road, Matraville, NSW (GEE, 2017). The DSI was required to support a development application with Randwick Council for the Subdivision of the land, including the realignment of Bunnerong Creek, and supplements earlier contamination assessments completed by Parsons Brinckerhoff Australia Pty Ltd (PB) between 2007 and 2014. Geo-Logix was not provided with the PB reports.

The scope of work included the following:

- Review of previous reports;
- Drilling boreholes and the excavation test pits to compliment previous boreholes and test pits completed by PB;
- Sampling of soil from the boreholes and test pits for analysis of a broad suite of contaminants;
- Installation of one groundwater monitoring well; and
- Sampling of groundwater from installed and existing monitoring wells for analysis of a broad suite of contaminants.

The GEE (2017) investigation identified chrysotile asbestos fibres within one sample of fill collected between 0.5 and 0.6 metres below grade in the central eastern portion of the site. Bonded ACM was also observed in fill material in one test pit at the central portion of the site. The results of GEE investigation did not identify any other environmental contaminants of concern at concentrations that would be unacceptable for the site's environmental setting. GEE (2017) concluded that if the site is to be developed, further assessment and potentially remediation and/or management of asbestos impacted fill would be required.

5.2 Asbestos Assessment

Geo-Logix was engaged by Spire Corp on behalf of Horme Group to undertake investigation of the asbestos impacted fill unit identified by GEE (Geo-Logix, 2018). The scope of work comprised:

- Excavation of test pits at 51 locations (AP1 to A51) across the site on a 10.0 m spaced sampling grid (Figure 2). The sample frequency was sufficient to detect circular

contamination hotspots with a diameter of 11.8 m or greater at a 95% statistical degree of certainty. The sampling density was based on Western Australia Department of Health DOH *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia – May 2009* (WA DOH, 2009) requirements for asbestos investigation;

- Inspection of fill within each test pit for asbestos as per the gravimetric method (WA DOH,2009) to determine the %w/w of bonded ACM in soil; and
- Collection of a 500 mL volume soil sub-sample for laboratory analysis for AF and fibrous asbestos (FA).

By gravimetric and laboratory methods, at least one form of asbestos (ACM, AF or FA) was detected at concentrations greater than commercial/industrial assessment criteria in 13 of 130 soil samples from 12 of 51 test pit locations. Affected test pits were AP10, AP13, AP15, AP18, AP23, AP24, AP38, AP40, AP44, AP45, AP47 and AP49.

Approximately 1,400–1,600 m^3 of fill was estimated to be impacted by asbestos at concentrations greater than commercial/industrial assessment criteria. Remediation of asbestos impacted fill was concluded to be required for the site to be suitable for the proposed redevelopment.

5.3 Geo-Logix (June 2018) Remediation Action Plan

In June 2018 Geo-Logix prepared a RAP for the site. The RAP provided health and safety procedures and environmental management procedures required to remediate asbestos impacted fill. The RAP also outlines the criteria and sampling strategy required to validate the material suitability for onsite reuse.

The objective of the remediation works was to isolate, excavate and remove fill impacted by asbestos at concentrations greater than commercial/industrial land use criteria, and to relocate the remaining fill from areas of the site zoned for sensitive landuses to less sensitive areas zoned for commercial/industrial land use.

The asbestos remediation methodology was adopted from the WA DOH (2009) guidelines.

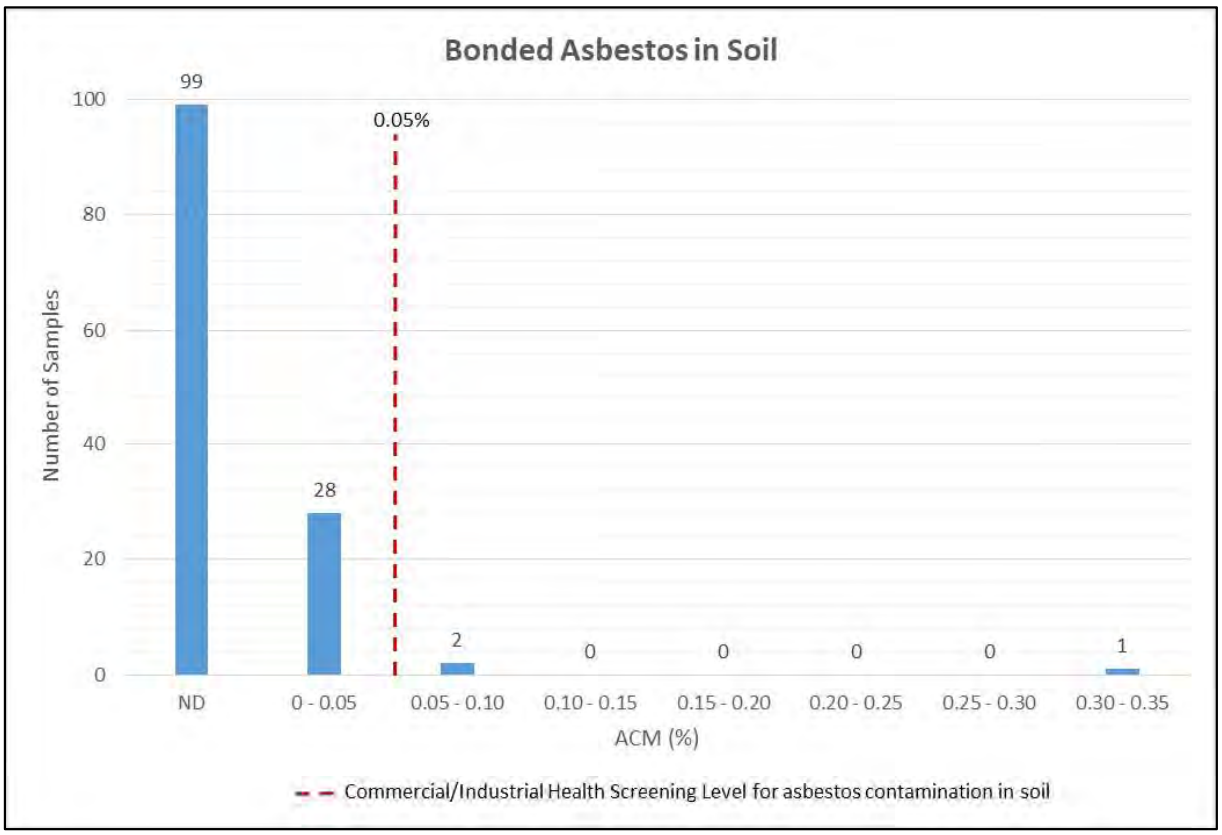
6. SUMMARY OF ASBESTOS CONTAMINATION

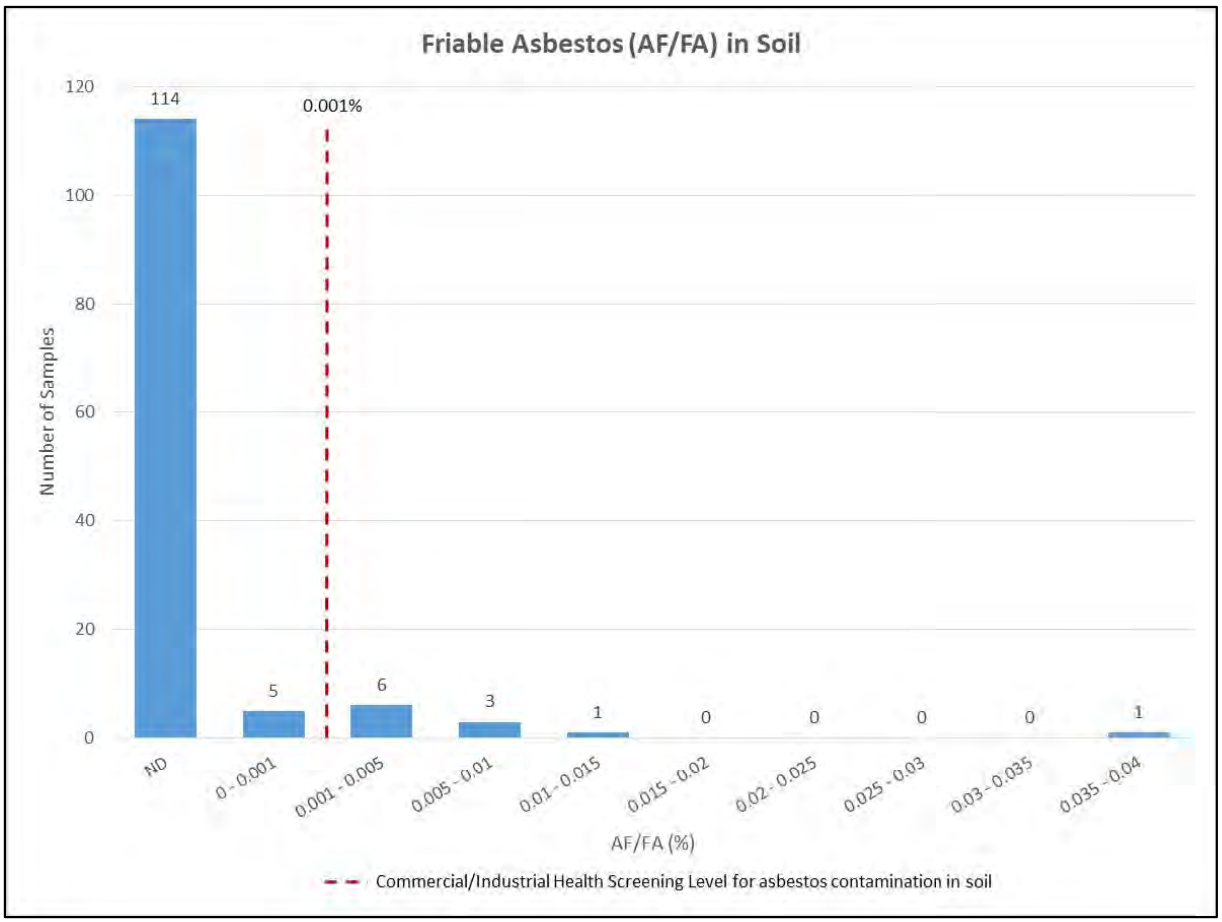
Geo-Logix asbestos assessment (Geo-Logix, 2018) identified bonded ACM and AF in the fill unit at site, with asbestos of either form identified at concentrations above commercial/industrial land use criteria in 13 of 130 soil samples from 12 of 51 test pit locations.

Based on the systematic nature of the asbestos assessment investigation and the volume of data obtained, Geo-Logix adopted a statistical approach in analysis of the asbestos data. Summary statistics for bonded ACM and AF in fill are presented in the table and charts below.

Asbestos Type	Number of samples	Maximum	Minimum	No. of detects	No. of non-detects	95% UCL	Outlier
Bonded ACM	130	0.347%	0% (ND)	31	99	0.0202%	AP13/0.0-0.4
AF	130	0.037%	0% (ND)	16	114	0.002%	AP13/0.0-0.4

Calculated using ProUCL (Attachment B)


Bonded Asbestos in Soil
Number of Samples
100
80
60
40
20
0
99
28
2
0
0
0
0
1
0.05%
ND
0 - 0.05
0.05 - 0.10
0.10 - 0.15
0.15 - 0.20
0.20 - 0.25
0.25 - 0.30
0.30 - 0.35
ACM (%)
Commercial/Industrial Health Screening Level for asbestos contamination in soil


Friable Asbestos (AF/FA) in Soil
Number of Samples
120
100
80
60
40
20
0
114
5
6
3
1
0
0
0
0
1
0.001%
ND
0 - 0.001
0.001 - 0.005
0.005 - 0.01
0.01 - 0.015
0.015 - 0.02
0.02 - 0.025
0.025 - 0.03
0.03 - 0.035
0.035 - 0.04
AF/FA (%)
Commercial/Industrial Health Screening Level for asbestos contamination in soil

The summary statistics indicate the following:

- Sample AP13 represents a statistical outlier for both bonded ACM and AF. This is consistent with the observed stack of buried sheets of asbestos observed at location AP13 during test pitting. This was atypical of the fill material;
- Out of the 260 individual samples analysed (bulk samples and laboratory analysis), bonded ACM and AF were either not detected or detected at concentrations below the assessment criteria in 246 samples;
- The 95% upper confidence limit (UCL) of the arithmetic average of bonded ACM concentration (% w/w) in the fill is below commercial/industrial land use criteria;
- The 95% UCL of the average AF concentration is above commercial/industrial land use criteria. The 95% UCL has been dragged up by the result of from outlier sample AP13/0.0-0.4. The 95% UCL of the average AF concentration with outlier result from sample AP13/0.0-0.4 removed is 0.0007% and below commercial/industrial landuse criteria;
- The average AF concentration is 10% of the bonded ACM concentration, indicating collocation from bonded ACM as a probable source.

Following statistical analysis, Geo-Logix considered the circumstances of the samples exceeding commercial/industrial criteria:

- AP10/0.0-0.7 – Visually distinct from other fill material on site. Considered a contamination hotspot requiring remediation;
- AP13/0.0-0.4 – Statistical outlier characterised by buried stacks of ACM sheeting. Considered a contamination hotspot requiring remediation. The fill material was visually distinct;
- AP15/0.0-0.7 – The fill at location AP15 was visually similar to location AP13 and bonded ACM was identified at a concentration exceeding the commercial/industrial criterion. This location was considered a hotspot requiring remediation;
- AP18/1.0-2.0, AP23/2.0-3.0 and AP24/2.0-3.0 – Locations AP23 and AP24 were characterised by very low AF concentrations (0.002%) and not meeting the hotspot criterion of 250%. The AF concentration at AP18 (0.006%) was considered a hotspot area requiring remediation. Locations AP23 and AP24 were adjacent and location AP18 was caddy-cornered to location AP24; all three locations were adjacent to a buried masonry retaining wall. Based on the proximity to each other, it was considered prudent to consider locations AP23 and AP24 hotspots requiring remediation;
- AP38/1.0-2.0 – AF concentration marginally exceeded commercial/industrial criteria and was below the hotspot criterion. Bonded ACM and AF were not detected at concentrations above commercial/industrial criteria in eight surrounding test pits and shallower and deeper samples at location AP38. Location AP38 was conservatively treated as a hotspot requiring remediation as the exceedance was out of character with surrounding fill material;
- AP40/0.0-1.0 – Located at the far north eastern corner of the site, off of the main fill unit and visually distinct from the main bulk of the fill. This area was treated as a hotspot requiring remediation on that basis;

- AP44/1.0-2.0, AP45/0.0-1.0 and AP 47/1.0-2.0 – With the three samples forming an L-shape at the northwest corner of the main fill unit. Bonded ACM and AF were not detected at concentrations above commercial/industrial landuse in the seven surrounding test pits. These locations were considered hotspots requiring remediation based on the clustering of exceedances; and
- AP49/0.0-1.0 and AP49/1.0-1.7 – Located at the far northern end of the investigation area, and off the main fill unit. Fill in location AP49 was visually distinct from the bulk of the fill with asbestos observed throughout the test pit. AF was detected at concentration exceeding commercial/industrial criteria in both samples from test pit AP49. The location was considered a hotspot requiring remediation.

For the purpose of remediation, the 'hotspots' were defined as volumes one metre thick, 10 m by 10 m in area and centred on the exceeding test pit, as presented on Figure 3.

Hotspot coordinates and depths as defined in the RAP are presented in the table below:

Sample ID	Depth		Coordinates			
	Top (mAHD)	Base (mAHD)	NE	NW	SE	SW
AP10	14.0	14.4	336,349.26 (E) 6,240,112.94 (N)	336,352.15 (E) 6,240,104.26 (N)	336,340.08 (E) 6,240,109.22 (N)	336,334.00 (E) 6240,009.98 (N)
AP13	13.4	13.8	336,326.93 (E) 6,240,114.77 (N)	336,317.94 (E) 6,240,110.93 (N)	336,330.88 (E) 6,240,105.34 (N)	336,321.83 (E) 6,240,101.64 (N)
AP15	13.0	13.7	336,314.04 (E) 6,240,120.27 (N)	336,304.95 (E) 6,240,116.72 (N)	336,317.94 (E) 6,240,110.93 (N)	336,308.89 (E) 6,240,107.43 (N)
AP18	12.3	13.3	336,341.59 (E) 6,240,131.46 (N)	336,332.32 (E) 6,240,127.67 (N)	336,345.40 (E) 6,240,121.93 (N)	336,336.50 (E) 6,240,118.37 (N)
AP23	10.7	11.7	336,319.33 (E) 6,240,133.31 (N)	336,310.24 (E) 6,240,129.57 (N)	336,323.08 (E) 6,240,124.02 (N)	336,314.04 (E) 6,240,120.27 (N)
AP24	11.0	12.0	336,328.38 (E) 6,240,137.06 (N)	336,319.33 (E) 6,240,133.31 (N)	336,332.32 (E) 6,240,127.67 (N)	336,323.08 (E) 6,240,124.02 (N)
AP38	11.7	12.7	336,330.12 (E) 6,240,158.67 (N)	336,320.73 (E) 6,240,154.99 (N)	336,333.67 (E) 6,240,149.39 (N)	336,324.92 (E) 6,240,145.69 (N)
AP40	9.3	10.3	n/a	336,339.44 (E) 6,240,162.28 (N)	336,350.18 (E) 6,240,156.02 (N)	336,343.33 (E) 6,240,153.28 (N)
AP44	11.3	12.3	336,307.94 (E) 6,240,160.53 (N)	336,298.76 (E) 6,240,156.93 (N)	336,311.89 (E) 6,240,151.38 (N)	336,302.60 (E) 6,240,147.68 (N)
AP45	11.5	12.5	336,298.76 (E) 6,240,156.93 (N)	336,289.67 (E) 6,240,153.19 (N)	336,302.60 (E) 6,240,147.68 (N)	336,293.90 (E) 6,240,143.89 (N)
AP47	9.0	10.0	336,304.24 (E) 6,240,170.01 (N)	336,295.01 (E) 6,240,166.55 (N)	336,307.94 (E) 6,240,160.53 (N)	336,298.76 (E) 6,240,156.93 (N)
AP49	8.2	9.9	336,326.17 (E) 6,240,168.21 (N)	336,315.21 (E) 6,240,168.92 (N)	336,327.15 (E) 6,240,116.17 (N)	336,318.06 (E) 6,240,162.42 (N)

Note: The above table does not reflect additional excavation completed at hotspot AP10 and AP15.

7. DATA QUALITY OBJECTIVES

A Data Quality Objectives (DQO) process is used to define the type, quantity and quality of data needed to support decisions relating to the remediation of the site. Geo-Logix has adopted the seven step DQO process as described in National Environment Protection Measures (NEPM, 1999 Amended), AS 4482.1-2005, US EPA (2000) and NSW EPA (2017).

Step 1: State the problem.

Bonded ACM and AF were identified in pockets of fill at concentrations greater than the NEPM Health Screening Level for commercial/industrial land use. Remediation and validation was required to ensure the site is suitable for commercial/industrial use.

Lot 1 DP219847 is zoned as RE1 Public Recreation. Allowable development under this zoning include sensitive land uses including child care centre. On a conservative approach, any fill material in this zone was considered to be unsuitable for development of land for sensitive land uses.

Step 2: Identify the decision.

The asbestos impacted fill unit has been remediated to a level suitable for commercial/industrial landuse and is suitable for use on IN1 General Industrial zoned lots on the site.

Fill across Lot 1, zoned RE1 Public Recreation, has been removed from the Lot, and the Lot is validated as suitable for all land uses specified under that zoning.

Step 3: Identify inputs into the decision.

- Adequate definition of the areas of concern and COPC, (Section 6);
- Definition of Remediation Acceptance Criteria (RAC) (Section 8);
- Appropriate validation sampling strategy; and
- Assessment of validation data against Remediation Acceptance Criteria (RAC).

Step 4: Define the boundaries of the site.

The project boundary is defined as the area delineated on Geo-Logix's Sample Location Map (Figure 2) to the depth of natural soil.

Step 5: Develop a decision rule.

For land zoned IN1 General Industrial to be considered suitable for land uses specified under that zoning, the following decision rules apply:

- Fill impacted by asbestos at concentrations above commercial/industrial land use criteria has been removed from site and disposed of to a facility licensed by NSW EPA to accept the waste;
- The results of soil validation sampling completed post excavation do not exceed the RAC; and
- Remaining fill material left at site is free of circular asbestos hotspots greater than the critical hotspot size of 11.8 m and 1 m thickness at a 95% degree of statistical certainty.

For land zoned RE1 Public Recreation (Lot 1 DP219847) to be considered suitable for land uses specified under that zoning, the following decision rules apply:

- Removal of fill from across the Lot;
- Inspection and provision of a clearance certificate by a Licensed Asbestos Assessor; and
- Asbestos concentrations in any residual fill are below residential land use criteria.

Step 6: Specify acceptable limits on decision errors.

The field sampling methodology, sample preservation techniques, and laboratory analytical procedures must be appropriate to provide confidence in data quality so that any comparison against RAC can be considered reliable. This is achieved by defining and comparing results against the Data Quality Indicators (DQIs).

Step 7: Optimise the design for obtaining data.

This was achieved by referencing regulatory guidelines for sample design in consideration of the likely nature of contaminant distribution.

8. REMEDIATION ACCEPTANCE CRITERIA

Soil validation analytical results were assessed against the following RAC.

National Environmental Protection Measure (NEPM) Asbestos Health Screening Levels (HSLs)

The National Environmental Protection Measure (NEPM) provides asbestos health screening levels (HSLs) for soils. The following HSLs have been adopted:

- The Commercial/Industrial D HSL of 0.05 %w/w concentration of bonded ACM for fill on land zoned IN1 General Industrial;
- The Residential A HSL (considered appropriate for sensitive land uses by NEPM) of 0.01 %w/w concentration of bonded ACM for fill on land zoned RE1 Public Recreation;
- The HSL of 0.001 %w/w concentration of friable asbestos (FA and AF) for all fill; and
- The HSL of no visible asbestos for surface soil for natural soil and fill at the base of remediated excavations.

9. SCHEDULE OF WORKS

Remediation works were completed in two stages (Stage 1 and Stage 2) between November 2018 and April 2019. Key milestone dates of the works undertaken at the site are presented below:

Remediation Stage	Date	Work Performed
Stage 1	12 November 2018	Cell locations marked out.
	13 November 2018	Excavation and validation of cell location AP10.
	14–15 November 2018	Excavation and validation of cell locations AP23 and AP24.
	19 November 2018	Loadout of the excavated material.
	21 November 2019	Excavation of additional material to the north at cell location AP10 and validation of the further excavation. Loadout of the excavated material.
	27 November 2018	Excavation and validation of cell location AP18.
	3–4 December 2018	Excavation and validation of cell locations AP44, AP45 and AP47.
	5 December 2018	Loadout of the excavated material.
	6 December 2018	Excavation of non-hotspot material on top from cell AP38.
	10 December 2018	Excavation and validation of cell locations AP49 and AP40.
	11 December 2018	Excavation and validation of cell location AP38.
	12 December 2018	Loadout of the excavated material. Excavation and validation of cell locations AP15.
	18 December 2018	Excavation of additional material to the east at cell location AP15 and validation of the further excavation. Excavation and validation of cell locations AP13. Loadout of the excavated material.
	19 December 2018	Loadout of the remaining excavated material.
Stage 2	February 2019	Excavation and removal of bulk fill material (fill material left after Stage 1 remediation) from Lot 1 DP219847.
	10 April 2019	Validation sampling of remnant fill material at the eastern boundary of Lot 1 DP219847

10. STAGE 1: HOTSPOT REMEDIATION AND VALIDATION

The objective of the remediation works during this stage was to isolate, excavate and remove asbestos hotspots detailed in Section 6. The asbestos remediation methodology was adopted from the WA DOH (2009) guidelines. All asbestos related works were completed in accordance with the following legislation, codes of practice and guidance documents:

- Work Health and Safety Regulation 2017;
- Managing asbestos in or on soil (WorkCover NSW, 2014);
- How to Safely Remove Asbestos Code of Practice (Safe Work Australia, 2018);
- Code of Practice for the Safe Removal of Asbestos 2nd Edition (NOHSC: 2002 (2005));

The following was undertaken for all asbestos related works:

- The site was secured from unauthorised access;
- The conditions of Environment Management Plan (EMP) were implemented at site prior to the commencement of works;
- Supervision of excavation works was done by a Class A Licensed Asbestos Removal Contractor in accordance with their Asbestos Removal Control Plan with specific safe work procedures for the task; and
- Asbestos air monitoring was implemented during excavation, stockpiling and disposal activities by an independent licensed asbestos assessor in accordance with Part 8.8 of the Work Health and Safety Regulation 2011.

10.1 Remediation Methodology

Impacted fill remediation was undertaken in consideration of Section 5.2.3 of WA DOH (2009). Initially, the remedial excavation areas were marked out as 10 m × 10 m areas around the designated test pit locations.

Where the hotspot comprised entire depth of the fill (AP10, AP13, AP15, AP40 and AP49), excavation of the hotspot was undertaken in accordance with the following:

- The fill within the 10 m x 10 m area was excavated to a depth of 0.2–0.3 m into underlying natural soil and stockpiled pending off-site disposal; and
- Removal and disposal of stockpiled soil material to a landfill licensed by NSW EPA for lawful disposal.

Where the hotspot did not comprise the entire depth of fill (AP18, AP23, AP24, AP38, AP44, AP45 and AP47), excavation of the hotspot was undertaken in accordance with the following:

- Any overburden within the 10 m x 10 m area was excavated to a depth 0.2 m above the elevation of the hotspot material. Excavation elevations were determined using a laser level. Overburden material was stockpiled separately;
- The hotspot material was excavated and stockpiled separately. The depth of excavation extended 0.2 m into the underlying fill or 0.2–0.3 m into the underlying natural soil; and
- The stockpiled soil material was disposed to a landfill licensed by NSW EPA for lawful disposal.

Where fragments of bonded ACM were observed in the wall of the remedial excavation or material of the same composition was identified, additional over excavation approximately 1 m beyond the impacted material was undertaken. Where the base comprised fill and fragments of bonded ACM were observed in the base of the excavation, the material was over excavated until the excavation base was visibly free of bonded ACM fragments.

10.2 Excavation Validation Methodology

Following removal and disposal of asbestos contaminated soil, the remediation excavations were validated in accordance with the following methodologies developed in consideration of Section 4.3 of WA DOH (2009).

Excavation Base

Where excavation was extended to the natural soil, visual inspection was completed to ensure the natural soil surface was visually free of fill and fragments of bonded ACM.

Where the remedial excavation did not extend to natural soil, the base of the excavation was validated by visual inspection and through the results of underlying grid-based samples collected during the Asbestos Assessment (Geo-Logix, 2018).

Excavation Wall

The following validation procedures were adopted for the excavation walls comprising fill material in consideration of WA DOH (2009).:

- Excavation wall validation soil samples were collected at evenly spaced locations along each wall at 5 m lateral lengths. The validation sample locations are presented in Figure 4A and Figure 4B;
- At each location a 10 L volume soil sample was collected from the 1 m thickness of the excavation wall for visual assessment and measurement of the %w/w bonded ACM in accordance with the NEPM (2013) Gravimetric Sample Method (entailing spreading the sample on a tarpaulin of contrasting colour for inspection for bonded ACM fragments and weighing all fragments found in order to calculate the %w/w bonded ACM in soil); and
- A 500 ml sub-sample collected from each location was submitted to Australian Safer Environment and Technology Pty Ltd (ASET) laboratory for quantitative analysis of AF and FA in fill.

A total of 46 excavation wall samples were collected. The samples were collected, labelled, preserved and transported in accordance with NEPM (2013).

Excavation validation samples are detailed in the table below:

Hotspot Sample ID	Excavation Wall Validation Samples
AP10	AP10N, AP10E, AP10S and AP10W
AP13	AP13N, AP13E, AP13S and AP13W
AP15	AP15N, AP15E, AP15S and AP15W
AP18*	AP18N, AP18E and AP18W
AP23 – AP24	AP23-24N1, AP23-24N2, AP23-24N3, AP23-24E, AP23-24S1, AP23-24S2 AP23-24S3 and AP23-24W
AP38**	AP38E, AP38S and AP38W
AP40**	AP40SE and AP40SW
AP44 – AP45**	AP44/45N, AP44E, AP44S, AP44/45S, AP45S, AP45W and AP45N
AP47	AP47N, AP47E, AP47S and AP47W
AP49**	AP49NE, AP49SE and AP49SW

*No sample was collected at the southern wall of hotspot AP18 which comprised natural soil. The excavation was continued 0.3 m into natural soil and validated by visual inspection.

**Due to the topography of fill, no northern wall existed at the excavations of hotspots AP38, AP40, AP44 and AP49.

10.3 Validation Results

The results of excavation validation samples are summarised in Table 1. The laboratory reports are presented in Attachment C.

AF was detected at concentrations greater than the RAC in validation in one of the 46 excavation wall validation soil samples (AP10N). Bonded ACM was not detected at concentrations above the RAC in all excavation wall validation samples.

Where excavation was terminated in natural soil (AP10, AP13, AP15, AP40 and AP49) visual inspection confirmed the base of excavations were visually free of fill material and fragments of bonded ACM.

Where the remedial excavation did not extend to natural soil, visual inspection of the base of the excavation confirmed the material as free of visible bonded ACM fragments. The excavation floors were also validated through the results of underlying grid-based samples collected during the Asbestos Assessment (Geo-Logix, 2018) where asbestos was not detected at concentrations above the RAC.

Airborne asbestos fibres were not detected at concentrations above trigger levels in all air monitoring samples collected during remediation and validation works (Attachment D).

10.4 Additional Excavation

Additional excavation was undertaken to remediate AF impacted fill identified in the northern wall of excavation AP10 (sample AP10N) and ACM impacted fill identified in the eastern wall of excavation AP15 (sample AP15E) in accordance with the following:

- AP10N: The excavation was extended 5 m towards the north for the full width of the remedial excavation; and
- AP15E: The excavation was extended 5 m to the east for the full width of the remedial excavation.

The additional excavation areas are presented on Figure 4A. The additional excavation areas were validated by the collection of samples AP10E1, AP10W1, AP15N1 and AP15E1 in accordance with Section 10.2 where bonded ACM and AF were not detected in the validation samples at concentrations above the RAC, and through the results of adjacent grid-based samples collected during the Asbestos Assessment (Geo-Logix, 2018) where asbestos was not detected at concentrations above the RAC.

11. STAGE 2: LOT 1 DP219847 REMEDIATION AND VALIDATION

Further remediation of Lot 1 DP219847 was required to render that Lot suitable for land uses allowable under RE1 Public Recreation zoning.

11.1 Remediation Methodology

To render Lot 1 DP219847 as suitable for land uses allowable under RE1 Public Recreation zoning, the following remediation works were undertaken:

- Following the Stage 1 remediation works, the remaining fill across Lot 1 DP219847 was excavated and removed from the lot. The extent of excavation is presented on Figure 5;

- The excavated fill validated as suitable for commercial/industrial land use was relocated to the northern portion of the site zoned IN1 General Industrial for use as fill;
- All excavation was completed under supervision of a Class A Licensed Asbestos Removal Contractor; and
- Asbestos air monitoring was implemented the during excavation activities by an independent licensed asbestos assessor in accordance with Part 8.8 of the Work Health and Safety Regulation 2017.

At the completion of fill removal works, and thin layer of fill with dimensions of 30 m x 1.5 m with up to 300 mm thickness remained on sections of a batter on the eastern wall of the excavation.

11.2 Validation Methodology

Following removal and relocation of fill, the remedial excavation was validated in accordance with the following methodologies:

- Visual inspection was completed to ensure that excavation was extended to the depth of natural soil and the natural soil surface was visually free of fill and fragments of bonded ACM; and
- A Clearance Certificate was issued by a Licensed Asbestos Assessor in accordance with Clause 473 of the Work Health and Safety Regulation 2017. The clearance certificate is presented in Attachment E.

The residual fill on the batter on the eastern section of the Lot was validated in accordance with the following methodology:

Collection of six soil samples from the material on 5 m linear spacing (AS5 to AS10):

- Gravimetric analysis of 10 L bulk samples for bonded ACM; and
- Laboratory analysis of soil samples for AF and FA.

11.3 Validation Results

Visual inspection confirmed the natural soil surface was visually free of fill and fragments of bonded ACM.

AF and bonded ACM were not detected in any of the validation soil samples from the batter on the eastern boundary (Table 2).

12. OFF-SITE DISPOSAL

Geo-Logix undertook waste classification of soils requiring off-site disposal as part of remediation works. To complete waste classification, ten samples were collected from asbestos contaminated soil earmarked for offsite disposal on 12 November 2018.

In accordance with the NSW EPA *Waste Classification Guidelines – Part 1: Classification of Waste* (2014), the material was classified as Special Waste (Asbestos) in the General Solid Waste (non-putrescible) category. The waste classification letter is presented in Attachment F.

A total of 1,867.92 tonnes of contaminated soil was disposed offsite to the Cleanaway Pty Ltd Erskine Park Waste Transfer Station located at 85–87 Quarry Road, Erskine Park NSW 2759 and operated under Environment Protection Licence 2098. Soil disposal dockets are presented in Attachment G.

The disposal dockets and total amount of soil disposed match those from truck registration records kept by Geo-Logix during site load out activities.

13. QUALITY ASSURANCE/QUALITY CONTROL

All soil sampling was undertaken in accordance with the RAP utilising disposable gloves between each sample location. Sampling equipment used to collect samples for ACM gravimetric testing was brushed free of visible soil particles larger than 1 mm.

Quality control (QC) sampling was undertaken in general accordance with specifications outlined in AS4482.1-2005, *Guide to the investigation and sampling of sites with potentially contaminated soil.* Field QC samples were collected and included the following:

Sample Identification	Sample Type	Analysis	Sample Matrix	Rate of Collection
DS1	Field duplicate of AP10E	Gravimetric duplicate analysis	Soil	1 in 18 samples
DS2	Field duplicate of AP23-24E			
DS3	Field duplicate of AP13S			

Note – Rate of QC sample collection specified as 1 in 20 samples in AS4482.1–2005

The following procedure was adopted for gravimetric duplicate analysis:

- Initially, the sample was collected and analysed in accordance with NEPM (2013) Gravimetric Sample Method as defined in section 10.3;
- Any ACM fragments detected was removed from the sample and weighed for calculation of the percentage asbestos in soil;
- The sample was then reconstituted into the sample collection bucket; and
- Following reconstitution the sample was analysed a second time in accordance with NEPM (2013) Gravimetric Sample Method procedures. Any additional ACM fragments detected was considered to be a failure.

ASET's laboratory internal QC procedures of are consistent with NEPM policy on laboratory analysis of contaminated soils.

14. QA/QC RESULTS

No additional bonded ACM was detected on analysis of duplicate samples DS1, DS2 and DS3, confirming the reliability of the gravimetric analysis.

As laboratory QC results including matrix spike, laboratory control samples, surrogate analysis, method blanks and laboratory duplicate samples are not available for laboratory analysis of asbestos and NATA accreditation is not available for quantitative asbestos assessment in accordance with the WA DOH (2009) laboratory methodology, Geo-Logix has relied upon the NATA and ISO/IEC 17025 accreditation of ASET laboratory.

15. CONCLUSIONS

A total of 1,867.92 tonnes of asbestos impacted fill was disposed off-site to landfill.

With regard to fill impacted by asbestos at concentrations above commercial/industrial landuse, the fill unit on the southern portion of the site unit was validated as free of asbestos contaminated circular hotspots of 11.8 m diameter or larger and with thickness of 1 m at a 95% degree of statistical certainty. On this basis, the remediated fill unit is considered suitable for use on land on the site zoned IN1 General Industrial on the condition the fill is covered with a minimum of 0.1 m of material that is visually free of asbestos containing material.

All fill material on Lot 1 DP219847 was excavated and relocated to other parts of the site. Clearance inspection by a Licensed Asbestos Assessor concluded the Lot was free of asbestos containing material. Lot 1 is considered suitable for allowable uses under RE1 Public Recreation zoning.

16. 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 that Third Party.

Geo-Logix has concluded in this report that the following objectives in the remediation action plan for the Site dated 13 June 2018 (RAP) have been met, in that the samples taken from the Site after the completion of remediation works, as specified in the RAP, have been tested for the presence of asbestos (bonded ACM & friable asbestos), and meet or exceed the clean-up criteria stated in the RAP at page 7. Geo-Logix makes no representation and gives no warranty, whether implied or otherwise, about the presence, extent or absence on or in the vicinity of the Site of any other substance.

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 for the Site, or

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.

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.

To the extent that the information 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 is completely accurate in every respect and has not sought independently to verify the accuracy of the information. Geo-Logix assumes no responsibility or duty of care in respect of any errors or omissions in the information 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 validation 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.

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 material. 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.

Subsurface site conditions are usually heterogeneous, and change with time. Samples taken from different points on the site may not enable inferences to be drawn about the conditions of areas of the site significantly removed from the sample points, or about 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 assumes no responsibility in respect of any changes in the condition of the Site which have occurred since the date of completion of this report.

17. 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.

Australian Standard (2005) AS 4482.2-1999 Guide to the investigation and sampling of sites with potentially contaminated soil. Part 2: Volatile substances. Standards Australia.

Geo-Environmental Engineering Pty Ltd (2017), 1901 Botany Road (South), Matraville, NSW 2036. Report ID: E15006MAT-R06F

Geo-Logix (2018) Asbestos Assessment Report, 1901 Botany Road (South), Matraville, NSW 2036. Report Ref: 1701129Rpt01DraftV01_21Feb18.

Geo-Logix (2018) Remediation Action Plan, 1901 Botany Road (South), Matraville, NSW 2036. Report Ref: 1801089Rpt01FinalV01_17July19.

Herbert C., 1983, Sydney 1:100 000 Geological Sheet 9130, 1st edition. Geological Survey of New South Wales, Sydney.

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

NSW EPA (1995) Contaminated Sites Sampling Design Guidelines, NSW Environmental Protection Authority.

NSW DUAP (1998) State Environment Planning Policy 55 – Remediation of the Land, Department of Urban Affairs and Planning, NSW Environmental Protection Authority, 1998.

NSW EPA (2014) Waste Classification Guidelines, Part 1: Classifying waste, NSW Environmental Protection Authority.

NSW EPA (2017) Contaminated Land Management, Guidelines for NSW Site Auditor Scheme 3rd Edition, NSW Environmental Protection Authority.

NSW OEH (2011) NSW EPA Guidelines for Consultants Reporting on Contaminated Sites, NSW Office of Environment and Heritage.

Protection of the Environment Operations (Waste) Regulation 2005 (NSW).

Protection of the Environment Operations Act 1997 (NSW).

State Environment Planning Policy No.55 – Remediation of Land 1998 (NSW).

US EPA (2000) Data Quality Objectives Process for Hazardous Wastes Site Investigations EPAQA/G-4HW, United States Environmental Protection Agency.

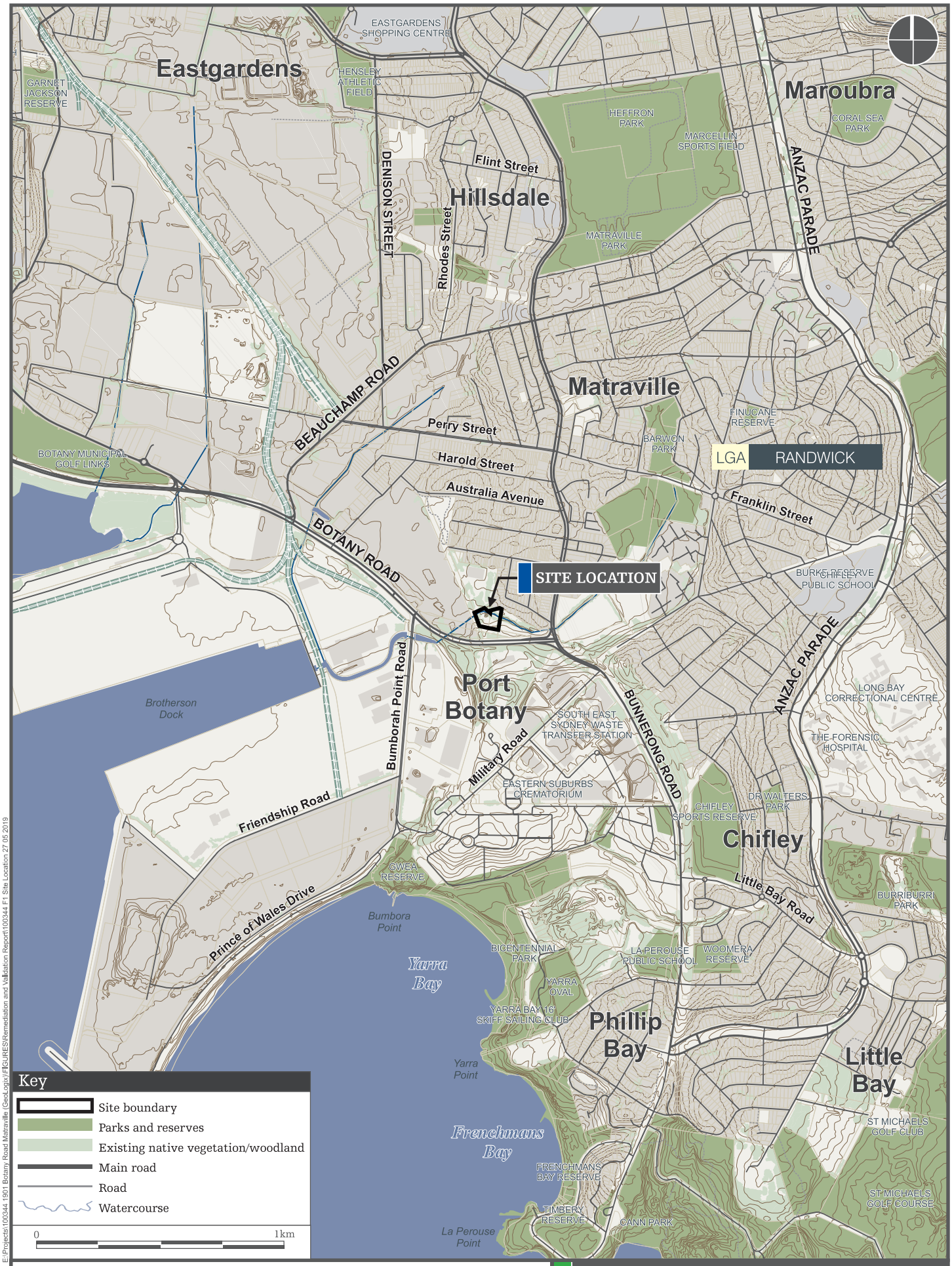
WA DOH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia. Western Australian Department of Health, May 2009.

Work Health and Safety Regulation 2017 (NSW)

WorkCover (2008) Working with Asbestos Guide 2008, WorkCover New South Wales, 2008

Work Health and Safety Act 2011 (Commonwealth of Australia)

FIGURES



E:\Projects\100344 1901 Botany Road Matraville (GeoLogix)\FIGURES\Remediation and Validation Report\100344 F1 Site Location 27 05 2019

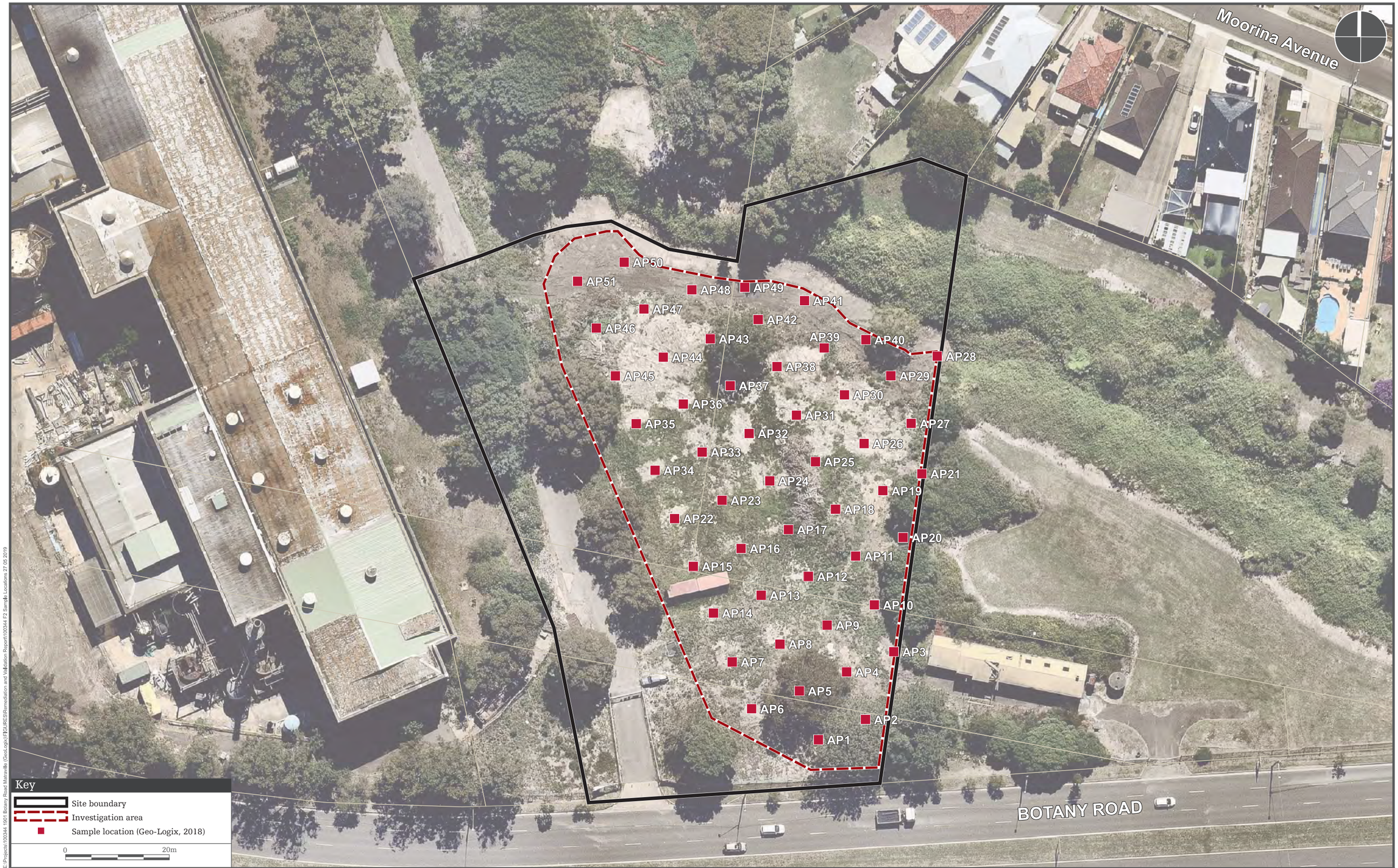
Geo-Logix
environment • geotech

SITE LOCATION

Remediation and Validatiuon Report
1897-1901 Botany Road, Matraville NSW

Project No. 1801089

Figure 1



E:\Projects\100344 1901 Botany Road Matraville (Geo-Logix)\FIGURES\Remediation and Validation Report\100344 F2 Sample Locations 27.05.2019

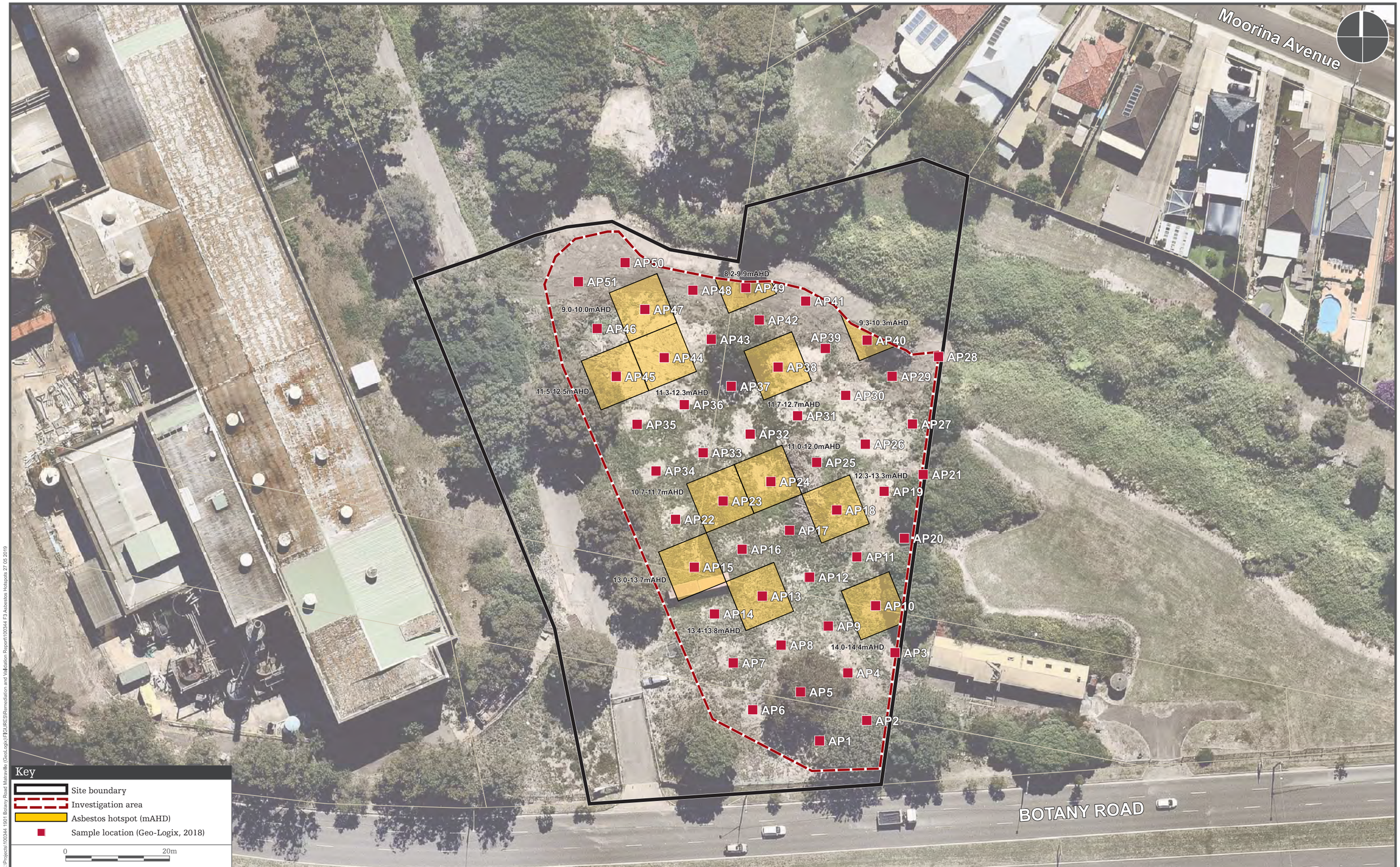
Geo-Logix
environment • geotech

SAMPLE LOCATION MAP (GEO-LOGIX, 2018)

Remediation and Validatiuon Report
1897-1901 Botany Road, Matraville NSW

Project No. 1801089

Figure 2



Key

- Site boundary
- Investigation area
- Asbestos hotspot (mAHD)
- Sample location (Geo-Logix, 2018)

0 20m

E:\Projects\100344 1901 Botany Road Matraville (GeoLogix)\FIG\IRES\Remediation and Validation Report\100344 F3 Asbestos Hotspots 27 05 2019

Geo-Logix
environment • geotech

ASBESTOS HOTSPOTS

Remediation and Validatiuon Report
1897-1901 Botany Road, Matraville NSW

Project No. 1801089

Figure 3

AP45
AP45W
AP44S
AP44/45S
AP45S
AP36
AP35
AP38W
AP37
AP38S
AP30
AP29
AP31
AP27
AP32
AP26
AP33
AP23-24N3
AP23-24N2
AP25
AP34
AP23-24N1
AP23-24E
AP21
AP24
AP18N
AP18E
AP19
AP23
AP23-24W
AP18W
AP18
AP23-24S3
AP22
AP23-24S2
AP15N1
AP23-24S1
AP17
AP20
AP15N
AP16
AP15E
AP11
AP15
AP13N
AP15W
AP12
AP10N
AP10E1
AP15E1
AP13E
AP15S
AP10W1
AP10E
AP13
AP10
AP13W
AP14
AP10W
AP13S
AP9
AP10S
AP8
AP3
AP7
AP4
AP5
AP6
AP2
AP1

Key

- Site boundary
- Remediation area
- Remedial excavation extent
- Additional excavation extent
- Test pit location (Geo-Logix, 2018)
- Validation sample location

0 20m

E:\Projects\100344 1901 Botany Road Matraville (Geo-Logix)\FIGURES\Remediation and Validation Report\100344 F4A Remedial Excavation 16 07 2019

Geo-Logix
environment • geotech

VALIDATION SAMPLE LOCATIONS

Remediation and Validatiuon Report
1897-1901 Botany Road, Matraville NSW

Project No. 1801089

Figure 4A

AP50
AP51
AP47N
AP48
AP49
AP49NE
AP47E
AP49SW
AP49SE
AP41
AP47
AP47W
AP42
AP46
AP47S
AP40SW
AP44/45N
AP43
AP40
AP45N
AP44E
AP39
AP38E
AP44
AP40SE
AP28
AP38
AP45
AP38W
AP29
AP44S
AP37
AP45W
AP44/45S
AP38S
AP30
AP45S
AP36
AP31
AP35
AP27
AP32
AP26
AP33
AP23-24N2
AP23-24N3
AP25
AP34
AP23-24N1
AP23-24E
AP18N
AP21
AP24
AP18E
AP19
AP23
AP18W
AP23-24W
AP23-24S3
AP18
AP22
AP23-24S2
AP15N1
AP23-24S1
AP17

Key

- Site boundary
- Remediation area
- Remedial excavation extent
- Test pit location (Geo-Logix, 2018)
- Validation sample location

0 20m

E:\Projects\100344 1901 Botany Road Matraville (GeoLogix\FIGURES\Remediation and Validation Report\100344 F4B Remedial Excavation 16 07 2019

Geo-Logix
environment • geotech

VALIDATION SAMPLE LOCATIONS

Remediation and Validatiuon Report
1897-1901 Botany Road, Matraville NSW

Project No. 1801089

Figure 4B

E:\Projects\100344 1901 Botany Road Matraville (GeoLogix)\FIGURES\Remediation and Validation Report\100344 F5 Extent of Fill Excavation 27 05 2019

Geo-Logix
environment • geotech

EXTENT OF FILL EXCAVATION

Remediation and Validatiuon Report
1897-1901 Botany Road, Matraville NSW

Project No. 1801089

Figure 5

TABLES

Table 1 : Summary of Soil Analytical Data – Asbestos (Stage 1 – Hotspot Remediation)

Remediation and Validation Report

Project No.: 1801089

1901 Botany Road
Matraville NSW

	Criteria 1	Sample ID	AP10N	AP10E	DS1	AP10E1	AP10S
	HSLs - D	Type	Fill	Fill	Fill	Fill	Fill
	Commercial / Industrial	Date	13/11/2018	13/11/2018	13/11/2018	21/11/2018	13/11/2018
Gravimetric Analysis							
Bulk Sample Volume (L)	-		10L	10L	10L	10L	10L
Calculated Sample Mass (kg)*	-		16	16	16	16	16
Bonded ACM Mass (kg)	-		0	0	0	0	0
Bonded Asbestos in Soil (ACM)**	0.05		ND	ND	ND	ND	ND
Laboratory Analysis							
Asbestos Fines/Fibres in Soil (AF)	0.001***		**0.02**	<0.000014	--	ND	ND
Fibrous Asbestos in Soil (FA)	0.001***		ND	ND	--	ND	ND
Bonded Asbestos in Soil (ACM)	-		ND	ND	--	ND	ND

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
DS1 = duplicate of AP10E
DS2 = duplicate of AP23-24E
DS3 = duplicate of AP13S
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.6 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed
***0.001 Limit applies to sum total of AF and FA

Table 1 : Summary of Soil Analytical Data – Asbestos (Stage 1 – Hotspot Remediation)

Remediation and Validation Report

Project No.: 1801089

1901 Botany Road
Matraville NSW

	Criteria 1	Sample ID	AP10W	AP10W1	AP13N	AP13E	AP13S
	HSLs - D	Type	Fill	Fill	Fill	Fill	Fill
	Commercial / Industrial	Date	13/11/2018	21/11/2018	18/12/2018	18/12/2018	18/12/2018
Gravimetric Analysis							
Bulk Sample Volume (L)	-		10L	10L	10L	10L	10L
Calculated Sample Mass (kg)*	-		16	16	16	16	16
Bonded ACM Mass (kg)	-		0.02356	0	0	0.0181	0
Bonded Asbestos in Soil (ACM)**	0.05		0.022	ND	ND	0.017	ND
Laboratory Analysis							
Asbestos Fines/Fibres in Soil (AF)	0.001***		0.001	ND	ND	ND	ND
Fibrous Asbestos in Soil (FA)	0.001***		ND	ND	ND	ND	ND
Bonded Asbestos in Soil (ACM)	-		ND	ND	ND	ND	ND

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
DS1 = duplicate of AP10E
DS2 = duplicate of AP23-24E
DS3 = duplicate of AP13S
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.6 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed
***0.001 Limit applies to sum total of AF and FA

Table 1 : Summary of Soil Analytical Data – Asbestos (Stage 1 – Hotspot Remediation)

Remediation and Validation Report

Project No.: 1801089

1901 Botany Road
Matraville NSW

	Criteria 1	Sample ID	DS3	AP13W	AP15N	AP15N1	AP15E
	HSLs - D	Type	Fill	Fill	Fill	Fill	Fill
	Commercial / Industrial	Date	18/12/2018	18/12/2018	12/12/2018	18/12/2018	12/12/2018
Gravimetric Analysis							
Bulk Sample Volume (L)	-		10L	10L	10L	10L	10L
Calculated Sample Mass (kg)*	-		16	16	16	16	16
Bonded ACM Mass (kg)	-		0	0	0	0	0.04842
Bonded Asbestos in Soil (ACM)**	0.05		ND	ND	ND	ND	0.045
Laboratory Analysis							
Asbestos Fines/Fibres in Soil (AF)	0.001***		--	ND	ND	ND	ND
Fibrous Asbestos in Soil (FA)	0.001***		--	ND	ND	ND	ND
Bonded Asbestos in Soil (ACM)	-		--	ND	ND	ND	0.133

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
DS1 = duplicate of AP10E
DS2 = duplicate of AP23-24E
DS3 = duplicate of AP13S
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.6 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed
***0.001 Limit applies to sum total of AF and FA

Table 1 : Summary of Soil Analytical Data – Asbestos (Stage 1 – Hotspot Remediation)

Remediation and Validation Report

Project No.: 1801089

1901 Botany Road
Matraville NSW

	Criteria 1	Sample ID	AP15E1	AP15S	AP15W	AP18N	AP18E
	HSLs - D	Type	Fill	Fill	Fill	Fill	Fill
	Commercial / Industrial	Date	18/12/2018	12/12/2018	12/12/2018	27/11/2018	27/11/2018
Gravimetric Analysis							
Bulk Sample Volume (L)	-		10L	10L	10L	10L	10L
Calculated Sample Mass (kg)*	-		16	16	16	16	16
Bonded ACM Mass (kg)	-		0	0	0	0	0
Bonded Asbestos in Soil (ACM)**	0.05		ND	ND	ND	ND	ND
Laboratory Analysis							
Asbestos Fines/Fibres in Soil (AF)	0.001***		ND	ND	ND	0.000062	ND
Fibrous Asbestos in Soil (FA)	0.001***		ND	ND	ND	ND	ND
Bonded Asbestos in Soil (ACM)	-		ND	ND	ND	ND	ND

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
DS1 = duplicate of AP10E
DS2 = duplicate of AP23-24E
DS3 = duplicate of AP13S
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.6 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed
***0.001 Limit applies to sum total of AF and FA

Table 1 : Summary of Soil Analytical Data – Asbestos (Stage 1 – Hotspot Remediation)

Remediation and Validation Report

Project No.: 1801089

1901 Botany Road
Matraville NSW

	Criteria 1	Sample ID	AP18W	AP23-24N1	AP23-24N2	AP23-24N3	AP23-24E
	HSLs - D	Type	Fill	Fill	Fill	Fill	Fill
	Commercial / Industrial	Date	27/11/2018	15/11/2018	15/11/2018	15/11/2018	15/11/2018
Gravimetric Analysis							
Bulk Sample Volume (L)	-		10L	10L	10L	10L	10L
Calculated Sample Mass (kg)*	-		16	16	16	16	16
Bonded ACM Mass (kg)	-		0.00256	0	0	0	0.03072
Bonded Asbestos in Soil (ACM)**	0.05		0.002	ND	ND	ND	0.029
Laboratory Analysis							
Asbestos Fines/Fibres in Soil (AF)	0.001***		ND	<0.00002	<0.00002	ND	ND
Fibrous Asbestos in Soil (FA)	0.001***		ND	ND	ND	ND	ND
Bonded Asbestos in Soil (ACM)	-		ND	ND	ND	ND	ND

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
DS1 = duplicate of AP10E
DS2 = duplicate of AP23-24E
DS3 = duplicate of AP13S
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.6 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed
***0.001 Limit applies to sum total of AF and FA

Table 1 : Summary of Soil Analytical Data – Asbestos (Stage 1 – Hotspot Remediation)

Remediation and Validation Report

Project No.: 1801089

1901 Botany Road
Matraville NSW

	Criteria 1	Sample ID	DS2	AP23-24S1	AP23-24S2	AP23-24S3	AP23-24W
	HSLs - D	Type	Fill	Fill	Fill	Fill	Fill
	Commercial / Industrial	Date	15/11/2018	15/11/2018	15/11/2018	15/11/2018	15/11/2018
Gravimetric Analysis							
Bulk Sample Volume (L)	-		10L	10L	10L	10L	10L
Calculated Sample Mass (kg)*	-		16	16	16	16	16
Bonded ACM Mass (kg)	-		0	0	0	0	0
Bonded Asbestos in Soil (ACM)**	0.05		ND	ND	ND	ND	ND
Laboratory Analysis							
Asbestos Fines/Fibres in Soil (AF)	0.001***		--	ND	<0.000011	0.00033	ND
Fibrous Asbestos in Soil (FA)	0.001***		--	ND	ND	ND	ND
Bonded Asbestos in Soil (ACM)	-		--	ND	ND	ND	ND

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
DS1 = duplicate of AP10E
DS2 = duplicate of AP23-24E
DS3 = duplicate of AP13S
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.6 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed
***0.001 Limit applies to sum total of AF and FA

Table 1 : Summary of Soil Analytical Data – Asbestos (Stage 1 – Hotspot Remediation)

Remediation and Validation Report

Project No.: 1801089

1901 Botany Road
Matraville NSW

	Criteria 1	Sample ID	AP38E	AP38S	AP38W	AP40SE	AP40SW
	HSLs - D	Type	Fill	Fill	Fill	Fill	Fill
	Commercial / Industrial	Date	11/12/2018	11/12/2018	11/12/2018	10/12/2018	10/12/2018
Gravimetric Analysis							
Bulk Sample Volume (L)	-		10L	10L	10L	10L	10L
Calculated Sample Mass (kg)*	-		16	16	16	16	16
Bonded ACM Mass (kg)	-		0	0	0.0057	0	0
Bonded Asbestos in Soil (ACM)**	0.05		ND	ND	0.005	ND	ND
Laboratory Analysis							
Asbestos Fines/Fibres in Soil (AF)	0.001***		ND	ND	ND	ND	ND
Fibrous Asbestos in Soil (FA)	0.001***		ND	ND	ND	ND	0.00006
Bonded Asbestos in Soil (ACM)	-		ND	ND	ND	ND	ND

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
DS1 = duplicate of AP10E
DS2 = duplicate of AP23-24E
DS3 = duplicate of AP13S
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.6 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed
***0.001 Limit applies to sum total of AF and FA

Table 1 : Summary of Soil Analytical Data – Asbestos (Stage 1 – Hotspot Remediation)

Remediation and Validation Report

Project No.: 1801089

1901 Botany Road
Matraville NSW

	Criteria 1	Sample ID	AP44/45N	AP44E	AP44S	AP44/45S	AP45S
	HSLs - D	Type	Fill	Fill	Fill	Fill	Fill
	Commercial / Industrial	Date	4/12/2018	3/12/2018	3/12/2018	4/12/2018	4/12/2018
Gravimetric Analysis							
Bulk Sample Volume (L)	-		10L	10L	10L	10L	10L
Calculated Sample Mass (kg)*	-		16	16	16	16	16
Bonded ACM Mass (kg)	-		0	0	0.00746	0	0
Bonded Asbestos in Soil (ACM)**	0.05		ND	ND	0.007	ND	ND
Laboratory Analysis							
Asbestos Fines/Fibres in Soil (AF)	0.001***		ND	ND	ND	ND	ND
Fibrous Asbestos in Soil (FA)	0.001***		ND	ND	ND	ND	ND
Bonded Asbestos in Soil (ACM)	-		ND	ND	ND	ND	ND

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
DS1 = duplicate of AP10E
DS2 = duplicate of AP23-24E
DS3 = duplicate of AP13S
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.6 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed
***0.001 Limit applies to sum total of AF and FA

Table 1 : Summary of Soil Analytical Data – Asbestos (Stage 1 – Hotspot Remediation)

Remediation and Validation Report

Project No.: 1801089

1901 Botany Road
Matraville NSW

	Criteria 1	Sample ID	AP45W	AP45N	AP47N	AP47E	AP47S
	HSLs - D	Type	Fill	Fill	Fill	Fill	Fill
	Commercial / Industrial	Date	4/12/2018	4/12/2018	4/12/2018	4/12/2018	4/12/2018
Gravimetric Analysis							
Bulk Sample Volume (L)	-		10L	10L	10L	10L	10L
Calculated Sample Mass (kg)*	-		16	16	16	16	16
Bonded ACM Mass (kg)	-		0	0	0	0	0
Bonded Asbestos in Soil (ACM)**	0.05		ND	ND	ND	ND	ND
Laboratory Analysis							
Asbestos Fines/Fibres in Soil (AF)	0.001***		ND	ND	ND	ND	ND
Fibrous Asbestos in Soil (FA)	0.001***		ND	ND	ND	ND	ND
Bonded Asbestos in Soil (ACM)	-		ND	ND	ND	ND	ND

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
DS1 = duplicate of AP10E
DS2 = duplicate of AP23-24E
DS3 = duplicate of AP13S
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.6 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed
***0.001 Limit applies to sum total of AF and FA

Table 1 : Summary of Soil Analytical Data – Asbestos (Stage 1 – Hotspot Remediation)

Remediation and Validation Report

Project No.: 1801089

1901 Botany Road
Matraville NSW

	Criteria 1	Sample ID	AP47W	AP49NE	AP49SE	AP49SW
	HSLs - D	Type	Fill	Fill	Fill	Fill
	Commercial / Industrial	Date	4/12/2018	10/12/2018	10/12/2018	10/12/2018
Gravimetric Analysis						
Bulk Sample Volume (L)	-		10L	10L	10L	10L
Calculated Sample Mass (kg)*	-		16	16	16	16
Bonded ACM Mass (kg)	-		0	0	0.03269	0
Bonded Asbestos in Soil (ACM)**	0.05		ND	ND	0.031	ND
Laboratory Analysis						
Asbestos Fines/Fibres in Soil (AF)	0.001***		ND	ND	ND	ND
Fibrous Asbestos in Soil (FA)	0.001***		ND	ND	ND	ND
Bonded Asbestos in Soil (ACM)	-		ND	ND	ND	ND

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
DS1 = duplicate of AP10E
DS2 = duplicate of AP23-24E
DS3 = duplicate of AP13S
ND = no asbestos detected
-- = sample not analysed
Bold/red indicates exceedance of assessment criteria
* A soil bulk density of 1.6 kg/L has been assumed
**An ACM asbestos content of 15 % by weight has been assumed
***0.001 Limit applies to sum total of AF and FA

Table 2 : Summary of Soil Analytical Data – Asbestos (Stage 2 – Lot 1 DP219847 Remediation)

Remediation and Validation Report

Project No.: 1801089

1901 Botany Road
Matraville NSW

	Criteria 1	Sample ID	AS5/0.2	AS6/1.0	AS7/1.0	AS8/2.0	AS9/2.0	AS10/0.2
	HSLs - A	Type	Fill	Fill	Fill	Fill	Fill	Fill
	Residential	Date	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019
Gravimetric Analysis								
Bulk Sample Volume (L)	-		10L	10L	10L	10L	10L	10L
Calcualted Sample Mass (kg)*	-		16	16	16	16	16	16
Bonded ACM Mass (kg)	-		0	0	0	0	0	0
Bonded Asbestos in Soil (ACM)**	0.01		ND	ND	ND	ND	ND	ND
Laboratory Analysis								
Asbestos Fines/Fibres in Soil (AF)	0.001***		ND	ND	ND	ND	ND	ND
Fibrous Asbestos in Soil (FA)	0.001***		ND	ND	ND	ND	ND	ND
Bonded Asbestos in Soil (ACM)	-		ND	ND	ND	ND	ND	ND

Notes:

Criteria 1 = NEPM (1999) Amended 'A' Residential Health Screening Levels for asbestos contamination in soil.
Total concentrations in %w/w
- = assessment criteria not available
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
***0.001 Limit applies to sum total of AF and FA

ATTACHMENT A

Plate 1: AP10 excavated to the level of natural soil.

Plate 2: AP18 excavated to the level of natural soil.

Plate 3: Concrete clocks, bricks, reinforcement bars, bonded ACM, etc. were among the fill materials excavated from AP18.

Plate 4: Concrete clocks, bricks, timber, reinforcement bars, bonded ACM, etc. were among the fill materials excavated from AP23.

Plate 5: AP24 barricaded after excavation with warning tapes.

Plate 6: Stockpiles covered with LDPE sheets.

Plate 7: Excavation and removal of soil from AP44. Light water spray used to suppress dust.

Plate 8: Excavation and removal of soil from AP38. Excavation surfaces were lightly wetted down, sprayed with a soil binding emulsion.

Plate 9: Fill material excavated and stockpiled at site.

Plate 10: AP15 excavated to native soil.

Plate 11: Gravimetric analysis for validation of the excavation walls.

Plate 12: Gravimetric analysis for validation of the excavation walls.

Plate 13: Loading of the contaminated soil material into trucks.

Plate 14: Loading of the contaminated soil material into trucks.

Plate 15: Excavation and removal of soil from AP23.

Plate 16: Excavation and removal of soil from AP40 located near Bunnerong Creek.

Plate 17: Laser level set up for survey of the excavated areas.

Plate 18: Field of view from laser level location, facing south.

Plate 19: Lot 1 after removal of all fill materials.

Plate 20: Lot 1 after removal of all fill materials.

Plate 21: A small quantity of fill material is left near the retaining wall in the east boundary of Lot 1.

Plate 22: Site view after the removal of fill materials.

ATTACHMENT B

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.116/07/2019 4:47:03 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

ACM

General Statistics

Total Number of Observations	130	Number of Distinct Observations	26
Number of Detects	31	Number of Non-Detects	99
Number of Distinct Detects	25	Number of Distinct Non-Detects	1
Minimum Detect	0.001	Minimum Non-Detect	0
Maximum Detect	0.347	Maximum Non-Detect	0
Variance Detects	0.00376	Percent Non-Detects	76.15%
Mean Detects	0.0317	SD Detects	0.0614
Median Detects	0.017	CV Detects	1.933
Skewness Detects	4.823	Kurtosis Detects	25.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.423	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.929	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.324	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.156	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.00757	KM Standard Error of Mean	0.00289
KM SD	0.0324	95% KM (BCA) UCL	0.0132
95% KM (t) UCL	0.0124	95% KM (Percentile Bootstrap) UCL	0.0126
95% KM (z) UCL	0.0123	95% KM Bootstrap t UCL	0.0201
90% KM Chebyshev UCL	0.0162	95% KM Chebyshev UCL	0.0202
97.5% KM Chebyshev UCL	0.0256	99% KM Chebyshev UCL	0.0363

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.071	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.784	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.172	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.163	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.832	k star (bias corrected MLE)	0.773
Theta hat (MLE)	0.0382	Theta star (bias corrected MLE)	0.0411
nu hat (MLE)	51.57	nu star (bias corrected)	47.92
Mean (detects)	0.0317		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.00757	SD (KM)	0.0324
Variance (KM)	0.00105	SE of Mean (KM)	0.00289
k hat (KM)	0.0545	k star (KM)	0.0583
nu hat (KM)	14.16	nu star (KM)	15.17
theta hat (KM)	0.139	theta star (KM)	0.13

57	80% gamma percentile (KM)					0.00169	90% gamma percentile (KM)					0.0138
58	95% gamma percentile (KM)					0.0422	99% gamma percentile (KM)					0.155
59												
60	**Gamma Kaplan-Meier (KM) Statistics**											
61							Adjusted Level of Significance (β)					0.0482
62	Approximate Chi Square Value (15.17, α)					7.38	Adjusted Chi Square Value (15.17, β)					7.319
63	95% Gamma Approximate KM-UCL (use when n>=50)					0.0156	95% Gamma Adjusted KM-UCL (use when n<50)					0.0157
64												
65	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
66	KM Mean (logged)					N/A	KM Geo Mean					N/A
67	KM SD (logged)					N/A	95% Critical H Value (KM-Log)					N/A
68	KM Standard Error of Mean (logged)					N/A	95% H-UCL (KM -Log)					N/A
69	KM SD (logged)					N/A	95% Critical H Value (KM-Log)					N/A
70	KM Standard Error of Mean (logged)					N/A						
71												
72	**DL/2 Statistics**											
73	Mean in Original Scale					0.00757	SD in Original Scale					0.0326
74	95% t UCL (Assumes normality)					0.0123						
75	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
76												
77	**Nonparametric Distribution Free UCL Statistics**											
78	**Data do not follow a Discernible Distribution at 5% Significance Level**											
79												
80	**Suggested UCL to Use**											
81	99% KM (Chebyshev) UCL					0.0363						
82												
83	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
84	Recommendations are based upon data size, data distribution, and skewness.											
85	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
86	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
87												

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.116/07/2019 4:38:37 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

AF

General Statistics

Total Number of Observations	130	Number of Distinct Observations	11
Number of Detects	15	Number of Non-Detects	115
Number of Distinct Detects	10	Number of Distinct Non-Detects	1
Minimum Detect	3.0000E-4	Minimum Non-Detect	0
Maximum Detect	0.037	Maximum Non-Detect	0
Variance Detects	8.8494E-5	Percent Non-Detects	88.46%
Mean Detects	0.00529	SD Detects	0.00941
Median Detects	0.002	CV Detects	1.777
Skewness Detects	3.127	Kurtosis Detects	10.51

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.552	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.881	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.32	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.22	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	6.1077E-4	KM Standard Error of Mean	3.1956E-4
KM SD	0.00352	95% KM (BCA) UCL	0.00119
95% KM (t) UCL	0.00114	95% KM (Percentile Bootstrap) UCL	0.00117
95% KM (z) UCL	0.00114	95% KM Bootstrap t UCL	0.0023
90% KM Chebyshev UCL	0.00157	95% KM Chebyshev UCL	0.002
97.5% KM Chebyshev UCL	0.00261	99% KM Chebyshev UCL	0.00379

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.785	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.782	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.263	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.232	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.656	k star (bias corrected MLE)	0.569
Theta hat (MLE)	0.00807	Theta star (bias corrected MLE)	0.0093
nu hat (MLE)	19.67	nu star (bias corrected)	17.07
Mean (detects)	0.00529		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	6.1077E-4	SD (KM)	0.00352
Variance (KM)	1.2390E-5	SE of Mean (KM)	3.1956E-4
k hat (KM)	0.0301	k star (KM)	0.0345
nu hat (KM)	7.828	nu star (KM)	8.981

56					theta hat (KM)	0.0203					theta star (KM)	0.0177
57					80% gamma percentile (KM)	1.5986E-5					90% gamma percentile (KM)	4.9658E-4
58					95% gamma percentile (KM)	0.00266					99% gamma percentile (KM)	0.0151
59												
60					**Gamma Kaplan-Meier (KM) Statistics**							
61											Adjusted Level of Significance (β)	0.0482
62					Approximate Chi Square Value (8.98, α)	3.315					Adjusted Chi Square Value (8.98, β)	3.277
63					95% Gamma Approximate KM-UCL (use when n>=50)	0.00165					95% Gamma Adjusted KM-UCL (use when n<50)	0.00167
64												
65					**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**							
66					KM Mean (logged)	N/A					KM Geo Mean	N/A
67					KM SD (logged)	N/A					95% Critical H Value (KM-Log)	N/A
68					KM Standard Error of Mean (logged)	N/A					95% H-UCL (KM -Log)	N/A
69					KM SD (logged)	N/A					95% Critical H Value (KM-Log)	N/A
70					KM Standard Error of Mean (logged)	N/A						
71												
72					**DL/2 Statistics**							
73					Mean in Original Scale	6.1077E-4					SD in Original Scale	0.00353
74					95% t UCL (Assumes normality)	0.00112						
75					**DL/2 is not a recommended method, provided for comparisons and historical reasons**							
76												
77					**Nonparametric Distribution Free UCL Statistics**							
78					**Data do not follow a Discernible Distribution at 5% Significance Level**							
79												
80					**Suggested UCL to Use**							
81					99% KM (Chebyshev) UCL	0.00379						
82												
83	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
84	Recommendations are based upon data size, data distribution, and skewness.											
85	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
86	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
87												

ATTACHMENT C

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD
ABN 36 088 095 112

Our ref : ASET69408/72588/1- 12
Your ref: 1801089 - Matraville
NATA Accreditation No: 14484

19 November 2018

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

Accredited for compliance with ISO/IEC 17025.

Attn: Mr Ted Lilly

Dear Ted

Asbestos Identification
This report present the results of twelve samples, forwarded by Geo-Logix Pty Ltd on 16 November 2018, for analysis for asbestos.

1.Introduction: Twelve samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF**(Asbestos Fines), **FA**(Friable Asbestos and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM

3. Results : **Ω Sample No. 1. ASET69408 / 72588 / 1. 1801089-APION.**
Approx dimensions 12.0 cm x 12.0 cm x 6.1 cm
The sample consisted of a mixture of sandy soil, fibres^(AF), stones, fragments of cement, glass, corroded metal, coal like material, and plant matter.
Chrysotile^ (Approximate estimated weight0.0757g) asbestos, Amosite^ (Approximate estimated weight = 0.0189) asbestos and Crocidolite^ (Approximate estimated weight = 0.0063) asbestos detected.
Approximate total dry weight of soil = 495.0g
Approximate estimated weight of asbestos in soil in the form of AF =0.1009g
Approximate w/w percentage of asbestos in soil in the form of AF = 0.020%.

Sample No. 2. ASET69408 / 72588 / 2. 1801089-APIOS.
Approx dimensions 12.0 cm x 12.0 cm x 6.2 cm
The sample consisted of a mixture of sandy soil, stones, fragments of cement, glass, corroded metal, coal like material, and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 507.0g

Sample No. 3. ASET69408 / 72588 / 3. 1801089-APIOE.
Approx dimensions 12.0 cm x 12.0 cm x 6.5 cm
The sample consisted of a mixture of sandy soil, fibres^(AF) stones, fragments of cement, glass, corroded metal, coal like material, and plant matter.
Chrysotile^ (Approximate estimated weight = < 0.0001g) asbestos detected.
Approximate total dry weight of soil = 691.0g
Approximate estimated weight of asbestos in soil in the form of AF = < 0.0001g
Approximate w/w percentage of asbestos in soil in the form of AF = < 0.000014%.

Sample No. 4. ASET69408 / 72588 / 4. 1801089-APIOW.
Approx dimensions 12.0 cm x 12.0 cm x 6.2 cm
The sample consisted of a mixture of sandy soil, fibre^(AF), stones, fragments of cement, glass, coal like material, and plant matter.
Chrysotile^ (Approximate estimated weight= 0.0061g) asbestos detected.
Approximate total dry weight of soil = 563.0g
Approximate estimated weight of asbestos in soil in the form of AF = 0.0061g
Approximate w/w percentage of asbestos in soil in the form of AF = 0.0010 %.

Sample No. 5. ASET69408 / 72588 / 5. 1801089-AP23-24N1.
Approx dimensions 12.0 cm x 12.0 cm x 6.2 cm
The sample consisted of a mixture of sandy soil, fibre^(AF), stones, fragments of cement, glass,brick, coal like material, and plant matter.
Chrysotile^ (Approximate estimated weight= <0.0001g) asbestos detected.
Approximate total dry weight of soil = 547.0g
Approximate estimated weight of asbestos in soil in the form of AF = < 0.0001g
Approximate w/w percentage of asbestos in soil in the form of AF = < 0.00002 %.

Ω Sample No. 6. ASET69408 / 72588 / 6. 1801089-AP23-24N2.
Approx dimensions 12.0 cm x 12.0 cm x 6.21 cm
The sample consisted of a mixture of sandy soil, fibres^(AF), stones, fragments of cement, glass, brick, corroded metal and plant matter.
Chrysotile^ (Approximate estimated weight= < 0.0001g) asbestos detected.
Approximate total dry weight of soil = 477.0g
Approximate estimated weight of asbestos in soil in the form of AF = < 0.0001g
Approximate w/w percentage of asbestos in soil in the form of AF = < 0.00002 %.

Ω Sample No. 7. ASET69408 / 72588 / 7. 1801089-AP23-24N3.
Approx dimensions 12.0 cm x 12.0 cm x 6.3 cm
The sample consisted of a mixture of sandy soil, fragments of cement, glass, brick, coal like material and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 413.0g

Sample No. 8. ASET69408 / 72588 / 8. 1801089-AP23-24S1.
Approx dimensions 12.0 cm x 12.0 cm x 6.52 cm
The sample consisted of a mixture of sandy soil, stones, fragments of cement, glass, coal like material and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 834.0g

Sample No. 9. ASET69408 / 72588 / 9. 1801089-AP23-24S2.
Approx dimensions 12.0 cm x 12.0 cm x 6.6 cm
The sample consisted of a mixture of sandy soil, fibre^(AF), stones, fragments of cement, glass, brick, coal like material, plastic and plant matter.
Chrysotile ^ (Approximate estimated weight= < 0.0001g) asbestos detected.
Approximate total dry weight of soil = 921.0g
Approximate estimated weight of asbestos in soil in the form of AF = < 0.0001g
Approximate w/w percentage of asbestos in soil in the form of AF = < 0.000011 %.

Sample No. 10. ASET69408 / 72588 / 10. 1801089-AP23-24S3.
Approx dimensions 12.0 cm x 12.0 cm x 6.53 cm
The sample consisted of a mixture of sandy soil, fibres^(AF), stones, fragments of brick, cement, coal like material and plant matter.
Chrysotile ^ (Approximate estimated weight = 0.0022g) asbestos detected.
Approximate total dry weight of soil = 665.0g
Approximate estimated weight of asbestos in soil in the form of AF = 0.0022g
Approximate w/w percentage of asbestos in soil in the form of AF = 0.00033 %.

Sample No. 11. ASET69408 / 72588 / 11. 1801089-AP23-24E.
Approx dimensions 12.0 cm x 12.0 cm x 6.5 cm
The sample consisted of a mixture of sandy soil, stones, fragments of brick, cement, glass, sandstone, coal like material and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 764.0g

Sample No. 12. ASET69408 / 72588 / 12. 1801089-AP23-24W.
Approx dimensions 12.0 cm x 12.0 cm x 6.4 cm
The sample consisted of a mixture of sandy soil, stones, fragments of cement, glass, sandstone, coal like material and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 540.0g

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

NATA
WORLD RECOGNISED
ACCREDITATION

Accredited for compliance with ISO/IEC 17025.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service (NATA ISO/IEC17025 AUG 2014).

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.
λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.
Ω Sample volume criteria of 500mL have not been satisfied.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001 % unless the actual approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref: ASET69563 /72743 /1- 2
Your ref: 1801089 – Matriville Remediation
NATA Accreditation No: 14484

26 November 2018

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

Attn: Mr Ted Lilly

Dear Ted
Asbestos Identification
This report presents the results of two samples, forwarded by Geo-Logix Pty Ltd on 22 November 2018, for analysis for asbestos.

1. Introduction: Two samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF** (Asbestos Fines), **FA** (Friable Asbestos and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines)

3. Results:

Sample No. 1. ASET69563 / 72743 / 1. 1801089 - AP10E1.
Approx. dimensions 12.0 cm x 12.0 cm x 6.6 cm
Approximate total dry weight of soil = 943.0g
The sample consisted of a mixture of clayish sandy soil, sandstones, shale, plant matter and fragments of cement.
No asbestos detected.

Sample No. 2. ASET69563 / 72743 / 2. 1801089 - AP10W1.
Approx. dimensions 12.0 cm x 12.0 cm x 4.8 cm
Approximate total dry weight of soil = 699.0g
The sample consisted of a mixture of clayish sandy soil, shale, sandstones, plant matter, fragments of cement and wood chips.
No asbestos detected.

Analysed and reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

NATA
WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service (NATA ISO/IEC17025 AUG 2014).

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001 % unless the actual approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET69683/ 72863 /1- 3
Your ref : 1801089 - Matraville
NATA Accreditation No: 14484

29 November 2018

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

Accredited for compliance with ISO/IEC 17025.

Attn: Mr Ted Lilly

Dear Ted

Asbestos Identification
This report presents the results of three samples, forwarded by Geo-Logix Pty Ltd on 28 November 2018, for analysis for asbestos.

1.Introduction: Three samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF**(Asbestos Fines), **FA**(Friable Asbestos and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines)

3. Results : **Sample No. 1. ASET69683 / 72863 / 1. 1801089-AP18 N.**
Approx dimensions 12.0 cm x 12.0 cm x 6.51 cm
The sample consisted of a mixture of sandy soil, stones, fragments of cement, brick, glass, sandstone, fibre plaster#(FA) and plant matter.
Chrysotile# (Approximate estimated weight = 0.00036g) asbestos detected.
Approximate total dry weight of soil = 579g
Estimated approximate total weight of Soft fibro plaster (In the form of FA)=0.00036g
Approximate w/w percentage of asbestos in soil in the form of FA = 0.000062 %.

Sample No. 2. ASET69683 / 72863 / 2. 1801089-AP18 W.
Approx dimensions 12.0 cm x 12.0 cm x 6.52 cm
The sample consisted of a mixture of sandy soil, stones, fragments of cement, cha, brick, glass, sandstone and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 552.0g

Sample No. 3. ASET69683 / 72863 / 3. 1801089-AP18 E.
Approx dimensions 12.0 cm x 12.0 cm x 6.51 cm
The sample consisted of a mixture of sandy soil, stones, fragments of cement, cha, brick, glass, sandstone and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 681.0g

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service (NATA ISO/IEC17025 AUG 2014).

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.0001 % unless the actual approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET69860 / 73040 / 1 - 11
Your ref: 1801089 – Matraville Remediation
NATA Accreditation No: 14484

6 December 2018

Geo-Logix Pty Ltd
2309/4 Daydream Street
Warriewood NSW 2102

Accredited for compliance with ISO/IEC 17025.

Attn: Mr Ted Lilly

Dear Ted

Asbestos Identification
This report presents the results of eleven samples, forwarded by Geo-Logix Pty Ltd on 5 December 2018, for analysis for asbestos.

1.Introduction: Eleven samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF**(Asbestos Fines), **FA**(Friable Asbestos and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines)

3. Results :

Sample No. 1. ASET69860 / 73040 / 1. AP47 E -1.
Approx dimensions 12.0 cm x 12.0 cm x 6.5 cm
Approximate total dry weight of soil = 917.0g
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, corroded metal, cement, sandstone, brick and glass.
No asbestos detected.

Sample No. 2. ASET69860 / 73040 / 2. 2 - AP47 W.
Approx dimensions 12.0 cm x 12.0 cm x 6.25 cm
Approximate total dry weight of soil = 866.0g
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, corroded metal, coal like material, char, cement, sandstone, brick and glass.
No asbestos detected.

Sample No. 3. ASET69860 / 73040 / 3. 3 - AP47N.
Approx dimensions 12.0 cm x 12.0 cm x 6.25 cm
Approximate total dry weight of soil = 848.0g.
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, brick, cement, sandstone and glass.
No asbestos detected.

Sample No. 4. ASET69860 / 73040 / 4. 4 - AP47 S.
Approx dimensions 12.0 cm x 12.0 cm x 6.25 cm
Approximate total dry weight of soil = 754.0g
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, cement, glass, ceramic tile, sandstone and char.
No asbestos detected.

Sample No. 5. ASET69860 / 73040 / 5. 5 - AP44 E.
Approx dimensions 12.0 cm x 12.0 cm x 6.25 cm
Approximate total dry weight of soil = 819.0g.
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, cement, sandstone, coal like material, brick and glass.
No asbestos detected.

Sample No. 6. ASET69860 / 73040 / 6. 6 - AP44S.
Approx dimensions 12.0 cm x 12. cm x 6.25 cm
Approximate total dry weight of soil = 606.0g.
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, cement, sandstone, brick and glass.
No asbestos detected.

Sample No. 7. ASET69860 / 73040 / 7. 7 - AP44/ 45 S.
Approx dimensions 12.0 cm x 12.0 cm x 6.25 cm
Approximate total dry weight of soil = 749.0g.
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, cement, sandstone, coal like material, brick and glass.
No asbestos detected.

Sample No. 8. ASET69860 / 73040 / 8. 8 - AP44 / 45 N.
Approx dimensions 12.0 cm x 12.0 cm x 6.0 cm
Approximate total dry weight of soil = 845.0g.
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, cement, sandstone, corroded metal, coal like material, brick and glass.
No asbestos detected.

Sample No. 9. ASET69860 / 73040 / 9. 9 - AP45 W.
Approx dimensions 12.0 cm x 12.0 cm x 6.25 cm
Approximate total dry weight of soil = 735.0g.
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, cement, sandstone, corroded metal, coal like material, brick and glass.
No asbestos detected.

Sample No. 10. ASET69860 / 73040 / 10. 10 - AP45 N.
Approx dimensions 12.0 cm x 12.0 cm x 6.25 cm
Approximate total dry weight of soil = 883.0g.
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, cement, sandstone, corroded metal, metal, char, coal like material, brick and glass.
No asbestos detected.

Sample No. 11. ASET69860 / 73040 / 11. 11 - AP45 S.
Approx dimensions 12.0 cm x 12.0 cm x 6.5 cm
Approximate total dry weight of soil = 826.0g.
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, cement, sandstone, corroded metal, char, coal like material, brick and glass.
No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service (NATA ISO/IEC17025 AUG 2014).

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating

"No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001 % unless the actual approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD
ABN 36 088 095 112

Our ref: ASET69983 / 73163 / 1 - 5
Your ref: 1801089
NATA Accreditation No: 14484

11 December 2018

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

Attn: Mr Ted Lilly

Accredited for compliance with ISO/IEC 17025.

Dear Ted

Asbestos Identification
This report presents the results of five samples, forwarded by Geo -Logix Pty Ltd on 10 December 2018, for analysis for asbestos. This report supersedes the report issued earlier today.

1.Introduction: Five samples forwarded were examined and analysed for the presence of asbestos.

2. Methods: The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF** (Asbestos Fines), **FA** (Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines.

3. Results:

Sample No. 1. ASET69983 / 73163 / 1. 1801089-AP49SE.
Approx dimensions 12.0 cm x 12.0 cm x 6.55 cm
The sample consisted of a mixture of sandy soil, stones, fragments of brick, cement, glass, plastic, char, coal like material and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 698.0g

Sample No. 2. ASET69983 / 73163 / 2. 1801089-AP49SW.
Approx dimensions 12.0 cm x 12.0 cm x 6.58 cm
The sample consisted of a mixture of sandy soil, stones, fragments of brick, cement, glass, char, coal like material and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 859.0g

Sample No. 3. ASET69983 / 73163 / 3. 1801089-AP49NE.
Approx dimensions 12.0 cm x 12.0 cm x 6.59 cm
The sample consisted of a mixture of sandy soil, synthetic mineral fibres, stones, fragments of brick, cement, glass, char, coal like material and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 978.0g

Sample No. 4. ASET69983 / 73163 / 4. 1801089-AP40SW.
Approx dimensions 12.0 cm x 12.0 cm x 6.55 cm
The sample consisted of a mixture of sandy soil, synthetic mineral fibres, stones, fragments of brick, cement, glass, char, coal like material, fibro plaster cement# (FA), and plant matter.
Chrysotile# (Approximate estimated weight = 0.00036g) asbestos and Amosite# (Approximate estimated weight = 0.00009g) asbestos detected.
Approximate total dry weight of soil = 745.0g
Approximate estimated weight of asbestos in soil in the form of FA = 0.00045g
Approximate w/w percentage of asbestos in soil in the form of FA = 0.00006%

Sample No. 5. ASET69983 / 73163 / 5. 1801089-AP40SE.
Approx dimensions 12.0 cm x 12.0 cm x 6.57 cm
The sample consisted of a mixture of sandy soil, stones, fragments of brick, cement, glass, char, coal like material and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 762.0g

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service (NATA ISO/IEC17025 AUG 2014).

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.0001 % unless the actual approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET70061 /73241 /1- 3
Your ref: 1801089
NATA Accreditation No: 14484

13 December 2018

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

Accredited for compliance with ISO/IEC 17025.

Attn: Mr Ted Lily

Dear Ted

Asbestos Identification
This report presents the results of three samples, forwarded by on 12 December 2018, for analysis for asbestos.

1.Introduction: Three samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF**(Asbestos Fines), **FA**(Friable Asbestos and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines)

3. Results : **Sample No. 1. ASET70061 / 73241 / 1. 1801089-AP38E.**
Approx dimensions 12.0 cm x 12.0 cm x 6.5 cm
The sample consisted of a mixture of sandy soil, stones, fragments of cement, glass, brick, char, sandstone, corroded metal and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 597.0g

Sample No. 2. ASET70061 / 73241 / 2. 1801089-AP38W.
Approx dimensions 12.0 cm x 12.0 cm x 6.54 cm
The sample consisted of a mixture of sandy soil, stones, fragments of cement, glass, brick, char, sandstone, and plant matter.
No asbestos detected.
Approximate total dry weight of soil =778.0g

Sample No. 3. ASET70061 / 73241 / 3. 1801089-AP38S.
Approx dimensions 12.0 cm x 12.0 cm x 6.54 cm
The sample consisted of a mixture of sandy soil, stones, fragments of cement, glass, brick, char, sandstone and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 633.0g

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service (NATA ISO/IEC17025 AUG 2014).

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.0001 % unless the actual approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD
ABN 36 088 095 112

Our ref: ASET70107 / 73287 / 1 - 4
Your ref: 1801089 - Matraville Remediation
NATA Accreditation No: 14484

17 December 2018

Geo-Logix Pty Ltd
2309/4 Daydream St
Warriewood NSW 2102

Accredited for compliance with ISO/IEC 17025.

Attn: Mr Ted Lilly

Dear Ted

Asbestos Identification
This report presents the results of four samples, forwarded by Geo-Logix Pty Ltd on 13 December 2018, for analysis for asbestos.

1.Introduction: Four samples forwarded were examined and analysed for the presence of asbestos.

2. Methods: The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF** (Asbestos Fines), **FA** (Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines.

3. Results:

Sample No. 1. ASET70107 / 73287 / 1. AP15 N.
Approx dimensions 12.0 cm x 12.0 cm x 6.0 cm
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, shale, sandstone, bitumen, brick and glass.
No asbestos detected.
Approximate total weight of soil = 714.0g.

Sample No. 2. ASET70107 / 73287 / 2. AP15 S.
Approx dimensions 12.0 cm x 12.0 cm x 6.25 cm
The sample consisted of a mixture of sandy soil, stones, fragments of plaster, shale, sandstone, brick and glass.
No asbestos detected.
Approximate total weight of soil = 800.0g.

Sample No. 3. ASET70107 / 73287 / 3. AP15 E.
Approx dimensions 12.0 cm x 12.0 cm x 6.0 cm
The sample consisted of a mixture of sandy soil, stones, plant matter and fragments of plaster, cement, shale, sandstone, fibre cement*(ACM), corroded metal and brick.
Chrysotile* (Approximate estimated weight = 1.02g) asbestos detected.
Approximate total weight of soil = 767g.
Approximate estimated w/w % of asbestos in soil in the form of ACM = 0.133%

Sample No. 4. ASET70107 / 73287 / 4. AP15 W.
Approx dimensions 12.0 cm x 12.0 cm x 6.5 cm
The sample consisted of a mixture of soil, stones, plant matter, fragments of plaster, cement, corroded metal, shale, sandstone, brick and glass.
No asbestos detected.
Approximate total dry weight of soil = 670.0g.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service (NATA ISO/IEC17025 AUG 2014).

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.
FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.
λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.
Ω Sample volume criteria of 500mL have not been satisfied.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as

"No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001 % unless the actual approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD
ABN 36 088 095 112

Our ref: ASET70227 / 73407 / 1 - 6
Your ref: 1801089 - Matraville Remediation
NATA Accreditation No: 14484

20 December 2018

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

Accredited for compliance with ISO/IEC 17025.

Attn: Mr Ted Lilly

Dear Ted

Asbestos Identification
This report presents the results of six samples, forwarded by Geo-Logix Pty Ltd on 19 December 2018, for analysis for asbestos.

1.Introduction: Six samples forwarded were examined and analysed for the presence of asbestos.

2. Methods: The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF** (Asbestos Fines), **FA** (Friable Asbestos) and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines.

3. Results:

Sample No. 1. ASET70227 / 73407 / 1. 1801089-AP15E1.
Approx dimensions 12.0 cm x 12.0 cm x 6.7 cm
The sample consisted of a mixture of sandy soil, stones, fragments of brick, cement char, glass, bitumen and sandstone.
No asbestos detected.
Approximate total dry weight of soil = 763.0g

Sample No. 2. ASET70227 / 73407 / 2. 1801089-AP15N1.
Approx dimensions 12.0 cm x 12.0 cm x 6.5 cm
The sample consisted of a mixture of sandy soil, stones, fragments of brick, cement char, glass, bitumen, sandstone and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 543.0g

Sample No. 3. ASET70227 / 73407 / 3. 1801089-AP13N.
Approx dimensions 12.0 cm x 12.0 cm x 6.7 cm
The sample consisted of a mixture of sandy soil, stones, fragments of brick, cement char, glass, bitumen, sandstone and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 768.0g

Sample No. 4. ASET70227 / 73407 / 4. 1801089-AP13S.
Approx dimensions 12.0 cm x 12.0 cm x 6.72 cm
The sample consisted of a mixture of sandy soil, stones, fragments of brick, cement char, glass, bitumen, sandstone and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 775.0g

Sample No. 5. ASET70227 / 73407 / 5. 1801089-AP13E.
Approx dimensions 12.0 cm x 12.0 cm x 6.6 cm
The sample consisted of a mixture of sandy soil, stones, fragments of brick, cement char, glass, bitumen, sandstone and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 645.0g

Sample No. 6. ASET70227 / 73407 / 6. 1801089-AP13W.
Approx dimensions 12.0 cm x 12.0 cm x 6.8 cm
The sample consisted of a mixture of sandy soil, stones, fragments of brick, cement char, glass, bitumen, sandstone and plant matter.
No asbestos detected.
Approximate total dry weight of soil = 808.0g

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service (NATA ISO/IEC17025 AUG 2014).

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001 % unless the actual approximate weight is given.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD
ABN 36 088 095 112

Our ref: ASET72730/ 75910 /1- 10
Your ref: 1801089 - Matraville
NATA Accreditation No: 14484

15April 2019

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

Accredited for compliance with ISO/IEC 17025 - Testing.

Attn: Mr Ben Pearce

Dear Ben

Asbestos Identification
This report presents the results of ten samples, forwarded by Geo-Logix Pty Ltd on 11 April 2019, for analysis for asbestos.

1.Introduction: Ten samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF** (Asbestos Fines), **FA** (Friable Asbestos and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines)

3. Results:

Sample No. 1. ASET72730 / 75910 / 1. 1801089 - AS1/0.4.
Approx. dimensions 101.0 cm x 10.0 cm x 6.84 cm
Approximate total dry weight of soil = 684.0g
The sample consisted of a mixture of clayish sandy soil, corroded metal, sandstones, shale, synthetic mineral fibres, plant matter, fragments of brick and cement.
No asbestos detected.

Sample No. 2. ASET72730 / 75910 / 2. 1801089 - AS2/0.3.
Approx. dimensions 10.0 cm x 10.0 cm x 6.85 cm
Approximate total dry weight of soil = 685.0g
The sample consisted of a mixture of clayish sandy soil, sandstones, shale, plant matter, fragments of cement, plaster and wood chips.
No asbestos detected.

Sample No. 3. ASET72730 / 75910 / 3. 1801089 - AS3/0.8.
Approx. dimensions 10.0 cm x 10.0 cm x 5.1 cm
Approximate total dry weight of soil = 498.0g
The sample consisted of a mixture of clayish sandy soil, shale, sandstones, fragments of cement, glass, plaster and wood chips.
No asbestos detected.

Sample No. 4. ASET72730 / 75910 / 4. 1801089 - AS4/0.4.
Approx. dimensions 10.0 cm x 10.0 cm x 7.16 cm
Approximate total dry weight of soil = 716.0g
The sample consisted of a mixture of clayish sandy soil, shale, sandstones, plant matter, fragments of brick, cement and wood chips.
No asbestos detected.

Sample No. 5. ASET72730 / 75910 / 5. 1801089 - AS5/0.2.
Approx. dimensions 10.0 cm x 10.0 cm x 6.83 cm
Approximate total dry weight of soil = 683.0g
The sample consisted of a mixture of clayish sandy soil, sandstones, shale, plant matter, fragments of cement and wood chips.
No asbestos detected.

Sample No. 6. ASET72730 / 75910 / 6. 1801089 - AS6/1.0.
Approx. dimensions 10.0 cm x 10.0 cm x 9.01 cm
Approximate total dry weight of soil = 901.0g
The sample consisted of a mixture of clayish sandy soil, sandstones, shale, plant matter, fragments of brick, cement, plaster and wood chips.
No asbestos detected.

Sample No. 7. ASET72730 / 75910 / 7. 1801089 - AS7/1.0.
Approx. dimensions 10.0 cm x 10.0 cm x 6.08 cm
Approximate total dry weight of soil = 608.0g
The sample consisted of a mixture of clayish sandy soil, sandstones, shale, plant matter, fragments of cement, glass and wood chips.
No asbestos detected.

Sample No. 8. ASET72730 / 75910 / 8. 1801089 - AS8/2.0.
Approx. dimensions 10.0 cm x 10.0 cm x 6.74 cm
Approximate total dry weight of soil = 674.0g
The sample consisted of a mixture of clayish sandy soil, sandstones, shale, plant matter, fragments of cement, glass and wood chips.
No asbestos detected.

Sample No. 9. ASET72730 / 75910 / 9. 1801089 - AS9/2.0.
Approx. dimensions 10.0 cm x 10.0 cm x 7.08 cm
Approximate total dry weight of soil = 708.0g
The sample consisted of a mixture of clayish sandy soil, shale, sandstones, plant matter, fragments of brick and cement.
No asbestos detected.

Sample No. 10. ASET72730 / 75910 / 10. 1801089 - AS10/0.2.
Approx. dimensions 10.0 cm x 10.0 cm x 8.82 cm
Approximate total dry weight of soil = 882.0g
The sample consisted of a mixture of clayish sandy soil, sandstones, shale, plant matter, fragments of brick, cement and wood chips.
No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025 - Testing.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service.

Disclaimers;

The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages if given.

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.
*** denotes asbestos detected in ACM in bonded form.**
 # denotes friable asbestos as soft fibro plaster and/ or highly weathered ACM that will easily crumble.
λ denotes samples that have been analysed only in accordance to AS 4964 – 2004.
Ω Sample volume criteria of 500mL have not been satisfied.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

All samples indicating "No asbestos detected" are assumed to be less than 0.001 % unless the actual approximate weight is given.

ATTACHMENT D

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-01-AM
Date of Report: 24/11/2017
Date of Monitoring: 22/11/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/1	External, western boundary fence	1	08:00	15:50	1.95	1.95	0	100	<0.01
40-8057/2	External, northern boundary fence	1	08:01	15:51	1.95	1.95	0	100	<0.01
40-8057/3	External, eastern boundary fence, northern section	1	08:02	15:52	1.95	1.95	0	100	<0.01
40-8057/4	External, eastern boundary fence, southern section	1	08:03	15:53	1.95	1.95	0	100	<0.01
40-8057/5	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-02-AM
Date of Report: 24/11/2017
Date of Monitoring: 23/11/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/6	External, western boundary fence	5	07:31	15:15	1.95	1.95	0	100	<0.01
40-8057/7	External, northern boundary fence	5	07:32	15:16	1.95	1.95	0	100	<0.01
40-8057/8	External, eastern boundary fence, northern section	5	07:33	15:17	1.95	1.95	0	100	<0.01
40-8057/9	External, eastern boundary fence, southern section	5	07:34	15:16	1.95	1.95	0	100	<0.01
40-8057/10	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-03-AM
Date of Report: 28/11/2017
Date of Monitoring: 24/11/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/11	External, western boundary fence	1	07:30	16:00	0.95	0.95	0	100	<0.01
40-8057/12	External, northern boundary fence	1	07:31	16:01	0.95	0.95	0	100	<0.01
40-8057/13	External, eastern boundary fence, northern section	1	07:33	16:02	0.95	0.95	0	100	<0.01
40-8057/14	External, eastern boundary fence, southern section	1	07:34	16:03	0.95	0.95	0	100	<0.01
40-8057/15	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-04-AM
Date of Report: 28/11/2017
Date of Monitoring: 25/11/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/16	External, western boundary fence	1	08:00	13:00	1.95	1.95	0	100	<0.01
40-8057/17	External, northern boundary fence	1	08:01	13:01	1.95	1.95	1	100	<0.01
40-8057/18	External, eastern boundary fence, northern section	1	08:03	13:03	1.95	1.95	0	100	<0.01
40-8057/19	External, eastern boundary fence, southern section	1	08:04	13:04	1.95	1.95	0	100	<0.01
40-8057/20	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-05-AM
Date of Report: 28/11/2017
Date of Monitoring: 27/11/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/21	External, western boundary fence	1	07:00	14:00	0.95	0.95	0	100	<0.01
40-8057/22	External, northern boundary fence	1	07:01	14:01	0.95	0.95	0	100	<0.01
40-8057/23	External, eastern boundary fence, northern section	1	07:02	14:02	0.95	0.95	0	100	<0.01
40-8057/24	External, eastern boundary fence, southern section	1	07:03	14:03	0.95	0.95	1	100	<0.01
40-8057/25	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-06-AM
Date of Report: 29/11/2017
Date of Monitoring: 28/11/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/26	External, western boundary fence	1	07:00	15:00	0.95	0.95	0	100	<0.01
40-8057/27	External, northern boundary fence	1	07:01	15:01	0.95	0.95	0	100	<0.01
40-8057/28	External, eastern boundary fence, northern section	1	07:02	15:02	0.95	0.95	0	100	<0.01
40-8057/29	External, eastern boundary fence, southern section	1	07:03	15:03	0.95	0.95	0	100	<0.01
40-8057/30	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-07-AM
Date of Report: 1/12/2017
Date of Monitoring: 29/11/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/31	External, western boundary fence	1	07:00	15:00	0.95	0.95	0	100	<0.01
40-8057/32	External, northern boundary fence	1	07:01	15:01	0.95	0.95	0	100	<0.01
40-8057/33	External, eastern boundary fence, northern section	1	07:02	15:02	0.95	0.95	0	100	<0.01
40-8057/34	External, eastern boundary fence, southern section	1	07:03	15:03	0.95	0.95	0	100	<0.01
40-8057/35	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-08-AM
Date of Report: 3/12/2017
Date of Monitoring: 30/11/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/36	External, western boundary fence	1	07:00	15:00	0.95	0.95	0	100	<0.01
40-8057/37	External, northern boundary fence	1	07:01	15:01	0.95	0.95	0	100	<0.01
40-8057/38	External, eastern boundary fence, northern section	1	07:02	15:02	0.95	0.95	1	100	<0.01
40-8057/39	External, eastern boundary fence, southern section	1	07:03	15:03	0.95	0.95	0	100	<0.01
40-8057/40	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-09-AM
Date of Report: 5/12/2017
Date of Monitoring: 1/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/41	External, western boundary fence	1	07:00	13:31	0.95	0.95	0	100	<0.01
40-8057/42	External, northern boundary fence	1	07:01	13:32	0.95	0.95	0	100	<0.01
40-8057/43	External, eastern boundary fence, northern section	1	07:02	13:33	0.95	0.95	0	100	<0.01
40-8057/44	External, eastern boundary fence, southern section	1	07:04	13:34	0.95	0.95	0	100	<0.01
40-8057/45	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-10-AM
Date of Report: 5/12/2017
Date of Monitoring: 4/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/46	External, western boundary fence	1	07:00	15:00	0.95	0.95	1	100	<0.01
40-8057/47	External, northern boundary fence	1	07:01	15:01	0.95	0.95	0	100	<0.01
40-8057/48	External, eastern boundary fence, northern section	1	07:02	15:02	0.95	0.95	0	100	<0.01
40-8057/49	External, eastern boundary fence, southern section	1	07:03	15:03	0.95	0.95	0	100	<0.01
40-8057/50	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-11-AM
Date of Report: 7/12/2017
Date of Monitoring: 5/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/51	External, western boundary fence	1	07:00	15:00	1.95	1.95	0	100	<0.01
40-8057/52	External, northern boundary fence	1	07:01	15:01	1.95	1.95	0	100	<0.01
40-8057/53	External, eastern boundary fence, northern section	1	07:02	15:02	1.95	1.95	0	100	<0.01
40-8057/54	External, eastern boundary fence, southern section	1	07:03	15:03	1.95	1.95	0	100	<0.01
40-8057/55	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-12-AM
Date of Report: 7/12/2017
Date of Monitoring: 6/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/56	External, western boundary fence	1	07:00	15:00	1.95	1.95	1	100	<0.01
40-8057/57	External, northern boundary fence	1	07:01	15:01	1.95	1.95	0	100	<0.01
40-8057/58	External, eastern boundary fence, northern section	1	07:02	15:02	1.95	1.95	0	100	<0.01
40-8057/59	External, eastern boundary fence, southern section	1	07:03	15:03	1.95	1.95	0	100	<0.01
40-8057/60	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-13-AM
Date of Report: 8/12/2017
Date of Monitoring: 7/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/61	External, western boundary fence	1	07:00	15:00	1.95	1.95	0	100	<0.01
40-8057/62	External, northern boundary fence	1	07:01	15:01	1.95	1.95	0	100	<0.01
40-8057/63	External, eastern boundary fence, northern section	1	07:02	15:02	1.95	1.95	0	100	<0.01
40-8057/64	External, eastern boundary fence, southern section	1	07:03	15:03	1.95	1.95	0	100	<0.01
40-8057/65	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-14-AM
Date of Report: 12/12/2017
Date of Monitoring: 8/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/66	External, western boundary fence	1	07:00	15:00	1.95	1.95	0	100	<0.01
40-8057/67	External, northern boundary fence	1	07:01	15:01	1.95	1.95	0	100	<0.01
40-8057/68	External, eastern boundary fence, northern section	1	07:02	15:02	1.95	1.95	0	100	<0.01
40-8057/69	External, eastern boundary fence, southern section	1	07:03	15:03	1.95	1.95	0	100	<0.01
40-8057/70	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-15-AM
Date of Report: 14/12/2017
Date of Monitoring: 11/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample 74: Tampered .

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/71	External, western boundary fence	1	07:00	15:00	1.95	1.95	1	100	<0.01
40-8057/72	External, northern boundary fence	1	07:01	15:01	1.95	1.95	0	100	<0.01
40-8057/73	External, eastern boundary fence, northern section	1	07:02	15:02	1.95	1.95	0	100	<0.01
40-8057/74	External, eastern boundary fence, southern section	1	07:03	15:03	1.95	1.95	0	100	Reject
40-8057/75	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-16-AM
Date of Report: 14/12/2017
Date of Monitoring: 12/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/76	External, western boundary fence	1	07:00	15:00	1.95	1.95	0	100	<0.01
40-8057/77	External, northern boundary fence	1	07:01	15:01	1.95	1.95	1	100	<0.01
40-8057/78	External, eastern boundary fence, northern section	1	07:02	15:02	1.95	1.95	0	100	<0.01
40-8057/79	External, eastern boundary fence, southern section	1	07:03	15:03	1.95	1.95	0	100	<0.01
40-8057/80	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-17-AM
Date of Report: 14/12/2017
Date of Monitoring: 13/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/81	External, western boundary fence	1	07:00	15:00	1.95	1.95	0	100	<0.01
40-8057/82	External, northern boundary fence	1	07:01	15:01	1.95	1.95	0	100	<0.01
40-8057/83	External, eastern boundary fence, northern section	1	07:02	15:02	1.95	1.95	1	100	<0.01
40-8057/84	External, eastern boundary fence, southern section	1	07:03	15:03	1.95	1.95	1	100	<0.01
40-8057/85	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-18-AM
Date of Report: 15/12/2017
Date of Monitoring: 14/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/86	External, western boundary fence	1	07:00	15:06	1.95	1.95	0	100	<0.01
40-8057/87	External, northern boundary fence	1	07:01	14:50	1.95	1.95	0	100	<0.01
40-8057/88	External, eastern boundary fence, northern section	1	07:02	14:44	1.95	1.95	1	100	<0.01
40-8057/89	External, eastern boundary fence, southern section	1	07:03	14:59	1.95	1.95	0	100	<0.01
40-8057/90	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-19-AM
Date of Report: 18/12/2017
Date of Monitoring: 15/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Luke Hardiman
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/91	External, western boundary fence	1	07:01	14:26	1.98	1.98	1	100	<0.01
40-8057/92	External, northern boundary fence	1	06:56	14:30	1.98	1.98	0	100	<0.01
40-8057/93	External, eastern boundary fence, northern section	1	06:57	14:37	1.98	1.98	1	100	<0.01
40-8057/94	External, eastern boundary fence, southern section	1	06:59	14:40	1.98	1.98	0	100	<0.01
40-8057/95	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-20-AM
Date of Report: 19/12/2017
Date of Monitoring: 18/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Thomas Sinclair
Approved Counter: Shane Banics
Approved Signatory: Ryan Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/96	External, central western boundary fence	1	07:00	14:30	1.98	1.98	0	100	<0.01
40-8057/97	External, northern boundary fence	1	07:01	14:31	1.98	1.98	1	100	<0.01
40-8057/98	External, eastern boundary fence, northern section	1	07:02	14:32	1.98	1.98	0	100	<0.01
40-8057/99	External, eastern boundary fence, southern section	1	07:03	14:33	1.98	1.98	0	100	<0.01
40-8057/100	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-21-AM
Date of Report: 20/12/2017
Date of Monitoring: 19/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Luke Hardiman
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/101	External, central western boundary fence	1	06:57	15:00	1.98	1.98	0	100	<0.01
40-8057/102	External, northern boundary fence	1	07:01	15:01	1.98	1.98	0	100	<0.01
40-8057/103	External, eastern boundary fence, northern section	1	07:00	15:02	1.98	1.98	0	100	<0.01
40-8057/104	External, eastern boundary fence, southern section	1	07:00	15:03	1.98	1.98	1	100	<0.01
40-8057/105	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-22-AM
Date of Report: 21/12/2017
Date of Monitoring: 20/12/2017
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Gonzalo Serna
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/106	External, central western boundary fence	1	07:00	14:22	2.02	2.02	0	100	<0.01
40-8057/107	External, northern boundary fence	1	07:01	14:24	2.02	2.02	0	100	<0.01
40-8057/108	External, eastern boundary fence, northern section	1	07:02	14:27	2.02	2.02	0	100	<0.01
40-8057/109	External, eastern boundary fence, southern section	1	07:03	14:28	2.02	2.02	0	100	<0.01
40-8057/110	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-23-AM
Date of Report: 14/2/2018
Date of Monitoring: 13/2/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Gonzalo Serna
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/111	External, western boundary fence	1	07:30	15:30	2.05	2.05	0	100	<0.01
40-8057/112	External, north western boundary fence	1	07:31	15:31	2.05	2.05	1	100	<0.01
40-8057/113	External, north eastern boundary fence	1	07:32	15:32	2.05	2.05	1	100	<0.01
40-8057/114	External, eastern boundary fence	1	07:33	15:33	2.05	2.05	0	100	<0.01
40-8057/115	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-24-AM
Date of Report: 15/2/2018
Date of Monitoring: 14/2/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Gonzalo Serna
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/116	External, western boundary fence	1	07:00	14:35	2.05	2.05	1	100	<0.01
40-8057/117	External, north western boundary fence	1	07:01	14:36	2.05	2.05	1	100	<0.01
40-8057/118	External, north eastern boundary fence	1	07:02	14:37	2.05	2.05	0	100	<0.01
40-8057/119	External, eastern boundary fence	1	07:03	14:38	2.05	2.05	0	100	<0.01
40-8057/120	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-25-AM
Date of Report: 19/2/2018
Date of Monitoring: 15/2/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Thomas Sinclair
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/121	External, western boundary fence	1	07:00	15:00	2.05	2.05	0	100	<0.01
40-8057/122	External, north western boundary fence	1	07:01	15:01	2.05	2.05	0	100	<0.01
40-8057/123	External, north eastern boundary fence	1	07:02	15:02	2.05	2.05	0	100	<0.01
40-8057/124	External, eastern boundary fence	1	07:03	15:03	2.05	2.05	0	100	<0.01
40-8057/125	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-26-AM
Date of Report: 19/2/2018
Date of Monitoring: 16/2/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Thomas Sinclair
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/126	External, western boundary fence	1	07:00	14:35	2.05	2.05	0	100	<0.01
40-8057/127	External, north western boundary fence	1	07:01	14:36	2.05	2.05	1	100	<0.01
40-8057/128	External, north eastern boundary fence	1	07:02	14:37	2.05	2.05	0	100	<0.01
40-8057/129	External, eastern boundary fence	1	07:03	14:38	2.05	2.05	0	100	<0.01
40-8057/130	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-27-AM
Date of Report: 20/2/2018
Date of Monitoring: 19/2/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Thomas Sinclair
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample 131: Pump Fail.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/131	External, western boundary fence	1	07:00	14:45	2.05	0.00	0	100	Reject
40-8057/132	External, north western boundary fence	1	07:01	14:46	2.05	2.05	0	100	<0.01
40-8057/133	External, north eastern boundary fence	1	07:02	14:47	2.05	2.05	0	100	<0.01
40-8057/134	External, eastern boundary fence	1	07:03	14:48	2.05	2.05	0	100	<0.01
40-8057/135	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-28-AM
Date of Report: 22/2/2018
Date of Monitoring: 20/2/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Thomas Sinclair
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/136	External, western boundary fence	1	07:00	14:30	2.05	2.05	0	100	<0.01
40-8057/137	External, north western boundary fence	1	07:01	14:31	2.05	2.05	1	100	<0.01
40-8057/138	External, north eastern boundary fence	1	07:02	14:32	2.05	2.05	0	100	<0.01
40-8057/139	External, eastern boundary fence	1	07:03	14:33	2.05	2.05	0	100	<0.01
40-8057/140	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-29-AM
Date of Report: 22/2/2018
Date of Monitoring: 21/2/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Thomas Sinclair
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/141	External, western boundary fence	1	07:00	14:30	1.98	1.98	0	100	<0.01
40-8057/142	External, north western boundary fence	1	07:01	14:31	1.98	1.98	1	100	<0.01
40-8057/143	External, north eastern boundary fence	1	07:02	14:32	1.98	1.98	0	100	<0.01
40-8057/144	External, eastern boundary fence	1	07:03	14:33	1.98	1.98	1	100	<0.01
40-8057/145	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-30-AM
Date of Report: 23/2/2018
Date of Monitoring: 22/2/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Thomas Sinclair
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/146	External, western boundary fence	1	07:00	14:30	1.98	1.98	0	100	<0.01
40-8057/147	External, north western boundary fence	1	07:01	14:31	1.98	1.98	1	100	<0.01
40-8057/148	External, north eastern boundary fence	1	07:02	14:32	1.98	1.98	1	100	<0.01
40-8057/149	External, eastern boundary fence	1	07:03	14:33	1.98	1.98	0	100	<0.01
40-8057/150	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-31-AM
Date of Report: 26/2/2018
Date of Monitoring: 23/2/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Thomas Sinclair
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/151	External, western boundary fence	1	07:00	14:30	1.98	1.98	0	100	<0.01
40-8057/152	External, north western boundary fence	1	07:01	14:31	1.98	1.98	0	100	<0.01
40-8057/153	External, north eastern boundary fence	1	07:02	14:32	1.98	1.98	0	100	<0.01
40-8057/154	External, eastern boundary fence	1	07:03	14:33	1.98	1.98	0	100	<0.01
40-8057/155	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-32-AM
Date of Report: 27/2/2018
Date of Monitoring: 26/2/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Thomas Sinclair
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/156	External, western boundary fence	1	07:00	14:30	1.98	1.98	0	100	<0.01
40-8057/157	External, north western boundary fence	1	07:01	14:31	1.98	1.98	0	100	<0.01
40-8057/158	External, north eastern boundary fence	1	07:02	14:32	1.98	1.98	1	100	<0.01
40-8057/159	External, eastern boundary fence	1	07:03	14:33	1.98	1.98	0	100	<0.01
40-8057/160	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-33-AM
Date of Report: 1/3/2018
Date of Monitoring: 27/2/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/161	External, western boundary fence	1	07:00	14:30	1.95	1.95	1	100	<0.01
40-8057/162	External, north western boundary fence	1	07:01	14:31	1.95	1.95	1	100	<0.01
40-8057/163	External, north eastern boundary fence	1	07:02	14:32	1.95	1.95	0	100	<0.01
40-8057/164	External, eastern boundary fence	1	07:03	14:33	1.95	1.95	1	100	<0.01
40-8057/165	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-34-AM
Date of Report: 9/4/2018
Date of Monitoring: 5/4/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Environmental Projects Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Nick Vlasoff
Approved Counter: Shane Banics
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/166	External, western boundary fence	1	07:00	15:00	1.95	1.95	0	100	<0.01
40-8057/167	External, western section to north boundary fence	1	07:01	15:01	1.95	1.95	0	100	<0.01
40-8057/168	External, eastern section to north boundary fence	1	07:02	15:02	1.95	1.95	1	100	<0.01
40-8057/169	External, eastern boundary fence	1	07:03	15:03	1.95	1.95	0	100	<0.01
40-8057/170	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-35-AM
Date of Report: 17/8/2018
Date of Monitoring: 16/8/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Projects Group Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Steven Gomes
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/171	External, western boundary fence	1	07:11	15:00	2.03	2.03	0	100	<0.01
40-8057/172	External, northern boundary fence	1	07:13	15:01	2.03	2.03	1	100	<0.01
40-8057/173	External, northern section to eastern boundary fence	1	07:15	15:02	2.03	2.03	0	100	<0.01
40-8057/174	External, southern section to eastern boundary fence	1	07:17	15:03	2.03	2.03	0	100	<0.01
40-8057/175	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-36-AM
Date of Report: 15/11/2018
Date of Monitoring: 13/11/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Projects Group Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Daniel Fortunato
Approved Counter: Nathan Crouch
Approved Signatory: Michael Fernandez

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/176	External, western boundary fence	1	09:05	14:00	2.00	2.00	0	100	<0.01
40-8057/177	External, northern boundary fence	1	09:08	14:02	2.00	2.00	0	100	<0.01
40-8057/178	External, northern section to eastern boundary fence	1	09:10	14:04	2.00	2.00	1	100	<0.01
40-8057/179	External, southern section to eastern boundary fence	1	09:15	14:06	2.00	2.00	0	100	<0.01
40-8057/180	Field blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-37-AM
Date of Report: 15/11/2018
Date of Monitoring: 14/11/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Projects Group Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Gonzalo Serna
Approved Counter: Nathan Crouch
Approved Signatory: Michael Fernandez

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/181	Western boundary fence	1	07:10	14:24	0.98	0.98	0	100	<0.01
40-8057/182	Southern boundary fence	1	07:11	14:25	0.98	0.98	1	100	<0.01
40-8057/183	Eastern boundary fence	1	07:12	14:26	0.98	0.98	1	100	<0.01
40-8057/184	Northern road boundary rope poll	1	07:13	14:27	0.98	0.98	0	100	<0.01
40-8057/185	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-38-AM
Date of Report: 16/11/2018
Date of Monitoring: 15/11/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Projects Group Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Harrison Blake
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/186	Western boundary fence	1	06:55	14:00	0.98	0.98	0	100	<0.01
40-8057/187	Southern boundary fence	1	06:57	14:01	0.98	0.98	1	100	<0.01
40-8057/188	Eastern boundary fence	1	06:59	14:02	0.98	0.98	1	100	<0.01
40-8057/189	Northern road boundary rope poll	1	07:01	14:03	0.98	0.98	0	100	<0.01
40-8057/190	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-39-AM
Date of Report: 21/11/2018
Date of Monitoring: 19/11/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Projects Group Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Steven Gomes
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/191	Northern section attached to picket	1	07:33	14:31	2.03	2.03	0	100	<0.01
40-8057/192	Western boundary fence	1	07:35	14:33	2.03	2.03	1	100	<0.01
40-8057/193	Southern boundary fence	1	07:37	14:37	2.03	2.03	1	100	<0.01
40-8057/194	Eastern boundary fence	1	07:39	14:39	2.03	2.03	0	100	<0.01
40-8057/195	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-40-AM
Date of Report: 21/11/2018
Date of Monitoring: 20/11/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Projects Group Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Steven Gomes
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/196	Northern section attached to picket	1	07:09	12:47	2.03	2.03	0	100	<0.01
40-8057/197	Western boundary fence	1	07:11	12:49	2.03	2.03	2	100	<0.01
40-8057/198	Southern boundary fence	1	07:13	12:51	2.03	2.03	1	100	<0.01
40-8057/199	Eastern boundary fence	1	07:15	12:53	2.03	2.03	0	100	<0.01
40-8057/200	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.

Air Monitoring Certificate

Clearsafe Environmental Solutions Pty Ltd
1/185 Berkeley Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 40-8057-41-AM
Date of Report: 22/11/2018
Date of Monitoring: 21/11/2018
Site Address: 1901 Botany Rd
Matraville NSW 2036
Client Name: Macquarie Projects Group Pty Ltd
Client Address: Level 5, 4 Columbia Court, Norwest Business Park
Baulkham Hills NSW 2153

Client Contact: Chris O'Gorman
Sampled By: Steven Gomes
Approved Counter: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Airborne fibre monitoring in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)] and Clearsafe method SOP.AM.01.

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

Sample Number	Location	Code*	Time On	Time Off	Airflow On	Airflow Off	Fibres	Fields	Conc.**
40-8057/201	Northern section attached to picket	1	07:01	14:41	2.03	2.03	0	100	<0.01
40-8057/202	Western boundary fence	1	07:03	14:43	2.03	2.03	1	100	<0.01
40-8057/203	Southern boundary fence	1	07:05	14:45	2.03	2.03	0	100	<0.01
40-8057/204	Eastern boundary fence	1	07:07	14:47	2.03	2.03	1	100	<0.01
40-8057/205	Field Blank	6					0	100	N/A

**** Concentration in Fibres/mL of air**

*** Sample Codes:**

1 - Asbestos removal
2 - Bag-out
3 - Enclosure dismantling
4 - Clearance
5 - Background
6 - Blank Sample
7 - Fibre Count Only
8 - Personal monitoring

NATA Accredited Laboratory No. 18542

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.