

Site Remediation and Validation Report

209-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.006_ESR_Kemps Creek_SRVR_v1 | 28 August 2024

Site Remediation and Validation Report

Westlink Stage 1 – 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek, NSW, 2178

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28 August 2024

Our Ref: EP3244.006_v1

LIMITATIONS

This Site Remediation and Validation Report was conducted on the behalf of ESR Australia Pty Ltd (ESR) for the purpose/s stated in **Section 1**.

EP Risk Management Pty Ltd (EP Risk) has prepared this document in good faith, but is unable to provide certification outside of areas over which EP Risk had some control or were reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Site Remediation and Validation Report to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

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This report has been reviewed and approved by Kellie Guenther, a CEnvP SC, of EP Risk Management Pty Ltd.



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QUALITY CONTROL

Version	Author	Date	Technical Review	Date	Quality Review	Date
v1	J. Shao	28.08.2024	K. Guenther	28.08.2024	A. Thomson	28.08.2024

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*28.08.2024*	*EP3244.006_ESR_Kemps Creek SRVR_v1*	*ESR Australia Pty Ltd*

Executive Summary

ESR Australia Pty Ltd (ESR) engaged EP Risk Management Pty Ltd (EP Risk), as the Validation Consultant, to prepare a Site Remediation and Validation Report (SRVR) (the Report) following the assessment, treatment and validation of remedial works at the Westlink Stage 1 Project (the Project) located at 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek, NSW, 2178 (the Site).

Twenty (20) areas of environmental concern (AECs) were identified within the Remediation Action Plan (RAP) prepared for the Site by Alliance (2023). Contamination risks or contaminants of potential concern (CoPC) relevant to the Site included: asbestos, septic tank systems (petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAH), metals, pathogens) and aesthetics (concrete stockpiles, tyre, bricks and demolition waste).

Prior to remediation works commencing, EP Risk was engaged by ESR to prepare an Addendum to the RAP (EP Risk 2023a), to provide additional clarity to the assessment, treatment and validation of remedial works.

Remediation and validation works were completed in two (2) phases:

- Phase 1 of the Remediation Project - was undertaken between 10 July 2023 and 25 September 2023 by Class A Licensed Asbestos Remediation Contractor (LARC), TCE Contracting Pty Ltd (TCE) as engaged by JK Williams Pty Ltd (JKW) with asbestos hygiene and validation works undertaken by EP Risk. EP Risk was engaged by ESR from 10 July 2023 to 04 September 2023, and later engaged by TCE from 19 September 2023 to 25 September 2023.
- Phase 2 of the Remediation Project - was undertaken 28 September 2023 and 03 November 2023, by Class A LARC Omega Hazmat Pty Ltd (Omega) and Penny Green Pty Ltd (Penny Green), as engaged by Ground King Civil Pty Ltd (GKC) with asbestos hygiene works undertaken by Foundation Earth Sciences Pty Ltd (FES).

Onsite remediation works over the two Phases from the AECs and Unexpected Finds (UFs) generally included a combination of removal via excavation and temporary stockpiling. Followed by treatment where feasible and then placement within either the Asbestos Placement Areas when or placement within the Containment Cell in accordance with the Addendum (EP Risk 2023a), with only some asbestos containing materials being disposed offsite (fragments, pipes and asbestos impacted tyres).

Based on the findings of the visual clearance inspections, field observations, analytical results and subject to the limitations within this SRVR, EP Risk consider the remediation works described in the RAP (Alliance 2023) and Addendum (EP Risk 2023a) successfully implemented within the Site boundary. It should be noted an approximate volume of 225 m^3 O2 and B3 materials from 40SEP02, AEC22_SEP01 and AEC22_SEP02 were consolidated and moved for stockpiling onto the adjacent Westlink Stage 2 project, which falls within the same State Significant Development (SSD) Approval **(Figure 12)**. An Addendum should be issued to this SRVR to address the completion of the above works in accordance with the RAP (Alliance 2023) and Addendum (EP Risk 2023a), however the footprint of the Site is considered appropriately remediated and validated.

Further site management strategy is required as ABSINS remains in-situ within the Containment Cell and Asbestos Placement Areas. In the event an unexpected ACM is uncovered, through proposed future development or maintenance works, outside of the Containment Cell or Placement Areas, this should be managed in accordance with the AMP.

Overall, subject to the implementation of the AMP (EP Risk 2024b) and LTEMP (EP Risk 2024c), the Site (Lot 111, 112 and 113 and DP 1296469) is considered suitable for the proposed commercial / industrial land use.

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1 Introduction

ESR Australia Pty Ltd (ESR) engaged EP Risk Management Pty Ltd (EP Risk), as the Validation Consultant, to prepare a Site Remediation and Validation Report (SRVR) (the Report) following the assessment, treatment and validation of remedial works at the Westlink Stage 1 Project (the Project) located at 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek, NSW, 2178 (the Site).

The Site covers an area of approximately 32 hectares (Ha) and is currently legally described as Lots 111, 112 and 113 in Deposited Plan (DP) 1296469. The Site is currently zoned as IN1: General Industrial under the State Environmental Planning Policy (Industry and Employment) 2021 (currency 04.03.2024).

The location and layout of the Site mapped against an aerial photograph taken prior to remediation works (03.02.2023) has been provided in **Figure 1**. The Site's existing lot boundaries, mapped against an aerial photograph taken prior to remediation works have been presented in **Figure 2.**

The Site has been identified as a State Significant Development (SSD), SSD-9138102 (**Appendix J**). A Conditions of Consent (SSD-9138102) is relevant to the Site and adjacent Lots under the Westlink Stage 2 Project (Lots 111, 112, 113, 114 and 115 in DP 1296469 and Lot 10 in DP1296455, Mamre Road / Abbotts Road intersection, Abbotts Road and Aldington Road). This SRVR addresses the following conditions within the Conditions of Consent (SSD-9138102) (**Appendix J**):

- **B67 Remedial Works:** The Applicant must remediate the site in accordance with the Remedial Action Plan approved under Condition B66 and relevant guidelines produced or approved under the Contaminated Land Management Act 1997. Remediation works must be undertaken by a suitably qualified and experienced consultant(s) and must be completed prior to the commencement of earthworks.
- **B68 Validation Report:** Within one month of completion of the remediation works for the development, the Applicant must submit a Remediation Validation Report (RVR) to the satisfaction of the Planning Secretary which has been prepared, or reviewed and approved, by a consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme. The validation report shall demonstrate that:
    a) the site is suitable for its intended industrial land use, or
    b) the site is suitable for its intended industrial land use with the implementation of an environmental management plan or long term environmental management plan.
- **B69 Asbestos:** The Applicant must ensure that any asbestos encountered during the remediation works for the development is monitored, handled, transported and disposed of by appropriately qualified and licensed contractors in accordance with the requirements of SafeWork NSW and relevant guidelines, including:
    a) Work Health and Safety Regulation 2017;
    b) SafeWork NSW Code of Practice – How to Manage and Control Asbestos in the Workplace September 2016;
    c) SafeWork NSW Code of Practice – How to Safely Remove Asbestos September 2016; and
    d) Protection of the Environment Operations (Waste) Regulation 2014.

The SRVR covers remediation and validation works undertaken at the Site, completed in two (2) phases:

- Phase 1 of the Remediation Project - was undertaken between 10 July 2023 and 25 September 2023 by Class A Licensed Asbestos Remediation Contractor (LARC), TCE Contracting Pty Ltd (TCE) as engaged by JK Williams Pty Ltd (JKW), with asbestos hygiene and validation works undertaken by EP Risk. EP Risk was engaged by ESR from 10 July 2023 to 04 September 2023, and later engaged by TCE from 19 September 2023 to 25 September 2023.
- Phase 2 of the Remediation Project - was undertaken 28 September 2023 and 03 November 2023, by Class A LARC Omega Hazmat Pty Ltd (Omega) and Penny Green Pty Ltd (Penny Green), as engaged by Ground King Civil Pty Ltd (GKC) with asbestos hygiene works undertaken by Foundation Earth Sciences Pty Ltd (FES).

Works completed outside of this time frame should be covered within an Addendum to this Report.

It should be noted, two (2) Interim Validation Letters were previously issued by EP Risk (EP Risk 2023[1] and EP Risk 2024[2]). This SRVR supersedes both Interim Validation Letters, and covers all works undertaken during Phase 1 and Phase 2 of the Remediation Project.

The location and layout of the Site mapped against an aerial photograph taken subsequent to remediation works (12.03.2024) has been provided in **Figure 3**. The Development Plan for the Site, including new lot boundaries, mapped against an aerial photograph taken subsequent to remediation works has been presented in **Figure 4.**

1.1 Site Identification

Site identification details are presented in **Table 1.**

Table 1 – Site Identification

Item	Description
Address	Westlink Stage 1 – 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek, NSW, 2178
Current Legal Description	Lot 111, 112 and 113 in DP 1296469 (**Figure 2**)
New Legal Description	As per Development Plan (**Figure 4)**, the Lot boundaries will be revised to include Lot 1, Lot 3, Lot 4, Lot 5, OSD Basin, Trunk Drainage Swale, Private Access Road and Abbotts Road Extension.
Area	32 Ha
Municipality	Penrith City Council
Current Land Zoning	IN1: General Industrial
Future Land Zoning	

[1] EP Risk (2023), Interim Validation Letter LTR01 – Lot 1 and Future Lot, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.005_v1, dated 12 September 2023.

[2] EP Risk (2024), Interim Validation Letter LTR02 – Lot 1, Lot 3 and Part Roads, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.005_v2, dated 27 May 2024.

1.1 Objective

The objective of the Report was to validate that the remediation works were completed in accordance with the RAP (Alliance 2023)[3] and the Addendum (EP Risk 2023a)[4], the State Environmental Planning Policy (Resilience and Hazards) 2021 and relevant industry standards and guidance to facilitate development under an ongoing proposed commercial / industrial use. As per the Conditions of Consent, a final SRVR for the Site needs to be reviewed and approved by Certified Environmental Practitioner – Site Contamination (CEnvP-SC) (**Appendix J**).

It should be noted this SRVR covers remediation and validation works undertaken at the Site between 10 July 2023 – 04 September 2023 (Phase 1) and 28 September – 03 November 2023 (Phase 2) only. Any works completed outside of this time frame should be covered within an Addendum to this Report.

1.2 Background

Proposed Development

It is understood the Site will be developed into a commercial warehouse precinct featuring seven (7) large-scale warehouses, ground level parking and associated infrastructure including on-site stormwater detention basins and arterial roadways. The Site will involve limited landscaping and open space areas.

Previous Environmental Investigations

A number of environmental investigations were undertaken to assess the contamination risk of the Site at the environmental due diligence (EDD) stage across the Site:

- Douglas Partners (DP) (2019), Preliminary Environmental Site Investigation with Limited Intrusive Investigation, *Proposed Commercial / Industrial Subdivision 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek, NSW*, ref: 92352.00, dated August 2019.
- Alliance (2019), Stage 1 Preliminary Site Investigation (with Limited Sampling), *290-308 Aldington Road, Kemps Creek, NSW* Lot 13 in DP253503, ref: 9687-ER-1-1, dated 18 October 2019.
- Alliance (2021), Hazardous Building Materials (HAZMAT) Report, *290 – 308 Aldington Road, 59 – 63 Abbotts Road, Kemps Creek, NSW*, ref: 13546-ER-1-1 Rev 1, no date.
- Alliance (2021a), Detailed Site Investigation, Dam Water & Sediment Assessment, *290-308 Aldington Road and 59-63 Abbotts Road Kemps Creek NSW*, ref: 13546-ER-2-1, dated 01 December 2021.
- Alliance (2023a), Supplementary Contamination Assessment Report*, 290-308 Aldington Road and 59-63 Abbotts Road Kemps Creek NSW*, ref: 13546-ER-2-2, dated 20 April 2023.
- Alliance (2023b), Supplementary Contamination Assessment Report No. 2, *290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-4, dated 06 June 2023.

[3] Alliance (2023), Remediation Action Plan (RAP), *Proposed Commercial / Industrial Subdivision 290 – 308 Aldington Road and 59-63 Abbotts Road, Kemps Creek, NSW,* ref: 13546-ER-2-2_Rev2[3], dated 21 June 2023.

[4] EP Risk (2023a), Remediation Action Plan (RAP) Addendum, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.004_v1, dated 12 September 2023.

Characterisation of Contamination

Based on the findings of the contamination assessments, twenty (20) areas of environmental concern (AECs) were identified within the Remediation Action Plan (RAP) prepared for the Site by Alliance (2023). Contamination risks or contaminants of potential concern (CoPC) relevant to the Site included:

- Asbestos:
    - Bonded (non-friable) asbestos in surface soils ≤0.1 m below surface (mBS);
    - Bonded (non-friable) asbestos in fill soils >0.1 mBS;
    - Friable asbestos as asbestos fines (AF) or fibrous asbestos (FA) in surface and/or fill soils;
    - Visible asbestos in surface soils; and
    - Bonded (non-friable) asbestos-containing material (ACM).
- Septic tank systems (petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAH), metals, pathogens); and
- Aesthetics (concrete stockpiles, bricks, tyre and demolition waste).

The location and layout of the various remediation work areas examined by this Report has been provided within the following Figures:

- **Figure 5** – Site Layout and Asbestos AECs
- **Figure 6** – Site Layout and Concrete Stockpiles
- **Figure 7** – Site Layout and Septic Tanks/Pits
- **Figure 8** – Site Layout and Unexpected Finds (UFs)
- **Figure 9** – Site Layout and Stockpiling and Treatment Pads
- **Figure 10** – Asbestos Placement Areas
- **Figure 11** – Containment Cell
- **Figure 12** – Location of O2 and B3 material

The most recent RAP prepared by Alliance (2023) outlined the remediation process to render the Site suitable for proposed industrial development. According to the RAP, the preferred remedial strategy for the Site involved the:

- Excavation and off-site disposal of friable asbestos in soils (ASBINS) (AF and FA);
- Treatment of bonded (non-friable) ASBINS via mechanical raking and emu-picking;
- Emu-picking of surficial bonded (non-friable) ACM;
- Removal of septic tank systems; and
- Removal of concrete stockpiles, bricks and demolition waste.

Prior to remediation works commencing, EP Risk was engaged by ESR to prepare an Addendum to the RAP (EP Risk 2023a), comprised of a high-level review of the remedial strategy for AEC19a and to provide additional clarity to the assessment, treatment and validation of remedial works.

As part of the Addendum (EP Risk 2023a), EP Risk developed a remediation hierarchy for the Site, comprised of three (3) categories of contamination and three (3) levels of suitability based on exceedances to the adopted relevant criteria.

The three (3) categories of contamination for the Site are:

- Bonded (non-friable) asbestos, denoted as B;
- Friable asbestos (AF/FA) denoted as F;
- Other impacted, denoted as O;

Material was assigned a level of suitability as below:

- 1 = Suitable (no detections).
- 2 = Below health screening level (HSL) / relevant guideline. Suitable subject to conditions.
- 3 = Above HSL / relevant guideline. Not suitable.

The remediation hierarchy for the Site has been presented below in **Table 2.**

Table 2 - Remediation Hierarchy[5]

Category	B	F	O
	Bonded (Non-Friable) Asbestos	Friable Asbestos (AF/FA)	Other Impacted
1	B1: Suitable (No asbestos detected)	F1: Suitable (No asbestos detected)	O1: Suitable
2	B2: <0.05% HSL (Bonded (non-friable) asbestos detected below HSL) Suitable to remain on-site subject to placement >0.1 m below finished ground level and in areas where no services will be installed. Location of this material must be tracked, and a survey must be undertaken to confirm placement at depth.	F2: <0.001% HSL (Friable asbestos detected below HSL) Suitable to remain on-site subject to placement >0.1 m below finished ground level and in areas where no services will be installed. Location of this material must be tracked, and a survey must be undertaken to confirm placement at depth.	O2: Suitable, subject to additional management. Suitable to remain on-site, subject to placement > 2 m below finished ground level and in areas where no services will be installed. Location of this material must be tracked, and a survey must be undertaken to confirm placement at depth.
3	B3: ≥0.05% HSL (Bonded (non-friable) asbestos detected below HSL). Not suitable.	F3: ≥0.001% HSL (Friable asbestos detected above HSL). Not suitable.	O3: ≥NEPM Guidelines Not suitable.

[5] Subject to appropriate work health safety (WHS) controls. To be read in conjunction with requirements within RAP (Alliance 2023).

Table 2 - Remediation Hierarchy[5]

Category	B	F	O
	Bonded (Non-Friable) Asbestos	**Friable Asbestos (AF/FA)**	**Other Impacted**
	Suitable subject to mechanical raking and emu picking treatment. If successfully validated, material downgraded to B2 status. If ACM is identified, re-treat the material again until the material can be successfully validated.	Excavate and stockpile on-site. Dispose off-site with a Waste Classification or placed within an on-site containment cell with a Long Term Environmental Management Plan (LTEMP).	Excavate and stockpile on-site. Dispose off-site with a Waste Classification or placed within an on-site containment cell with a LTEMP.

In summary:

- Material classified as B1, F1 or O1 is considered suitable to remain on-site as no contamination has been identified and thus no further remediation actions are required.
- Material classified as B2, F2 or O2 is considered suitable to remain on-site, subject to limitations (placement at depth) as contamination has been detected in concentrations below the adopted criteria.
- Material classified as B3, F3 or O3 is considered not suitable to remain on-site as contamination has been detected in concentration above the adopted criteria.
    - B3 material can be made suitable to remain on-site subject to treatment works (mechanical raking and emu picking).
    - F3 material should be either disposed off-site to a suitable licensed waste receiving facility, with a waste classification or placed within an on-site containment cell.
    - O3 material can be made suitable to remain on-site subject via additional assessment and/or management.

Phase 1 of the Remediation Project

Phase 1 of the Remediation Project was undertaken between 10 July 2023 to 25 September 2023 by Class A Licensed Asbestos Remediation Contractor (LARC), TCE Contracting Pty Ltd (TCE) as engaged by JK Williams Pty Ltd (JKW) with asbestos hygiene and validation works undertaken by EP Risk. EP Risk was engaged by ESR from 10 July 2023 to 04 September 2023, and later engaged by TCE from 19 September 2023 to 25 September 2023.

Phase 1 of the Remediation Project involved the:

- Establishment of stockpiling and treatment pads **(Figure 9)**;
    - Central (southern) stockpiling and treatment pad; and
    - Eastern stockpiling pad.
- In-situ treatment of bonded (non-friable) ASBINS (B3) from selected AECs;

- Excavation of bonded (non-friable) (B3) and friable (F2/F3) ASBINS and friable asbestos contaminated building materials (tyre and bricks stockpile) from selected AECs for stockpiling at the central (southern) stockpiling and treatment pad, with bonded (non-friable) and friable soils stockpiled separately;
- Treatment of some B3 soils from AEC19a stockpiled at the central (southern) stockpiling and treatment pad via mechanical raking and emu-picking;
- Removal of vegetation (stripped, tilled or grubbed) from selected AECs to facilitate clear and unobstructed visual walkover of surface soils. Vegetation not inspected by EP Risk was stockpiled as B3 material at the central (southern) stockpiling and treatment pad;
- Removal of bonded (non-friable) ACM in the form of fibre cement sheeting fragments within three (3) wheelie bins within AEC23a;
- Excavation of material associated with septic tank systems from selected AECs for stockpiling at the eastern stockpiling pad;
- Removal of concrete stockpiles (not contaminated with ACM) off-site;
- Movement of concrete stockpiles contaminated with bonded (non-friable) ACM for stockpiling at the central (southern) stockpiling pad; and
- Management of unexpected finds for the duration of ASBINS remediation works.
- Construction of one (1) Asbestos Placement Areas (**Figure 10**):
    - **Lot 5 Northern Finger Placement Area:** a portion of the Lot 5 Northern Finger, currently a portion of Lot 112 in DP1296469).
- Disposal of AC fragments, ACM sheeting and AC conduits to a licensed landfill facility as Special Waste (Asbestos).

As of **25 September 2023**, the following impacted materials had been stockpiled for later remediation and validation works:

- Bonded asbestos in fill soils (below the HSL) that was stockpiled as B2 material at the central (southern) stockpiling pad, waiting final placement and survey;
- Bonded asbestos in fill soils (above HSL) that was stockpiled as B3 material at the central (southern) stockpiling and treatment pad, waiting for ex-situ treatment (emu picking and mechanical raking) and validation and later final placement and survey;
- Friable asbestos in fill soils (below HSL) that was stockpiled as F2 material at the central (southern) stockpiling pad, waiting final placement and survey or containment within an on-site containment cell (with a LTEMP) or disposal off-site;
- Friable asbestos in fill soils (above HSL) that was stockpiled as F3 material at the friable central (southern) stockpiling pad, waiting containment within an on-site containment cell (with a LTEMP) or disposal off-site;
- Fill soils associated with the excavation of septic tank systems, that was stockpiled as B3 material at the eastern stockpiling pad, waiting for ex-situ treatment (emu picking and mechanical raking) and validation and later final placement and survey;
- Fill soils associated with the excavation of septic tank systems, that was stockpiled as O2 material at the eastern stockpiling pad due to exceedances in total recoverable hydrocarbon (TRH) concentrations above the National Environmental Protection (Assessment of Site Contamination (ASC NEPM) 2013

Management Limits or NEPM 2013 Ecological Screening Levels (ESL), waiting final placement and survey. This included stockpiled soils AEC22_SEP02, 40SEP01 and 40SEP02;

- Septic tank concrete waste that was stockpiled at the eastern stockpiling pad for later off-site disposal as General Solid Waste (GSW) or off-site recycling, provided the concrete waste is cleaned of soil (sieved/high pressure washed) and visually inspected by the Validation Consultant; and
- Concrete stockpiles (SP2, SP15, SP16 and UF019), tyre and brick stockpiles contaminated with asbestos stockpiled at the central (southern) stockpiling pad as asbestos waste.

Phase 2 of the Remediation Project

Phase 2 of the Remediation Project was undertaken between 28 September 2023 to 03 November 2023 by Omega and Penny Green, with asbestos hygiene and validation works undertaken by FES.

Phase 2 of the Remediation Project involved the:

- Treatment of all B3 soils stockpiled at the central (southern) stockpiling and treatment pad **(Figure 9)** via mechanical raking and emu-picking to downgrade the material to a B2 classification;
- Construction / extension of two (2) Asbestos Placement Areas (**Figure 10**):
    - **Lot 4 Placement Area:** a portion of Lot 4, currently a portion of Lot 111 and Lot 112 in DP1296469.
    - **Lot 5 Northern Finger Placement Area:** a portion of the Lot 5 Northern Finger, currently a portion of Lot 112 in DP1296469).
- Removal of B2 soils from central (southern) stockpiling and treatment pad for final placement on-site, within the two (2) Asbestos Placement Areas with a survey undertaken to confirm location at depths (**Appendix D**);
- Construction of one (1) on-site Containment Cell within a portion of Lot 4 Trunk Drainage Swale, currently a portion of Lot 112 in DP1296469 **(Figure 11)**;
- Removal of F2 and F3 soils, asbestos contaminated building materials brick stockpile from AEC14, and concrete stockpiles SP2, SP15 and SP16 and UF019 from central (southern) stockpiling pad for final placement on-site, within the on-site Containment Cell with a survey (**Appendix E)** undertaken to confirm location at depths;
- Visual clearance inspection and validation sampling of the footprint of the central (southern) stockpiling and treatment pad used for the stockpiling and treatment of bonded (non-friable) (B2 and B3) soils;
- Visual clearance inspection and validation sampling of the footprint of the central (southern) stockpiling pad used for the stockpiling of friable (F2 and F3) soils; and
- Removal of O2 and B3 material associated with the excavation of septic tank systems, for stockpiling off-site at the adjacent Westlink Stage 2 project, which falls within the same SSD **(Figure 12).**
- Disposal of AC fragments, asbestos contaminated tyres, geotextile fabric for disposal to a licensed landfill facility as Special Waste (Asbestos).

1.3 Scope of Work

The following scope of works were undertaken by EP Risk to achieve the objective of the Report.

Bonded (Non-Friable) Asbestos

- Management of unexpected finds by a Competent Person or SafeWork NSW Licensed Asbestos Assessor (LAA) for the duration of ASBINS remediation works;
- Control airborne asbestos fibre air monitoring conducted by a Competent Person or SafeWork NSW LAA for the duration of ASBINS remediation works;
- Site supervision by a Competent Person or SafeWork NSW LAA for the duration of ASBINS remediation works;
- Visual clearance inspection of the residual treatment/excavation footprint undertaken by a Competent Person or SafeWork NSW LAA following the completion of ASBINS remediation works;
- Validation sampling of the residual treatment/excavation footprint conducted by an Environmental Scientist or SafeWork NSW LAA.
- Preparation of Asbestos Clearance Certificates (ACCs), inclusive of validation sampling results and photographic records.

Friable (AF/FA) Asbestos

- Management of unexpected finds by a SafeWork NSW LAA for the duration of ASBINS remediation works;
- Control airborne asbestos fibre air monitoring conducted by a SafeWork NSW LAA for the duration of ASBINS remediation works;
- Site supervision by a SafeWork NSW LAA for the duration of ASBINS remediation works;
- Visual clearance inspection of the residual treatment/excavation footprint undertaken by a SafeWork NSW LAA following the completion of ASBINS remediation works; and
- Validation sampling of the residual treatment/excavation footprint conducted by an Environmental Scientist or SafeWork NSW LAA.
- Preparation of ACCs, inclusive of validation sampling results and photographic records.

Decontamination of Plant / Equipment

- Progressive visual clearance inspections of plant / equipment used to undertake ABSINS remediation works undertaken by a Competent Person or SafeWork NSW LAA;
- Clearance airborne asbestos fibre air monitoring conducted by a Competent Person or SafeWork NSW LAA at the completion of ASBINS remediation works and prior to demobilisation off-site; and
- Preparation of ACCs, inclusive of photographic records.

Septic Tank Systems

- Management of unexpected finds by an Environmental Scientist for the duration of remediation works;

- Visual inspection of the residual excavation footprint undertaken by an Environmental Scientist following the removal of septic tank systems;
- Validation sampling of the excavation footprint conducted by an Environmental Scientist following the removal of septic tank systems.
- Validation sampling of the stockpiled materials associated with the septic tank systems for site suitability conducted by an Environmental Scientist.
- Summary of validation sampling results within this SRVR, inclusive of photographic records.

Concrete Stockpiles

- Management of unexpected finds by an Environmental Scientist for the duration of remediation works; and
- Visual inspection of the residual footprint undertaken by an Environmental Scientist following the removal of concrete stockpiles, inclusive of photographic records.

Validation Report

Preparation of a SRVR to document the completion of Phase 1 and Phase 2 of the Remediation Project, inclusive of a technical Review of Validation Documentation relating to Phase 2 of the Remediation Project. The SRVR will be prepared in accordance with the NSW EPA (2020) *Contaminated Sites Guidelines for Consultants Reporting on Contaminated Sites, State Environmental Planning Policy (Resilience and Hazards) 2021* and National Environment Protection Council (NEPC) (1999) *National Environment Protection (Assessment of Site Contamination) Measure 1999*, as amended in 2013 (ASC NEPM 2013).

1.4 Technical Framework

EP Risk performed the works with the usual care and professionalism of the consulting industry. The works were performed in general accordance with the following guidance:

- ASC NEPM (2013);
- *Contaminated Land Management Act 1997* (CLM Act 1997);
- enHealth (2012) *Australian Exposure Factor Guide. Department of Health and Ageing and enHealth Council Australia*;
- enHealth (2012) *Environmental Health Risk Assessment: Guidelines for Assessing Human Health Risk from Environmental Hazards*. Department of Health and Ageing and enHealth Council Australia;
- *Environmental Planning and Assessment Act 1979* (EP&A Act);
- *Environmental Planning and Assessment Regulation* 2000 (EP&A Regulation);
- *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act);
- *National Environment Protection Council Act 1994* (NEPC Act 1994);
- NSW EPA (2022) *Sampling Design Guidelines*;
- NSW EPA (2014) *Waste Classification Guidelines: Part 1 – Classifying Waste* (NSW Waste Classification Guidelines);

- NSW EPA (2015) *Guidelines on the Duty to Report Contamination Under the* Contaminated Land Management Act 1997;
- NSW EPA (2020) *Contaminated Sites Guidelines for Consultants Reporting on Contaminated Sites*;
- NSW EPA (2022) *Position Statement – WA Guidelines for asbestos contaminated sites*;
- NSW State Environmental Planning Policy (SEPP) Resilience and Hazards (2021);
- Protection *of the Environment Operations Act 1997* (POEO Act 1997);
- Protection of the Environment Operations (Waste) Regulation 2014;
- SafeWork NSW Code of Practice: *How to Manage and Control Asbestos in the Workplace* 2022;
- SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* 2022;
- United States Environmental Protection Agency (US EPA) (2006) *Guidance on Systematic Planning Using the Data Quality Objectives Process*, ref: EPA QA/G-4;
- WA Department of Health (2021) *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (WA DOH 2021)
- *Work Health and Safety Act 2011* (WHS Act); and
- *Work Health and Safety Regulation* 2017 (WHS Reg).

2 Site Condition and Surrounding Environment

2.1 Current Land Use, Layout and Site Observations

The location and layout of the Site is provided as **Figure 3.** A summary of the Site conditions in March 2024 has been provided below:

- Earthworks at the Site have been largely completed;
- All former residential properties within the boundary of the Site have been demolished;
- All former dams and man-made channels on the Site have been drained and filled in;
- An OSD basin has been constructed in the western end of the Site;
- Site compounds, sheds and associated parking lots for the earthworks have been established north of the OSD basin;
- A large warehouse is currently under construction towards the northern end of the Site; and
- Earthworks have commenced in the adjacent Westlink Stage 2 area, to the west of the Site.

2.2 Geology and Hydrogeology

Geology

The Site is likely to be underlain by Bringelly Shale, comprised of shale, carbonaceous claystone, laminate, fine to medium grained lithic sandstone, rare coal and tuff (Alliance 2023).

Hydrogeology

The Site previously featured six (6) on-site dams, three (3) of which were connected to a tributary, flowing west to Kemps Creek, the nearest off-site surface water body which is located approximately 220 m west of the Site, on the other side of Mamre Road, Kemps Creek.

As of May 2024, all dams and man-made channels have been drained and filled. The finished development contains an on-site stormwater detention (OSD) basin within the southwest corner of the Site, with any overflows draining into stormwater drains located along Abbotts Road, west of the Site.

Kemps Creek, the nearest off-site surface water body is located approximately 220 m west of the Site.

Based on the local topography and surrounding features, groundwater flow is inferred to be towards the west (Alliance 2023).

2.3 Surrounding Land Use

The Site is surrounded by low-density residences on large lots of land to the north, west and southeast, vacant land to the east and Westlink Stage 2 to the west.

3 Historical Environmental Investigation Reports

At the EDD stage, several environmental investigations were undertaken at the Site. Based on these findings a RAP and Addendum were subsequently developed. A summary of each report has been provided within this section.

DP (2019) Preliminary Environmental Site Investigation

DP (2019) was engaged to undertake a Preliminary Environmental Site Investigation with Limited Intrusive Investigation for the Site. A copy of this report was not provided to EP Risk for review. The summary below is based on the summary provided by Alliance (2023).

The primary objective of this Investigation was to provide a preliminary assessment of the contamination status of the Site, using current and historical site information, a site walkover and limited soil sampling data.

The investigation identified localised contamination relating to metals and asbestos within the western portion of Lot 11 and asbestos in fill within the gully on Lot 12. It should be noted that Lot IDs have since changed. It is unknown which existing Lots these detections refer to.

The investigation recommended the following to be undertaken prior to the commencement of bulk earthworks:

- The identified metals and asbestos impacts are delineated;
- A Detailed Site Investigation (DSI) is undertaken to assess the contamination potential and risk of the identified potential area of concern;
- If required, further management and/or remediation should be undertaken;
- A hazardous building materials (HAZMAT) survey should be conducted for structures prior to demolition works. Subsequent to demolition works, the building footprint should be inspected and if required, targeted soil sampling and analysis should be undertaken;
- Inert materials that have been fly tipped are assumed to be surficial and should be removed by earthworks contractors; and
- A RAP should be prepared to document how remediation and validation works should be carried out.

Alliance (2019) Stage 1 Preliminary Site Investigation

Alliance (2019) was engaged to undertake a Stage 1 Preliminary Site Investigation with Limited Sampling for the Site. A copy of this report was not provided to EP Risk for review. The summary below is based on the summary provided by Alliance (2023).

The primary objective of this investigation was to characterise the contamination and salinity potential of the Site by preparing a sampling and analysis quality plan (SAQP) and conducting a targeted intrusive site investigation.

No evidence of soil contamination was identified by Alliance and Alliance concluded that the Site was unlikely to pose a significant contamination risk to future development. Soils assessed up to a depth of 1 metre below ground level (mBGL) were classified as non-saline to very saline, however considered to be non-aggressive to concrete and steel piles.

Alliance (2021) HAZMAT Assessment

Alliance (2021) was engaged to undertake a HAZMAT Assessment for the Site, specifically for the buildings within Lot 11, Lot 12 and Lot 13. A copy of this report was not provided to EP Risk for review. The summary below is based on the summary provided by Alliance (2023).

The HAZMAT Assessment identified the following HAZMAT within each Lot.

- **Lot 11:** ACM and Synthetic Mineral Fibres (SMF).
- **Lot 12:** ACM, Polychlorinated Biphenyls (PCBs) and SMF.
- **Lot 13:** ACM, Lead-Containing Paint (LCP), PCBs and SMF.

It should be noted that Lot IDs have since changed. It is unknown which existing Lots these detections refer to.

Alliance (2021a) Detailed Site Investigation (DSI), Dam Water & Sediment Assessment

Alliance (2021) was engaged to undertake a DSI, Dam Water and Sediment Assessment at the Site. A copy of this report was provided to EP Risk for review.

The objective of the DSI was to assess the contamination potential and risk within fifty-nine (59) AECs identified within the preliminary site investigations undertaken by DP (2019) and Alliance (2019). The objective of the dam water and sediment assessment was to gather baseline environmental data to assist with the preparation of a Dam Dewatering Procedure Assessment.

The DSI concluded that the Site was not suitable for proposed commercial / industrial land use based on the identification of bonded (non-friable) and friable asbestos at concentrations above the HSL and aesthetic risks related to stockpiled demolition waste.

With regard to the dam water and sediment assessment, Alliance concluded that the dam water assessed is unlikely to contain concentrations of contaminants that would prevent disposal of the water using conventional methods such as irrigation or dust suppression during earthworks/construction phase. The dam water however may not be suitable for disposal to surface water bodies or municipal stormwater Infrastructure. Concentrations of CoPC within the dam sediments analysed were found to be less than the adopted assessment criteria.

Further assessment in the form of a Supplementary Contamination Assessment (SCA) was recommended to be undertaken at the Site to address the following data gaps:

- Asbestos in soils contamination within select AECs;
- Heavy metals in surface water contamination within select AECs;
- Contamination risk beneath hardstand within select AECs;
- Aesthetic risks within select AECs; and
- Contamination risk within select AECs which were unable to be to be assessed due to active demolition works.

An Interim Management Plan (IMP) was recommended to be prepared to address the asbestos risk at the Site. Due to contamination risk identified at the Site, a RAP was also recommended to be prepared, upon completion of the supplementary contamination assessment or data gap assessment.

Additional dam water sampling and analysis may be required to support the preliminary data.

Alliance (2023a) Supplementary Contamination Assessment

Alliance (2023) was engaged to undertake a SCA for the Site. A copy of this report was not provided to EP Risk for review. The summary below is based on the summary provided by Alliance (2023).

The assessment investigated the contamination risk beneath hardstand within select AECs and involved a lateral and vertical delineation of contamination within select AECs.

The assessment concluded that the Site was not suitable for proposed commercial / industrial land use based on the identification of additional bonded (non-friable) and friable asbestos impacted soils at concentrations above the HSL and aesthetic risks related to septic tank systems, stockpiled concrete, stockpiled/buried demolition waste and surficial/buried tyre waste.

The following data gaps were unable to be closed out by Alliance, and thus further assessment is required:

- Extent of bonded (non-friable) asbestos contamination within select AECs;
- A visual assessment for surficial ACM within select AECs was unable to be completed due to overgrown vegetation; and
- The western portion of AEC15 beneath the former residence as sampling point pattern and density requirements were unable to be achieved.

Based on the findings of the Assessment, Alliance recommended that:

- An IMP is prepared for the Site;
- The RAP for the Site is updated to reflect the findings of the SCA; and
- A SRVR is prepared following the completion of remediation and validation works.

Alliance (2023b) Supplementary Contamination Assessment Report No.2

Alliance (2023) was engaged to undertake a second SCA for the Site. A copy of this report was not provided to EP Risk for review. The summary below is based on the summary provided by Alliance (2023).

The SCA aimed to address the data gaps identified within the initial SCA (Alliance 2023) as well as included an assessment of the potential for asbestos to be present within concrete stockpiles at the Site.

The SCA identified further asbestos contamination at the Site, which included bonded (non-friable) and friable ASBINS at concentrations above the HSL within select AECs, surficial ACM within selected AEC and bonded (non-friable) asbestos to one (1) concrete stockpile. Additional aesthetic risks were identified, also relating to septic tank systems, stockpiled concrete, stockpiled/buried demolition waste and surficial/buried tyre waste.

As such, the SCA concluded that the Site was not suitable for proposed commercial / industrial land use.

The following data gaps were unable to be closed out by Alliance, however, should be addressed during remediation and validation works:

- A visual assessment for surficial ACM was unable to be completed due to the presence of grass on the surface of portions of selected AECs. Grass within these AECs should be removed (stripped, tilled or grubbed) to allow for visual assessment of surficial soils.

As with the initial SCA (Alliance 2023), Alliance recommended that:

- An IMP is prepared for the Site;
- The RAP for the Site is updated to reflect the findings of the SCA; and
- A SRVR is prepared following the completion of remediation and validation works.

Alliance (2023) Remediation Action Plan

Alliance (2023) was engaged to prepare a RAP for the Project, to establish a remediation objective to make the Site suitable for proposed commercial / industrial land use. To facilitate this, Alliance developed a remediation and validation strategy to address the contamination risks of the Project. A copy of this report was provided to EP Risk for review. The original version of the RAP was issued on 10 October 2022 (v0), with subsequent versions issued on 02 May 2023 (v1) and 21 June 2023 (v2). The summary below is based on the most recent version of the RAP (v2).

A total of twenty (20) AECs were identified in the RAP. A summary of each AEC, their contamination risk and their inferred extent of contamination, as defined by Alliance (2023) (taken directly from Table 9.1 of the RAP) has been provided in **Table 3**.

Under the scope of the RAP, Alliance reviewed three (3) feasible remediation options being:

- Remediation Option 1: Excavation and disposal of the contaminated material to an approved site or facility, followed, where necessary by replacement with appropriate material.
- Remediation Option 2: In-situ containment of the contaminated material with a properly designed barrier at a location within the boundary of the Project.
- Remediation Option 3: On-site treatment of the contaminated material so that it is destroyed, or the associated risk is reduced to an acceptable level, after which the soil is returned to the Project.

The preferred remedial options and methods for each AEC, as defined by Alliance (2023) has been summarised in **Table 4** (taken directly from Table 10.1 of the RAP).

Table 3 - AEC Contamination Summary (Alliance 2023)

AEC	Contamination Risk	Indicative Volume (in-situ)	Assumptions
AEC01a	Bonded (non-friable) asbestos (soils)	8 m^3	~80 m^2, nominal thickness of ~0.1 m
AEC09b	Bonded (non-friable) asbestos (soils)	6 m^3	~60 m^2, nominal thickness of ~0.1 m
AEC13	Friable and bonded (non-friable) asbestos (soils)	81 m^3	~270 m^2, nominal thickness of ~0.3 m
AEC14	Friable and bonded (non-friable) asbestos (soils) Aesthetics	950 m^3	~950 m^2, nominal thickness of ~0.1 to 2.2 m
AEC15	Bonded (non-friable) asbestos (soils)	10 m^3	~100 m^2, nominal thickness of ~0.1 m
AEC16[6]	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	5 m^3	~3 m^2, nominal thickness of 1.5 m of tank
AEC18	Bonded (non-friable) asbestos (soils)	3 m^3	~30 m^2, nominal thickness of ~0.1 m
AEC19a	Bonded (non-friable) asbestos (soils)	11,400 m^3	~5,700 m^2, nominal thickness of 0.3-4 m thick
AEC21	Bonded (non-friable) asbestos (soils) Aesthetics	100 m^3	~100 m^2, nominal thickness of ~1 m
AEC22[6]	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	5 m^3	~3 m^2, nominal thickness of 1.5 m of tank
AEC23	Bonded (non-friable) asbestos (soils) Aesthetics	43 m^3	~ 215 m^2, nominal thickness of ~0.2 m
AEC23a	Bonded (non-friable) ACM (debris)	<1 m^3	Three wheelie bins, approximately 250 L each
AEC23b	Bonded (non-friable) asbestos (soils)	8 m^3	~80 m^2, nominal thickness of ~0.1 m
AEC24a	Friable asbestos	3 m^3	~25 m^2, nominal thickness of ~0.1 m
AEC32	Bonded (non-friable) asbestos (soils)	8 m^3	~80 m^2, nominal thickness of ~0.1 m
AEC32a	Bonded (non-friable) asbestos (soils)	23 m^3	~230 m^2, nominated thickness of ~0.1 m
AEC39	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	5 m^3	~3 m^2, nominal thickness of 1.5 m of tank
AEC40	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	5 m^3	~3 m^2, nominal thickness of 1.5 m of tank.
Concrete stockpile SP2	Bonded (non-friable) ACM	50 m^3	-
Concrete stockpile SP1, SP3-SP16	Aesthetics (concrete stockpile)	~2,200 m^3	-

Table 4 – Preferred Remediation Options for each AEC (Alliance 2023)

AEC	Potential Contamination Risk	Preferred Remedial Option and Method
AEC23, AEC32a	Bonded (non-friable) asbestos in fill soils >0.1m below surface	Works will be undertaken in a manner that avoids further damage or burial of the ACM by the process. Establish a treatment pad area. Staged excavation of fill soils and spreading across treatment pad to a thickness no greater than 0.1m. Systematic inspection of surface of spread material and hand picking of visible ACM fragments. Rake spread soils in one direction, using an excavator fitted with a tooth bucket. Systematic inspection of raked surface and hand picking of visible ACM fragments. Rake spread soils in a direction 90° perpendicular to the first raking direction, using an excavator fitted with a tooth bucket. Systematic inspection of raked surface and hand picking of visible ACM fragments. ACM fragments will be disposed to a suitably licensed waste receiving facility, with a waste classification. Validation of the raked area.
AEC01a, AEC09b, AEC15, AEC18, AEC23b, AEC32, AEC32a	Bonded asbestos in surface soils ≤0.1m below surface	Works will be undertaken in a manner that avoids further damage or burial of the ACM by the process. Systematic inspection of surface and hand picking of visible ACM fragments. Rake surface soils in one direction, to a depth of 0.1m below ground level, using an excavator fitted with a tooth bucket. Systematic inspection of raked surface and hand picking of visible ACM fragments. Rake surface soils in a direction 90° perpendicular to the first raking direction, to a depth of 0.1m below ground level, using an excavator fitted with a tooth bucket. Systematic inspection of raked surface and hand picking of visible ACM fragments. ACM fragments will be disposed to a suitably licensed waste receiving facility, with a waste classification. Validation of the raked area.

Table 4 – Preferred Remediation Options for each AEC (Alliance 2023)

AEC	Potential Contamination Risk	Preferred Remedial Option and Method
AEC13, AEC14, AEC19a, AEC24a	Asbestos fines in surface and/or fill soils	Excavate soils and dispose to suitably licensed waste receiving facility, with a waste classification. Validation of the residual excavation. Backfill remedial excavation.
AEC21	Bonded asbestos, aesthetics and e. coli	Remove content of septic tank by suitably licensed contractor and dispose content offsite with appropriate waste classification. Demolish and excavate the tank and absorption trench (if any) and dispose offsite with appropriate waste classification. Flush irrigation lines, spray head, sprinklers and drippers with potable water for 5 minutes. Validation of the residual excavation will be undertaken in accordance with Section 12. Backfill remedial excavation.
AEC16, AEC22, AEC39, AEC40	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, metals, & pathogens	Remove content of septic tank by suitably licensed contractor and dispose content offsite with appropriate waste classification. Demolish and excavate the tank and absorption trench (if any) and dispose offsite with appropriate waste classification. Flush irrigation lines, spray head, sprinklers and drippers with potable water for 5 minutes. Validation of the residual excavation will be undertaken in accordance with Section 12. Backfill remedial excavation.
AEC23a	Bonded asbestos	Disposal to a suitably licensed waste receiving facility, with a waste classification.
Concrete stockpile SP2	Bonded asbestos and aesthetics	Disposal to a suitably licensed waste receiving facility, with a waste classification.
Concrete stockpiles SP1 to SP16	Aesthetics	Disposal to a suitably licensed waste receiving facility, with a waste classification.

Table 4 – Preferred Remediation Options for each AEC (Alliance 2023)

AEC	Potential Contamination Risk	Preferred Remedial Option and Method
AEC13, AEC15, AEC23, AEC24a, AEC32, AEC32a, AEC33, AEC38	Visible asbestos in surface soils	Works will be undertaken in a manner that avoids further damage or burial of the ACM by the process. Vegetation will be removed (i.e. stripped, tilled or grubbed) from these AECs), in order to facilitate clear and unobstructed visual assessment of surface soils in those AECs. A grid-based walkover will then be undertaken for the purpose of assessing the presence of visible asbestos in surface soils. The walkover will be undertaken on transects spaced 5m apart, with at least one pass in a north/south direction and one in an east/west direction, in each individual AEC. The walkover will be undertaken by a person suitably experienced in the identification of potential asbestos containing materials. Validation of the cleared areas.

Upon review of the RAP, EP Risk noted two (2) discrepancies between the tables:

- AEC19a: In **Table 3** (Alliance 2023, Table 9.1), the contamination risk was defined as bonded (non-friable) asbestos (soils), however in **Table 4** (Alliance 2023, Table 10.1), the contamination risk was defined as asbestos fines in surface and/or fill soils.
- AEC32a: In **Table 3** (Alliance 2023, Table 9.1), the contamination risk was defined as bonded (non-friable) asbestos (soils) to a thickness of 0.1 m, however in **Table 4** (Alliance 2023, Table 10.1), the contamination risk was defined as bonded (non-friable) asbestos in fill soil >0.1 below surface.

An updated pre-remediation summary of contamination is later provided in **Table 6**, to be read in conjunction with **Section 4**. This summary reflects all the changes made to the remediation scope and extent, prior to remediation work (not during) and includes clarifies the discrepancies relevant to AEC19a and AEC32. This summary does not include any UFs encountered during remediation works, which are summarised later in **Table 8.** The ACCs for each AEC and UFs, as presented in **Appendix G** should be consulted for details pertaining to actual remediation works.

The remediation and validation requirements of the Site were discussed in the RAP and included an overview of notification and approval requirements, roles and responsibilities, a plan on how to manage unexpected finds, unsuccessful remedial strategies and contingency plans, material importation requirements, validation sampling densities and laboratory analysis schedules.

The RAP also included a Site Management Plan, which discussed items relating to emergency preparedness and response, community relations, workplace health and safety, traffic management, soil and stormwater management, waste management, dust control, odour control and noise and vibration control.

Subject to the implementation of the RAP and the preparation of a SRVR, Alliance considered the remediation objective for the Project could be achieved and that the Project could be made suitable for proposed commercial / industrial land use.

At the completion of remediation and validation works, a SRVR should be prepared to document the works. Within 30 days of completion of all remediation and validation works, a notice of completion of the remedial works will be submitted to the relevant planning authority.

EP Risk (2023a) Remediation Action Plan Addendum

EP Risk (2023a) was engaged to prepare an Addendum (01) to the Alliance (2023) RAP for the Site. Due to time constraints, the contents of this Addendum were verbally discussed and communicated via emailed to ESR, TCE and JKW in July 2023 prior to the commencement of remediation works. The Addendum Report was finalised and issued to ESR in September 2023.

Within the Addendum, a remediation hierarchy was developed for the on-site categorisation of materials at the Site. Additional clarity was also provided within the Addendum relating to remediation methodologies, and requirements of an on-site containment strategy should this strategy be later adopted for the Site.

At the request of ESR, EP Risk also conducted a high-level review of the Alliance (2023) RAP and previous environmental investigations to determine if volumes of material impacted by friable ASBINS (AF and FA) and set for off-site disposal could be reduced through a delineation assessment. EP Risk was specifically requested to undertake the high-level review of the environmental data relating to AEC19a, the findings of which were summarised within the Addendum.

The detailed remediation hierarchy used at the Site has been previously summarised in **Table 2**, contained within **Section 1.2.**

The Addendum provided details on the methodologies to be employed during remediation works including:

- Construction of a stockpiling and treatment pad.
- Bonded (non-friable) asbestos below HSL (B2).
- Bonded (non-friable) asbestos above HSL (B3).
- Friable asbestos (AF/FA) below HSL (F2).
- Friable asbestos (AF/FA) above HSL (F3).

According to the RAP (Alliance 2023), the remediation strategy for AEC19a would entail the excavation of approximately 11,400 m^3 of material for off-site disposal. Following a review of the sampling data, EP Risk concluded that remediation works would be limited to test pits where bonded (non-friable) asbestos was identified above the HSL of 0.05 %w/w (B3) or friable asbestos was identified above or below the HSL of 0.001 %w/w (F2 and F3). The remaining area of AEC19a would be subject to excavation to natural material as B2 material due to its potential to contain bonded (non-friable) asbestos below HSL. In-situ delineation sampling was subsequently undertaken by EP Risk at eight (8) test pits within AEC19a which met the above criteria (TP242, TP244, TP246, TP247, TP248, TP250, TP256 and DW28) in all lateral directions and vertically for determination of depth. The delineated extent formed the 'new' remediation extent.

4 Pre-Remediation Conceptual Site Model

A Pre-Remediation Conceptual Site Model (CSM) was developed in the RAP (Alliance 2022b) for the Site based on the findings of the previous environmental investigations. The below section is a summary of Section 6 of the RAP (Alliance 2022b).

4.1 Known Contamination Sources

The current known sources of contamination at the Site have been summarised in **Table 5** below.

Table 5 – Pre-Remediation CSM: Known Contamination Sources

Contamination Risk	Source	Affected Media
On-site		
Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	• Uncontrolled filling • Uncontrolled demolition	Soil
Bonded (non-friable) asbestos in fill soils >0.1 mBS	• Uncontrolled filling • Uncontrolled demolition	Soil
Friable asbestos as AF or FA in surface and/or fill soils	• Uncontrolled filling • Uncontrolled demolition	Soil
Visible asbestos in surface soils	• Uncontrolled filling • Uncontrolled demolition	Soil
Bonded (non-friable) ACM	• Uncontrolled demolition • Stockpiling • Use of hazardous building materials	-
Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	• Use of septic tanks for wastewater disposal	Soil
Aesthetics (concrete stockpiles, tyres and bricks)	• Uncontrolled demolition • Stockpiling • Use of hazardous building materials	-

4.2 Summary of Contamination

An updated summary of contamination, at the pre-remediation stage is provided within **Table 6** below. The table:

- Clarifies the discrepancies identified in the Alliance (2023) RAP in relation to the CoPC and remediation methodology for AEC19a and AEC32;
- Includes the AECS which required a vegetation scrape and visual inspections to close out data gaps identified in the Alliance (2023);
- Includes the findings of the delineation assessment of AEC19a undertaken by EP Risk (2023a); and

- Includes concrete stockpiles SP15 and SP16, found to be contaminated with ACM, prior to remediation works (raised as UF002).

This pre-remediation summary does not include UFs encountered during remediation works, which are summarised later in **Table 8**. This pre-remediation summary also does not include amendments to the inferred extent of contamination or additional contamination risks that were identified during remediation works. The ACCs for each AEC and UFs, as presented in **Appendix G** should be consulted for details pertaining to actual remediation works.

It should be noted, the presence of friable asbestos as AF or FA in an AEC, does not preclude the presence of bonded (non-friable) asbestos. Friable ASBINS is given higher risk status compared to bonded (non-friable) ASBINS due to its ability to be pulverised under hand pressure and thus become airborne.

It should be noted the contamination associated with the presence of septic tank systems (petroleum, hydrocarbons, PAH, metals and pathogens) was not previously assessed by Alliance and were assessed by EP Risk when validation works are undertaken post-remediation.

Table 6 – Pre-Remediation CSM: Summary of Contamination (AECs)

AEC	CoPC	Pre-Remediation Hierarchy
AEC01a	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	B3
AEC09b	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	B3
AEC13	Visible asbestos in surface soils	B3
	Friable asbestos as AF or FA in surface and/or fill soils	F3
AEC14	Friable asbestos as AF or FA in surface and/or fill soils	F3
	Aesthetics (tyres and bricks)	F3
AEC15	Visible asbestos in surface soils	B3
AEC16	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Unknown
AEC18	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	B3
AEC19a[7]	Friable asbestos as AF or FA in surface and/or fill soils (above HSL) e.g. TP244, TP247 and TP250	F3
	Friable asbestos as AF or FA in surface and/or fill soils (below HSL) e.g. TP242	F2
	Bonded asbestos in fill soils in surface soils and/or fill soils (above HSL) e.g. TP246, TP248, TP256 and DW23	B3

[7] In AEC19a, there were discrepancies in the RAP (Alliance 2023) relating to the CoPC / friability status of ACM contamination. In **Table 3** (Table 9.1 of the RAP (Alliance 2023)), the contamination risk was defined as Bonded (non-friable) asbestos (soils), however in **Table 4** (Table 10.1 of the RAP (Alliance 2023)), the contamination risk was defined as Asbestos fines in surface and/or fill soils. Based on a review of sampling data, EP Risk concluded the presence of friable ASBINS overrides bonded (non-friable) ASBINS. AEC19a was later subject to a Delineation Assessment (EP Risk 2023) to reduce the volume of material to be disposed off-site as Asbestos Special Waste. As such, contamination risk was recategorised into four categories (F2, F3, B2 and F3).

Table 6 – Pre-Remediation CSM: Summary of Contamination (AECs)

AEC	CoPC	Pre-Remediation Hierarchy
	Bonded asbestos in fill soils in surface soils and/or fill soils (below HSL) e.g. remainder of AEC19a, outside of hotspots	B2
AEC21	Bonded (non-friable) asbestos in fill soils >0.1 mBS	B3
	E. Coli	Unknown
AEC22	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Unknown
AEC23	Visible asbestos in surface soils	B3
	Bonded asbestos in fill soils >0.1 mBS	B3
AEC23a	Bonded (non-friable) ACM	N/A – Asbestos Special Waste
AEC23b	Bonded asbestos in surface soils ≤0.1 mBS	B3
AEC24a	Visible asbestos in surface soils	B3
	Friable asbestos as AF or FA in surface and/or fill soils	F3
AEC32	Visible asbestos in surface soils	B3
	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	B3
AEC32a[8]	Visible asbestos in surface soils	B3
	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	B3
AEC33	Visible asbestos in surface soils	B3
AEC38	Visible asbestos in surface soils	B3
AEC39	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Unknown
AEC40	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Unknown
Concrete stockpile SP2 and	Bonded (non-friable) ACM	N/A - Asbestos Special Waste
	Aesthetics (concrete stockpiles)	

[8] For AEC32a, there were discrepancies in the RAP (Alliance 2023) relating to the depth of bonded (non-friable) ACM contamination. In **Table 3** (Table 9.1 of the RAP (Alliance 2023)), bonded (non-friable) ACM was reported within surface soils ≤ 0.1 mBS, however in **Table 4 (**Table 10.1 of the RAP (Alliance 2023)), bonded (non-friable) ACM was reported within fill soils > 0.1 mBGS. Based on a review of sampling data, EP Risk concluded bonded (non-friable) ACM was limited to surface soils ≤0.1 mBS.

Table 6 – Pre-Remediation CSM: Summary of Contamination (AECs)		
AEC	**CoPC**	**Pre-Remediation Hierarchy**
SP15-SP16[9]		
Concrete stockpile SP1, SP3-SP14[10]	Aesthetics (concrete stockpiles)	O2

4.3 Affected Media

Soil is the primary affected media at the Site. Other affected media include concrete, tyre and brick stockpiles.

4.4 On-Site Human Receptors

Based on the current and future use of the Site and the results of the previous environmental investigations, potential on-site human receptors at the Site include:

- Current and future intrusive construction and maintenance workers; and
- Future commercial / industrial workers.

4.5 Potential and Complete Exposure Pathways

The proposed commercial / industrial land use scenario is likely to include some unsealed and open space areas, where a pathway between receptors and contamination sources may be complete.

ABSINS in AEC01a, AEC09b, AEC13, AEC14, AEC15, AEC18, AEC19a, AEC21, AEC23, AEC23a, AEC23b, AEC24a, AEC32, AEC32a, AEC33 and AEC38 and bonded (non-friable) ACM within concrete stockpile SP2, SP15 and SP16 could present a dust inhalation risk to human health. Potential exposure pathways may occur if affected soils or concrete stockpiles are disturbed by current and future intrusive construction and maintenance workers and future commercial / industrial workers or disturbance occurs through adverse weather conditions.

CoPC associated with septic tank systems (petroleum, hydrocarbons, PAH, metals and pathogens), potentially within the soils to AEC16, AEC21, AEC22, AEC39 and AEC40 could present a dermal contact, ingestion or dust inhalation risk to human health. Potential exposure pathways may occur if these potentially affected soils are disturbed by current and future intrusive construction and maintenance workers and future commercial / industrial workers.

An analysis of the pre-remediation potential and complete source-pathway-receptor linkages has been presented in **Table 7** below. Note, the contamination extent provided in **Table 7** has been based on assumptions made is reflective of volume assumptions made in **Table 3**, with the exception of the concrete stockpiles volumes which has been updated.

[9] Concrete stockpiles SP15-SP16 was found to contain bonded (non-friable) ACM fragments. This was raised as an unexpected find (UF002).

[10] Due to asbestos contamination, SP15-SP16, was removed from this category.

Table 7 – Pre-Remediation CSM: Potential and Complete Exposure Pathways

AEC	Contamination Extent	Affected Media	CoPC	Source	Release Mechanism	Exposure Pathway	On-site	
							Current and future intrusive construction and maintenance	Future commercial / industrial workers
AEC01a	~80 m², nominal thickness of ~0.1 m	Soil	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Uncontrolled filling	Fugitive dust	Inhalation	YES	
AEC09b	~60 m², nominal thickness of ~0.1 m	Soil	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Waste disposal	Fugitive dust	Inhalation	YES	
AEC13	~270 m², nominal thickness of ~0.3 m	Soil	Visible asbestos in surface soils Friable asbestos as AF or FA in surface and/or fill soils	Hazardous building materials and demolition	Fugitive dust	Inhalation	YES	
AEC14	~950 m², nominal thickness of ~0.1 to 2.2 m	Soil	Friable asbestos as AF or FA in surface and/or fill soils Aesthetics (tyre and brick stockpile)	Uncontrolled filling	Fugitive dust	Inhalation	YES	
AEC15	~100 m², nominal thickness of ~0.1 m	Soil	Visible asbestos in surface soils	Hazardous building materials Demolition	Fugitive dust	Inhalation	YES	

Table 7 – Pre-Remediation CSM: Potential and Complete Exposure Pathways

AEC	Contamination Extent	Affected Media	CoPC	Source	Release Mechanism	Exposure Pathway	On-site	
							Current and future intrusive construction and maintenance	Future commercial / industrial workers
AEC16	~3 m^2, nominal thickness of 1.5 m of tank	Soil	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Domestic effluent disposal	Fugitive dust	Inhalation Ingestion Dermal Contact	YES	
AEC18	~30 m^2, nominal thickness of ~0.1 m	Soil	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Uncontrolled filling	Fugitive dust	Inhalation	YES	
AEC19a	~5,700 m^2, nominal thickness of 0.3-4 m thick	Soil	Friable asbestos as AF or FA in surface and/or fill soils (above HSL) Friable asbestos as AF or FA in surface and/or fill soils (below HSL) Bonded asbestos in fill soils in surface soils and/or fill soils (above HSL) Bonded asbestos in fill soils in surface soils and/or fill soils (below HSL)	Uncontrolled filling	Fugitive dust	Inhalation	YES	

Table 7 – Pre-Remediation CSM: Potential and Complete Exposure Pathways

AEC	Contamination Extent	Affected Media	CoPC	Source	Release Mechanism	Exposure Pathway	On-site	
							Current and future intrusive construction and maintenance	Future commercial / industrial workers
AEC21	~100 m², nominal thickness of ~1 m	Soil	Bonded (non-friable) asbestos in fill soils >0.1 mBS E. Coli	Septic discharge Uncontrolled filling	Fugitive dust	Inhalation Ingestion Dermal Contact	YES	
AEC22	~3 m², nominal thickness of 1.5 m of tank	Soil	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Domestic effluent disposal	Fugitive dust	Inhalation Ingestion Dermal Contact	YES	
AEC23	215 m², nominal thickness of ~0.2 m	Soil	Visible asbestos in surface soils Bonded (non-friable) asbestos in fill soils >0.1 mBS	Hazardous building materials deterioration and demolition	Fugitive dust	Inhalation	YES	
AEC23a	Three wheelie bins, approximately 250 L each	-	Bonded (non-friable) ACM	Hazardous building materials deterioration and demolition	Fugitive dust	Inhalation	YES	
AEC23b	~80 m², nominal thickness of ~0.1 m	Soil	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Hazardous building materials deterioration and demolition	Fugitive dust	Inhalation	YES	

Table 7 – Pre-Remediation CSM: Potential and Complete Exposure Pathways

AEC	Contamination Extent	Affected Media	CoPC	Source	Release Mechanism	Exposure Pathway	On-site	
							Current and future intrusive construction and maintenance	Future commercial / industrial workers
AEC24a	~25 m^2, nominal thickness of ~0.1 m	Soil	Visible asbestos in surface soils Friable asbestos as AF or FA in surface and/or fill soils	Shallow uncontrolled filling	Fugitive dust	Inhalation	YES	
AEC32	~80 m^2, nominal thickness of ~0.1 m	Soil	Visible asbestos in surface soils Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Demolition of hazardous building materials	Fugitive dust	Inhalation	YES	
AEC32a	~230 m^2, nominated thickness of ~0.1 m	Soil	Visible asbestos in surface soils Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Demolition of hazardous building materials	Fugitive dust	Inhalation	YES	
AEC33	~ <2000 m^2	Soil	Visible asbestos in surface soils	Demolition	Fugitive dust	Inhalation	YES	
AEC38	~8200 m^2	Soil	Visible asbestos in surface soils	Demolition	Fugitive dust	Inhalation	YES	
AEC39	~3 m^2, nominal thickness of 1.5 m of tank	Soil	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Domestic effluent disposal	Fugitive dust	Inhalation Ingestion Dermal Contact	YES	

Table 7 – Pre-Remediation CSM: Potential and Complete Exposure Pathways

AEC	Contamination Extent	Affected Media	CoPC	Source	Release Mechanism	Exposure Pathway	On-site	
							Current and future intrusive construction and maintenance	Future commercial / industrial workers
AEC40	~3 m^2, nominal thickness of 1.5 m of tank	Soil	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Domestic effluent disposal	Fugitive dust	Inhalation Ingestion Dermal Contact	YES	
Concrete stockpile SP2, SP15-SP16	~350 m^3	-	Bonded (non-friable) ACM Aesthetics (concrete stockpiles)	Demolition	Fugitive dust	Inhalation	YES	
Concrete stockpiles SP1, SP3-SP14	~1900 m^3	-	Aesthetics (concrete stockpiles)	Demolition	Fugitive dust	Inhalation	YES	

Notes:

Yes — Current and future potential

Low — Low current potential

Potential Exposure Pathway:

Soil –

5 Remediation Method Summary

The Remediation Project comprised of two (2) parts:

- Phase 1 of the Remediation Project - was undertaken between 10 July 2023 and 25 September 2023 by Class A LARC, TCE as engaged by JKW with asbestos hygiene and validation works undertaken by EP Risk. EP Risk was engaged by ESR from 10 July 2023 to 04 September 2023, and later engaged by TCE from 19 September 2023 to 25 September 2023.
- Phase 2 of the Remediation Project - was undertaken 28 September 2023 and 03 November 2023, by Class A LARC Omega and Penny Green, as engaged by GKC with asbestos hygiene works undertaken by FES.

The remediation works undertaken have been summarised below.

5.1 Construction and Use of Stockpiling and Treatment Pads

To allow for earthworks to occur as soon as possible, it was decided by ESR at the commencement of the works that remediation efforts by TCE should be focused on excavating all bonded (non-friable) ASBINS at depth (>0.1 mBS) and friable ASBINS (AF and FA) for stockpiling at a designated stockpiling and treatment on-site. Moreover, it was communicated to EP Risk by ESR there was potential for a Containment Cell to be constructed on-site, dependent on the volumes of friable material generated by remediation works. As such, all friable ASBINS (AF and FA) would be excavated and stockpiled at the stockpiling pad by TCE until a decision was made in relation to its final destination (Containment Cell vs off-site disposal with a waste classification certificate).

During Phase 1 of the Remediation Project, the central (southern) stockpiling and treatment pad (**Figure 9**) was constructed to the southeast of the OSD basin as the predominant stockpiling and treatment pad. The construction of the central (southern) stockpiling and treatment pad was facilitated by JKW scrapers. Grass cover was stripped from the location of the central (southern) stockpiling and treatment pad to reveal the underlying compacted clay surface in accordance with the guidance provided in the Addendum (EP Risk 2023a). Due to time constraints, EP Risk was unable to visually inspect all aspects of the pad prior to its use. It should be noted a portion of the stockpiling and treatment pad had been lined with geotextile fabric by TCE, however this was not considered necessary due to the hard surface of stockpiling and treatment pad and its impedance to the mechanical racking process. Irrespective of the hard surface, the footprint of the stockpiling pad and treatment pad would require validation subsequent to the removal of the stockpiles, comprised of a visual clearance inspection with validation sampling.

In accordance with the Addendum (EP Risk 2023a), stockpiling was undertaken by TCE during Phase 1 of the Remediation Project in accordance with the following principles:

- Bonded (non-friable) and friable (AF/FA) stockpiles were placed separately with no mixing and stored based on source areas (AECs) and remediation hierarchy category (B2, B3, F2 and F3);
- B2 material was stockpiled into one (1) manageable stockpile;
- All B3, F2 and F3 stockpiles were covered with geotextile fabric and wetted over the remediation period; and
- Materials tracking was undertaken, with daily memos and diagrams provided in a report format via emails by TCE to ESR, JKW and EP Risk.

At the conclusion of Phase 1 of the Remediation Project, the central (southern) stockpiling and treatment pad covered an approximate area of 14,070 m^2 and comprised of B2, B3, F2 and F3 soils and asbestos-contaminated concrete stockpiles (SP2, SP15, SP16 and UF019).

During Phase 1 of the Remediation Project, a smaller stockpiling pad was utilised at the far east of the Site, atop a former hardstand tennis court which had been removed, known as the eastern stockpiling pad (**Figure 9**). Due to time constraints, EP Risk was unable to visually inspect the stockpiling pad prior to its use.

At the conclusion of Phase 1 of the Remediation Project, the eastern stockpiling pad covered an approximate area of 450 m^2 and comprised of O2 and B3 material and septic concrete waste (up to approximately 975 m^3), associated with septic tank systems removed from AEC16, AEC21, AEC22, AEC39 and AEC40 which had been stockpiled on a layer of geotextile fabric. In accordance with the Addendum (EP Risk 2023a), the movement and placement of B2, B3, F2 and F3 material must be undertaken by a Remediation Contractor / LARC due to the presence of asbestos within the material. Asbestos controls must be maintained and complied with.

Following remediation works. these areas were validated in accordance with **Section 7**, with results discussed in **Section 11.** Deviations to the RAP (Alliance 2023) and Addendum (EP Risk 2023a) have been summarised in **Section 6.3.**

5.2 Bonded (Non-Friable) Asbestos in Surface Soils ≤0.1 mBS

In AECs where bonded (non-friable) asbestos in surface soils ≤0.1 mBS (B3) were identified as the primary CoPC, in-situ treatment was undertaken by TCE during Phase 1 of the Remediation Project in a manner that avoided further damage or burial of the ACM by the process.

The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following:

1) A systematic inspection of the surface was undertaken. Visible ACM fragments were handpicked;
2) Surface soils were raked in one direction using an excavator fitted with a tooth bucket, to a depth of 0.1 mBGL;
3) A follow up systematic inspection of the raked surface was undertaken. Visible ACM fragments were handpicked;
4) Surface soils were raked in a direction 90° perpendicular to the first raking direction using an excavator fitted with a tooth bucket, to a depth of 0.1 mBGL;
5) A final systematic inspection of the raked surface was undertaken. Visible ACM fragments were handpicked; and
6) ACM fragments were disposed to a suitably licensed waste receiving facility, with a waste classification.

This remediation methodology was applied to the following AECs: AEC01a, AEC09b, AEC15, AEC18, AEC23b, AEC32 and AEC32a. This methodology was also applied to AEC21, which was subject to additional assessment of septic impacts, as discussed further in **Section 5.8.**

Following remediation works. these areas were validated in accordance with **Section 7**, with results discussed in **Section 11.**

5.3 Bonded (Non-Friable) Asbestos in Fill Soils > 0.1 mBS

In AECs where bonded (non-friable) asbestos in fill soils > 0.1 mBGS (B3) was identified as the primary CoPC, excavation of soils for stockpiling and ex-situ treatment at the central (southern) stockpiling and treatment pad was undertaken by TCE during Phase 1 of the Remediation Project in a manner that avoided further damage or burial of the ACM by the process.

The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following:

1) Staged excavation of fill soils to and transportation of the material to the central (southern) stockpiling and treatment pad;
2) Approximately 10 m^3 of material was spread across the treatment pad, ideally in a 10 m x 10 m grid, at no greater than 100 mm thickness using an excavator with a tooth bucket;
3) Surface soils were raked in one direction using an excavator fitted with a tooth bucket;
4) A systematic inspection of the raked surface was undertaken. Visible ACM fragments were handpicked;
5) Surface soils were raked in a direction 90° perpendicular to the first raking direction using an excavator fitted with a tooth bucket;
6) A final systematic inspection of the raked surface was undertaken. Visible ACM fragments were handpicked; and
7) ACM fragments were disposed to a suitably licensed waste receiving facility, with a waste classification.

The staged excavation of fill soils for stockpiling at the central (southern) stockpiling and treatment pad was applied to the following AECs: AEC19a, AEC23 and AEC32a.

The treatment of B3 material, to downgrade the material to B2 material during Phase 1 and Phase 2 of the Remediation Project is discussed further in **Section 5.10.**

The placement of B2 material at depth within a designated placement area is discussed in **Section 5.11.**

Following remediation works. these areas were validated in accordance with **Section 7**, with results discussed in **Section 11.** Deviations to the RAP (Alliance 2023) and Addendum (EP Risk 2023a) have been summarised in **Section 6.3.**

5.4 Friable Asbestos as AF or FA in Surface and/or Fill Soils

In AECs where friable asbestos as AF or FA in surface and/or fill soils (F2 and F3) was identified as the primary CoPC, excavation of soils for stockpiling at the central (southern) stockpiling and treatment pad was undertaken by TCE during Phase 1 of the Remediation Project in a manner that avoided further damage or burial of the ACM by the process.

The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved staged excavation of fill soils to and transportation of the material to the central (southern) stockpiling and treatment pad.

As there was potential for a containment cell to be constructed on-site based on the volumes of friable material generated by remediation works, all friable ASBINS were stockpiled on-site at the central (southern) stockpiling pad and were not assessed for waste disposal by EP Risk during Phase 1 of the Remediation Project. F2 and F3 material was stockpiled separately.

This remediation methodology was applied to the following AECs: AEC13, AEC14, AEC19a and AEC24a.

The construction and placement of F2 and F3 material within an on-site Containment Cell for F2 and F3 material is discussed in **Section 5.12.**

Following remediation works. these areas were validated in accordance with **Section 7**, with results discussed in **Section 11.** Deviations to the RAP (Alliance 2023) and Addendum (EP Risk 2023a) have been summarised in **Section 6.3.**

5.5 Visible Asbestos in Surface Soils

In AECs where visible asbestos in surface soils (B3) was identified as the primary CoPC, the remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) during Phase 1 of the Remediation Project involved the following:

1) Removal of vegetation (stripped, tilled or grubbed) to facilitate clear and unobstructed visual assessment of surface soils; and
2) A grid-based walkover undertaken on transects spaced 5 m apart, with at least one (1) pass in a north - south direction and one (1) in an east/west direction.

Due to suspected presence of ACM, vegetation that has been stripped, tilled or grubbed from affected AECs was to be visually inspected by EP Risk in order for the material to be deemed as B2 material at minimum. This was undertaken in some circumstances, however due to time constraints and in lieu of a visual inspection by EP Risk, vegetation that was stripped, tilled or grubbed was stockpiled as B3 material at the central (southern) stockpiling and treatment pad for later treatment.

This remediation methodology was applied to the following AECs: AEC13, AEC15, AEC23, AEC24a, AEC32, AEC32a, AEC33 and AEC38.

Following remediation works. these areas were validated in accordance with **Section 7**, with results discussed in **Section 11.** Deviations to the RAP (Alliance 2023) and Addendum (EP Risk 2023) have been summarised in **Section 6.3.**

5.6 Bonded (Non-Friable) ACM

Bonded (non-friable) ACM in the form of fibre cement sheeting fragments was identified within three (3) wheelie bins within AEC23a.

In general accordance with the RAP (Alliance 2023), the fibre cement sheeting fragments were placed by TCE during Phase 1 of the Remediation Project into 200 µm thick asbestos waste bags, which were securely goosed necked for disposal in an asbestos skip bin. The three (3) bins were subsequently wrapped in 200 µm black plastic sheeting for disposal as asbestos waste.

Following remediation works. these areas were validated in accordance with **Section 7**, with results discussed in **Section 11.**

5.7 Septic Tank Systems

In AECs where a septic tank system (petroleum, hydrocarbons, PAH, metals and pathogens) was identified, the remediation methodology as undertaken by TCE during Phase 1 of the Remediation Project in accordance with the RAP (Alliance 2023) involved the following:

1) The septic tank and absorption trench (if any) was removed from the AEC using an excavator.
2) The contents of the septic tank and surrounding soils were excavated and placed adjacent to the AEC / at the eastern stockpiling pad as separate stockpiles.
3) Irrigation lines, spray head, sprinklers and drippers were flushed with potable water for 5 minutes.

This remediation methodology was applied to the following AECs: AEC16, AEC22, AEC39 and AEC40.

Soil associated with the removal of septic tank systems, was excavated and stockpiled at the eastern stockpiling pad for assessment by EP Risk for site suitability as ESR wanted to retain all materials on-site to minimise costs associated with disposal. This deviated from the RAP, which required the material from septic tank systems to be disposed off-site with an appropriate waste classification.

All concrete tanks associated with the septic tanks were required to be removed from the stockpiled material and disposed off-site as either general solid waste or if cleaned of soil (sieved/high pressure washed) and visually inspected by EP Risk, and then disposed at a concrete recycling facility.

Following remediation works. these areas were validated in accordance with **Section 7**, with results discussed in **Section 11.** Deviations to the RAP (Alliance 2023) and Addendum (EP Risk 2023) have been summarised in **Section 6.3.**

5.8 Septic Pit

In AEC21, the CoPC was defined by Alliance (2023) as bonded (non-friable) asbestos in fill > 1 mBS (B3), E. coli (due to presence of a septic absorption pit) and buried demolition waste (aesthetic risk, later discussed in **Section 5.9**). As per the RAP (Alliance 2023), the remediation methodology for AEC21 would involve the off-site disposal of the material due to the presence of bonded (non-friable) asbestos and demolition rubble (bricks, tile, concrete, geotextile material) which prevents on-site treatment.

The remediation and validation methodology adopted for AEC21 during Phase 1 of the Remediation Project by TCE and EP Risk differed from the RAP (Alliance 2023).

In accordance with guidance provided by EP Risk, the remediation methodology as undertaken by TCE involved the following:

1) A systematic inspection of the surface was undertaken. Visible ACM fragments were handpicked.
2) Surface soils were raked in one direction using an excavator fitted with a tooth bucket, to a depth of 0.1 mBGL.
3) A follow up systematic inspection of the raked surface was undertaken. Visible ACM fragments were handpicked.
4) Surface soils were raked in a direction 90° perpendicular to the first raking direction using an excavator fitted with a tooth bucket, to a depth of 0.1 mBGL.
5) A final systematic inspection of the raked surface was undertaken. Visible ACM fragments were handpicked.
6) ACM fragments were disposed to a suitably licensed waste receiving facility, with a waste classification.

Following remediation works. these areas were validated in accordance with **Section 7**, with results discussed in **Section 11.** The rationale and deviations to the remediation methodology stipulated in the RAP (Alliance 2023) and Addendum (EP Risk 2023) has been discussed in more detail in **Section 6.3.**

5.9 Aesthetics (Concrete Stockpiles, Tyre and Brick Stockpile)

Various Concrete Stockpiles

Concrete stockpiles (SP1, SP3-SP14) were identified as an aesthetic risk in the RAP (Alliance 2023). In accordance with the RAP (Alliance 2023), concrete stockpiles were removed and disposed off-site to a suitable licenced waste receiving facility. As asbestos was not identified within these concrete stockpiles, these works were undertaken by JKW during Phase 1 of the Remediation Project. A waste classification was not deemed necessary based on pre-classification as building and demolition waste. A photographic log was prepared by EP Risk to document / confirm the removal of concrete stockpiles and have been attached within **Appendix A** of this Report.

Concrete stockpile SP2, SP15 and SP16 were identified as an aesthetic risk in the RAP (Alliance 2023), however was also contaminated with bonded (non-friable) ACM. As such, concrete stockpile SP2, SP15 and SP16 and UF019 were removed and transported to the central (southern) stockpiling pad as Special Waste by TCE during

Phase 1 of the Remediation Project. UF019 was another concrete stockpile contaminated with bonded (non-friable) ACM that was identified as an unexpected find during Phase 1 of the Remediation Project. Following the removal of the contaminated stockpile from its original location, this area was validated as discussed in accordance with **Section 7**, with results discussed in **Section 11**. The contaminated concrete was later buried within the on-site Containment Cell. See **Section 5.12** for more details relating to the burial of this material.

AEC14: Tyre and Brick Stockpiles

The tyre and brick stockpile within AEC14 was identified as an aesthetic risk in the RAP (Alliance 2023). However, due to observations of weathered bonded (non-friable) ACM in the form of asbestos super six-sheeting fragments on the surface of AEC14, within close proximity to the tyre and brick stockpile, the tyres and bricks were removed by TCE as F3 material and stockpiled separately to contaminated soils within AEC14 within the stockpiling and treatment pad during Phase 1 of the Remediation Project. Following removal works these areas were validated in accordance with **Section 7**, with results discussed in **Section 11**. The contaminated bricks were later buried within the on-site Containment Cell. See **Section 5.12** for more details relating to the burial of this material. The contaminated tyres were disposed off-site to a likened landfill facility as Special Waste (Asbestos). The rationale and deviations to the remediation methodology stipulated in the RAP (Alliance 2023) and Addendum (EP Risk 2023) has been discussed in more detail in **Section 6.3.**

AEC21: Demolition Waste

The demolition waste within AEC21 at a depth between 0 mBGS – 1 mBGS was identified as an aesthetic risk in the RAP (Alliance 2023). As per Section 6.5.4 in the RAP (Alliance 2023), the assessment of aesthetic risk should be undertaken in the context of the sensitivity of the proposed land use and should include considerations of the following:

- That chemically discoloured soils, or large quantities of various types of inert refuse, particularly if unsightly, may cause ongoing concern to site users;
- The depth of the materials, including chemical residues, in relation to the final surface of the Site;
- The need for, and practicality of, any long-term management of foreign material;
- The presence of small quantities of non-hazardous materials and low odour residue (e.g. weak petroleum odours) that will decrease over time should not be a cause of concern in most circumstances;
- Sites with large quantities of well-covered inert material that present no health hazard such as brick fragments and cement wastes are usually of low concern for non-sensitive and sensitive land uses; and
- Caution should be used when assessing sensitive land uses, such as residential, when large quantities of various fill types and demolition rubble are present.

Following remediation works. these areas were validated in accordance with **Section 7**, with results discussed in **Section 11.** The rationale and deviations to the remediation methodology stipulated in the RAP (Alliance 2023) and Addendum (EP Risk 2023) has been discussed in more detail in **Section 6.3.**

5.10 Treatment of B3 Material

Some B3 treatment works were undertaken by TCE at the central (southern) stockpiling and treatment pad during Phase 1 of the Remediation Project between 13 July 2023 – 18 July 2023. A total of fourteen (14) 10 m^3 stockpiles from test pit DW23 from AEC19a (approximately 140 m^3) were treated during Phase 1 of the Remediation Project. Following remediation works. these areas were validated in accordance with **Section 7**,

with results discussed in **Section 11.** Once these stockpiles were validated by EP Risk, these stockpiles were consolidated within one (1) B2 stockpile.

Due to time limitations, the treatment of B3 material was halted until further notice. Only one (1) 500 mL sample for asbestos gravimetric analysis was collected for It is understood the treatment of B3 soils would happen at a later date, under a different tender and potentially undertaken by different remediation contractor. The result of this asbestos gravimetric analysis sample has been summarised within **Section 11.3.**

The treatment of the remainder B3 material at the central (southern) stockpiling and treatment pad during Phase 2 of the Remediation Project was undertaken by Omega, the Class A LARC and validated by FES, during Phase 2 of the Remediation Project between 28 September 2023 – 5 October 2023 in general accordance with the RAP (Alliance 2023) and Addendum (EP Risk 2023). Following remediation works these areas were validated in accordance with **Section 7**, with results discussed in **Section 11**. Deviations to the RAP (Alliance 2023) and Addendum (EP Risk 2023) have been summarised in **Section 6.3.**

5.11 Asbestos Placement Areas

As per EP Risk (2023a), the RAP Addendum required B2 (including former B3 material subsequent to treatment) to be placed at a minimum >0.1 m below finished ground level and in areas where no services will be installed, with the location of this material tracked, and a survey undertaken to confirm placement at depth. Additional requirements were placed on the burial of the material by ESR. It is understood ESR required the material to be placed at a minimum > 2 m below finished ground level to ensure adequate clearance from future building works, services and landscaping.

The placement of B2 material during Phase 1 of the Remediation Project was undertaken by JKW, under the supervision of TCE, a Class A LARC between 19 September 2023 to 25 September 2023. EP Risk conducted control airborne asbestos fibre air monitoring during the works. An unknown volume of B2 material from AEC19a was buried within one (1) Asbestos Placement Area on-site (**Figure 10**), known as the Lot 5 Northern Finger Placement Area. This Placement Area was later expanded a during Phase 2 of the Remediation Project.

The placement of B2 material during Phase 2 of the Remediation Project was undertaken between 28 September 2023 to 05 October 2023. Omega was reported as the Class A LARC involved in the works. FES was reported as the LAA involved in the works. B2 material was buried within two (2) Asbestos Placement Areas on-site (**Figure 10**):

1) **Lot 4 Placement Area:** encompasses a portion of the new Lot 4, currently a portion of Lot 111 and Lot 112 in DP1296469.
    a. Contained B2 material from TP246 (AEC19a), TP248 (AEC19a), TP256 (AEC19a), DW23 (AEC19a), Treated Stockpile, AEC19a-002, AEC13, AEC15, AEC23, AEC32a, AEC38, UF025 and UF026.
    b. Covered an area of approximately 8,050 m^2
    c. Had a theoretical capacity of 12,500 m^3, and an actual quantity of 12,384 m^3 of material.
    d. The average fill depth was 2.9 m.
    e. Material was placed at an approximate depth of 3.2 m – 6.8 m below finished surface levels and covered with Site won Clay/Shale.
    f. The capping material was placed and certified by a Level 1 Geotechnical Consultant from Douglas Partners.
2) **Lot 5 Northern Finger Placement Area:** encompasses a portion of the new Lot 5, currently a portion of Lot 112 in DP129649.

a. Contained B2 material from AEC19a.

b. Covered an area of approximately 19,800 m^2.

c. Had a theoretical capacity of 8,500 m^3 and an actual quantity of 8,185 m^3.

d. The average fill depth was 2.1 m.

e. Material was placed at an approximate depth of 2.2 – 4.6 m below finished surface levels and covered with Site won clay / shale, blended to geotechnical specifications stipulated by Douglas Partners.

f. The capping material was placed and certified by a Level 1 Geotechnical Consultant from Douglas Partners.

Following remediation works these areas were validated in accordance with **Section 7.** A survey was undertaken of both Asbestos Placement Areas prior to burial works, subsequent to burial works and of the final ground level to confirm the placement of the material at depth. The surveys have been attached within **Appendix D.**

An Asbestos Management Plan (AMP) was prepared by EP Risk (2024b)[11], for the management of asbestos below the HSL, placed at depth on-site, as well as for the management of unexpected asbestos finds at the Site, outside of the Asbestos Placement Areas.

Deviations to the RAP (Alliance 2023) and Addendum (EP Risk 2023) have been summarised in **Section 6.3.**

5.12 Containment Cell

As per EP Risk (2023a), the RAP Addendum required the material within the on-site Containment Cell to be placed at a minimum > 0.5 m below finished ground level. Additional requirements were placed on the burial of the material by ESR. It is understood ESR required the material to be placed at a minimum > 2 m below finished ground level to ensure adequate clearance from future building works, services, and landscaping.

It is understood the construction and placement of F2 and F3 material was undertaken during Phase 2 of the Remediation Project. Remediation works were undertaken between 23 October 2023 to 01 November 2023. Penny Green was reported as the Class A LARC involved in the works. FES was reported as the LAA involved in the works.

The details of the on-site Containment Cell have been summarised below:

- The on-site Containment Cell was constructed within a portion of the new Trunk Drainage Swale, currently a portion of Lot 112 in DP1296469.
- This Containment Cell contained F2 and F3 material from TP242 (AEC19a), TP244 (AEC19a), TP247 (AEC19a), TP250 (AEC19a), AEC19a-001, AEC01a, AEC13, AEC14, AEC24a and UF024.
- According to the written response provided by GKC, the brick stockpile from AEC14 (deemed as F3) and concrete stockpiles contaminated with asbestos (SP2, SP15 and SP16, UF012) was also placed within the on-site Containment Cell.
- The on-site Containment Cell had a theoretical capacity of 2,250 m^3 and an actual quantity of 2,198 m^3.
- The average fill depth was 2.5 m.

[11] EP Risk (2024b), *Asbestos Management Plan (AMP)*, Aldington Road and Abbotts Road, Kemps Creek, NSW, ref: EP3244.008_v1, dated 28 August 2024.

- Material was placed at an approximate depth of 0.8 – 4.2 m below finished surface levels, encapsulated with a hi visibility geotextile marker layer and covered with Site won clay / shale, blended to geotechnical specifications stipulated by Douglas Partners.
- The capping material was placed and certified by a Level 1 Geotechnical Consultant from Douglas Partners.

Following remediation works these areas were validated in accordance with **Section 7.** A survey was undertaken of the Containment Cell prior to burial works, subsequent to burial works and of the final ground level to confirm the placement of the material at depth. The surveys have been attached within **Appendix E.**

A LTEMP was prepared by EP Risk (2024c)[12] for the long-term management of the containment cell and capping material above it.

Deviations to the RAP (Alliance 2023) and Addendum (EP Risk 2023) have been summarised in **Section 6.3.**

5.13 Materials Tracking

The Remediation Contractor was responsible for tracking the movement of materials at all stages of the remediation and validation process. This includes during the excavation of materials from an AEC, the transportation of materials from an AEC to the stockpiling and treatment pad and the placement of B2, F2, F3 and O2 materials on-site in accordance with the requirements of the remediation hierarchy. The final placement of B2, F2, F3 and O2 materials must be recorded on a survey to confirm placement in accordance with the requirements of the Addendum (EP Risk 2023).

During Phase 1 of the Remediation Project (10 July 2023 and 25 September 2023), TCE provided ESR, JKW and EP Risk with a daily soil movement record via email. During this phase of works, in-situ / ex-situ treatment for bonded (non-friable) ASBINS was undertaken, and materials were excavated and transported to the central (southern) and eastern stockpiling and treatment pads for future treatment / placement at depth / off-site disposal or placement within a containment cell.

During Phase 2 of the Remediation Project (28 September 2023 and 03 November 2023), materials tracking of B2, B3, F2, F3 and O2 materials was undertaken by JKW. Material buried at the Site within the Asbestos Placement Areas were detailed within JKW (2024[13]) and material placed within the on-site Containment Cell was recorded by JKW (2024a[14]).

Deviations to the RAP (Alliance 2023) and Addendum (EP Risk 2023) have been summarised in **Section 6.3.**

TCE (2023)[15] Daily Record Soil Movement

[12] EP Risk (2024c), *Long Term Environmental Management Plan (LTEMP),* Aldington Road and Abbotts Road, Kemps Creek, NSW, ref: EP3244.009_v1, dated 28 August 2024.

[13] JKW (2024), Remediation Works – Non-Friable (B2/B3) and Friable (F2) Containment Cell Report, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: JKW Report B2 Rev Material 1 Rev1, no date. Later revised as JKW (2024a), Remediation Works – Non-Friable (B2/B3) Burial Zone Report, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: JKW Report B2 Material 1 Rev2, no date.

[14] JKW (2024b), Remediation Works – Friable (F3) Containment Cell Report, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: JKW Report F3 Material Rev1, no date. Later revised as JKW (2024c), Remediation Works – Friable (F2/F3) Containment Cell Report, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: JKW Report F3 Material Rev2, no date.

[15] TCE (2023), Daily Record of Soil Movement, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: 20230922-P197-TCE-FOR-140 Daily Record Soil Movement, dated 22 September 2023.

TCE (2023) issued a final Daily Record of Soil Movement Report on 22 September 2023, that outlined the location of B2, B3, F2, F3 and O2 materials on-site at the time of demobilisation.

At the end of Phase 1 of the Remediation Project, the following materials were stockpiled at the bonded (non-friable) portion of the central (southern) stockpiling and treatment pad:

- **B3:** TP246 (AEC19a), TP248 (AEC19a), TP256 (AEC19a), DW23 (AEC19a), AEC19a-002, AEC13, AEC15, AEC23, UF025, UF026, AEC32a Vegetation Scrape and AEC38 Vegetation Scrape.
- **B2:** AEC19a and fourteen (14) 10m^3 treated stockpiles from DW23 (AEC19a).
- **Bonded (non-friable) ACM contaminated concrete stockpile**: SP2, SP15, SP16 and UF019.

The number of stockpiles and volumes of material was not documented in this report.

At the end of Phase 1 of the Remediation Project, the following materials were stockpiled at the friable portion of the central (southern) stockpiling pad:

- **F3:** TP244 (AEC19a), TP247 (AEC19a), TP250 (AEC19a), AEC19a-001, AEC01a, AEC13, AEC14, AEC14 Bricks, AEC24a and UF024.
- **F2:** TP242 (AEC19a).

The number of stockpiles and volumes of material was not documented in this report.

At the end of Phase 1 of the Remediation Project, the following septic tank and pit materials were stockpiled at the eastern stockpiling pad:

- **O1:** 16SEP01 (AEC16), 16SEP02 (AEC16), 16VAL01 (AEC16), 16VAL02 (AEC16), AEC22_VAL01 (AEC22), 39VAL01 (AEC39), 40VAL01 (AEC40), 40VAL02 (AEC40) and 40VAL04 (AEC40).
- **O2:** 40SEP01 (AEC40) and 40SEP02 (AEC40).
- **O2 + B3:** AEC22_SEP01 (AEC22) and AEC22_SEP02 (AEC22).

The volume of material generated from each septic tank and pit was not documented in this report.

5.14 Waste Management

Prior to the commencement of remediation works, ESR communicated the intention to retain as much material on-site to minimise costs associated with off-site disposal. To support this approach, EP Risk developed a remediation hierarchy within the Addendum (EP Risk 2023), that comments on the suitability of soil material only to remain on-site and provided details for a Containment Cell to be constructed on-site, with a LTEMP.

It was understood the on-site containment strategy for unsuitable materials was implemented during Phase 2 of the Remediation Project. It should be noted, asbestos contaminated building material, such as concrete stockpiles and bricks and tyres were also buried within the Containment Cell on-site instead of being disposed of off-site. This is a deviation from the RAP (Alliance 2023) and Addendum (EP Risk 2023).

At the end of the Phase 1 of the Remediation Project (25 September 2023), all excavated soil materials and asbestos contaminated building materials remained stockpiled at the central (southern) and eastern stockpiling pads.

At the end of the Phase 1 of the Remediation Project bonded (non-friable) ACM, in the form of AC fragments (AEC23a, UF027 and treatment of B3 materials), AC sheeting (UF021) and AC conduits (UF003, UF012, UF015, UF020 and UF024) were the only materials disposed off-site at a licensed landfill facility as Special Waste (Asbestos). Bonded (non-friable) ACM within these AECs and UFs were wrapped in 200 µm black plastic sheeting or placed within 200 µm asbestos waste bags for disposal in a skip bin that was collected at the end of

remediation works and transported to a licensed landfill facility. A copy of waste disposal dockets provided has been provided in **Appendix I** below.

During Phase 2 of the Remediation Project (28 September 2023 and 03 November 2023), all friable ASBINS (F2 and F3 material) and asbestos contaminated building materials (brick and concrete) were buried within the on-site Containment Cell. Bonded (non-friable) ACM associated with the treatment of B3 material and asbestos contaminated tyres and geotextile fabric were the only materials disposed off-site at a licensed landfill facility as Special Waste (Asbestos). A copy of waste disposal dockets provided has been provided in **Appendix I** below.

At the conclusion of Phase 2 of the Remediation Project, O2 materials from 40SEP01 was placed within an Asbestos Placement Area (Lot 5 Northern Finger Placement Area) and O2 and B3 materials from 40SEP02, AEC22_SEP01 and AEC22_SEP02 were consolidated and moved for stockpiling off-site at the adjacent Westlink Stage 2 project, which falls within the same SSD **(Figure 12)**. Concrete waste associated with the septic tanks were reportedly washed in-place to ensure no soil remained and disposed to a concrete recycling facility.

As per the Addendum (EP Risk 2023a), B3 material must be subject to mechanical raking and emu p9icking treatment and successfully validated in order for the material to be downgraded to B2 status. Once classified as B2 material, the material is suitable to remain on-stie subject to placement > 0.1 m below finished ground level in areas where no services will be installed. The location of this material must be tracked, and a survey undertaken to confirm placement at depth.

As per the Addendum (EP Risk 2023a), O2 material is unsuitable to remain on-site, subject to placement > 2 m below finished ground level and in areas where no services will be installed. The location of this material must be tracked, and a survey undertaken to confirm placement at depth.

An Addendum should be issued to this SRVR to address the completion of the above works in accordance with the RAP (Alliance 2023) and Addendum (EP Risk 2023a).

This deviation and non-conformance from the RAP (Alliance 2023) and Addendum (EP Risk 2023a) has been discussed further in **Section 6.3** and **Section 12.**

5.15 Material Importation

It is understood cut and fill works at the Site involved site-won materials only. EP Risk is not aware of material being imported to the Site during Phase 1 and Phase 2 of the Remediation Project. The capping material used above the Asbestos Placement Areas and on-site Containment Cell comprised Site won clay / shale.

5.16 Airborne Asbestos Fibre Air Monitoring Reports

All airborne asbestos fibre air monitoring was undertaken and analysed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres, 2nd Edition [NOHSC:3003(2005)]*, Australia National Occupational Health and Safety Commission.

A copy of all airborne asbestos fibre air monitoring reports has been provided within **Appendix H**.

Asbestos Work Areas

The purpose of control airborne asbestos fibre monitoring is to assess the effectiveness of controls adopted during ASBINS remediation works.

During Phase 1 of the Remediation Project, control airborne asbestos fibre air monitoring was undertaken daily at the boundary of the asbestos work areas, for both bonded (non-friable) and friable ASBINS remediation works.

During Phase 2 of the Remediation Project, control airborne asbestos fibre air monitoring was undertaken on during the removal / movement of friable ASBINS between 23 October 2023 to 27 October 2023.

Plant / Equipment

At the conclusion of the remediation works within Phase 1 of the Remediation Project, and following final decontamination works and visual clearance inspections, EP Risk conducted clearance airborne asbestos fibre monitoring inside plant and equipment used to undertake ASBINS remediation works. This included five (5) excavators, two (2) dump trucks and two (2) decontamination units.

6 Works Chronology

6.1 Unexpected Finds

Section 11.6 of the RAP (Alliance 2023) discusses the contingency plan should potential ACM be encountered beyond the inferred extent of remediation and should unexpected, buried contamination or underground structures be encountered during remedial works.

The UFs procedure described the following steps:

1. Cease remedial works.
2. Consider undertaking intrusive soil investigations to assess the potential nature and extent of contamination / structure.
3. Consider undertaking groundwater assessment works if there is a risk to groundwater.
4. Prepare an amendment to the remediation and/or validation strategy in the RAP, if required.
5. Remediate the unexpected contamination.
6. Undertake validation of the remedial works.

During the course of the Phase 1 of the Remediation Project, UFs related to asbestos often arose within the boundaries of existing AECs or beyond the boundaries of existing AECs. Other UFs identified during Phase 1 of the Remediation Project included concrete stockpiles contaminated with ACM and the identification of an additional septic tank system.

UFs were raised by EP Risk, TCE and JKE and formally documented within an UFs register by TCE. When a UFs was identified, remedial works were stopped, the area of the UFs was barricaded and an assessment was undertaken by EP Risk to determine the extent of the UFs and contamination risk. This assessment comprised of visual inspections only.

A list of the UFs identified during Phase 1 of the Remediation Project (10 July 2023 - 25 September 2023), and the remediation and validation methodology adopted have been summarised in **Table 8** below. Referenced ACC are provided in **Appendix G.**

No unexpected finds were reported during Phase 2 of the Remediation Project (28 September 2023 - 03 November 2023), however the materials sourced from the UFs were managed under the Phase 2 works, as discussed in **Section 10** below.

Deviations to the RAP (Alliance 2023) and Addendum (EP Risk 2023a) have been summarised in **Section 6.3.**

Table 8 – Summary of Unexpected Finds Contamination

UFs Ref	Date UFs Raised by TCE	UFs Description and Location	UFs Remediation Methodology	UFs Validation Methodology
UF001	11.07.2023	Stockpile (3 m x 1 m to a depth of 0.3 mBGS) consisting of bonded (non-friable) ACM fragments in poor condition adjacent to northern entry gate off Abbotts Road, south of AEC01a. Due to the poor condition of the fragments, soil and fragments have been deemed by EP Risk as friable asbestos (F3 material).	Soil and fragments were excavated for stockpiling at the stockpiling and treatment pad as F3 material during Phase 1 of the Remediation Project. F3 material was placed within the Containment Cell on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • 1x 500 mL soil sample was collected at the base of the excavation for asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory. ACC Ref: EP3244.003_ACC011_v1
UF002	14.07.2023	ACM fragments identified underneath and around concrete stockpiles SP15 & SP16 located within AEC13. Due to the presence of ACM within the concrete stockpiles, the stockpiles have been deemed by EP Risk as Special Waste.	SP15 and SP16 were removed and transported to the stockpiling pad / treatment pad by TCE as Special Waste during Phase 1 of the Remediation Project. Asbestos contaminated concrete stockpiles were placed within the Containment Cell on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC013_v1
UF003	14.07.2023	AC conduit identified within the western portion of AEC01a, adjacent to a tree during in-situ treatment works. A portion of the AC conduit was broken by the tooth bucket of the excavator. The length and direction of AC conduit was unknown. Soil within the conduit break zone (approximately 1 m x 1 m to a depth of 0.3 mBGS) was deemed by EP Risk as friable asbestos (F3 material). The remainder of the AC conduit, if removed in good condition was deemed by EP Risk as Special Waste.	During Phase 1 of the Remediation Project: • Soil within the conduit break zone was excavated and for stockpiling at the stockpiling and treatment pad as F3 material. • Following the initial excavation, a 1 m trench on either side of the AC conduit was carefully excavated to expose the remaining length of the conduit. • Once the entire length of the conduit was identified, the conduit was carefully removed from the trench and wrapped in 200 µm black plastic sheeting for disposal in the asbestos skip bin as Special Waste (Asbestos).	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • 1x 500 mL soil sample was collected at the base of the conduit break zone for Asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory. ACC Ref: EP3244.003_ACC003_v1

Table 8 – Summary of Unexpected Finds Contamination

UFs Ref	Date UFs Raised by TCE	UFs Description and Location	UFs Remediation Methodology	UFs Validation Methodology
UF004	14.07.2023	A second septic tank system was identified within AEC16.	• The septic tank and absorption trench (if any) was removed using an excavator. • The contents of the septic tank and surrounding soils were excavated and placed adjacent to the AEC as separate stockpiles. • Irrigation lines, spray head, sprinklers and drippers were flushed with potable water for 5 minutes. Septic tank materials were removed from the eastern stockpiling pad by the end of Phase 2 of the Remediation Project. Materials from AEC16 were classified as O1 material, suitable to remain on-site, without management requirements.	• A visual assessment of the excavation footprint for visual and olfactory signs of contamination; • Collection of soil samples from stockpiled materials (contents of the septic tank and surrounding soils) and of the excavation footprint and for analytical testing at a NATA accredited laboratory for petroleum hydrocarbons, PAH, metals, E.coli and thermotolerant coliforms. Refer to **Section 9 f**or validation results.
UF005	19.07.2023	ACM fragments identified during scrape of B2 material within AEC19a in an area along the eastern boundary of AEC19a. Based on the poor condition of the fragments, soil and fragments have been deemed by EP Risk as friable asbestos (F3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as F3 material (AEC19a-001) during Phase 1 of the Remediation Project. F3 material was placed within the Containment Cell on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • 1x 500 mL soil sample was collected at the base of the excavation for Asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory. ACC Ref: EP3244.003_ACC004_v1
UF006	26.07.2023	ACM fragments identified during scrape of B2 material within AEC19a in an area along the western boundary of AEC19a. Based on the fair condition of the fragments, soil and fragments have been deemed by EP Risk as bonded (non-friable) asbestos (B3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as B3 material (AEC19a-002) during Phase 1 of the Remediation Project. B3 material was treated at the central (southern) stockpiling pad, then placed within one of the Asbestos Placement Areas on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC004_v1

Table 8 – Summary of Unexpected Finds Contamination

UFs Ref	Date UFs Raised by TCE	UFs Description and Location	UFs Remediation Methodology	UFs Validation Methodology
UF007	19.07.2023	ACM fragments identified during scrape of B2 material within AEC19a, east of TP250. Based on the fair condition of the fragments, soil and fragments have been deemed by EP Risk as bonded (non-friable) asbestos (B3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as B3 material (AEC19a-002) during Phase 1 of the Remediation Project. B3 material was treated at the central (southern) stockpiling pad, then placed within one of the Asbestos Placement Areas on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC004_v1
UF008	28.07.2023	ACM fragments identified during scrape of B2 material within AEC19a in an area along the eastern boundary of AEC19a, east of UF005. Based on the poor condition of the fragments, soil and fragments have been deemed by EP Risk as friable asbestos (F3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as F3 material (AEC19a-001) during Phase 1 of the Remediation Project. F3 material was placed within the Containment Cell on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • 1x 500 mL soil sample was collected at the base of the excavation for Asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory. ACC Ref: EP3244.003_ACC004_v1
UF009	28.07.2023	ACM fragments identified during scrape of B2 material within AEC19a in an area along the western boundary of AEC19a, west of TP246. Based on the poor condition of the fragments, soil and fragments have been deemed by EP Risk as friable asbestos (F3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as F3 material (AEC19a-001) during Phase 1 of the Remediation Project. F3 material was placed within the Containment Cell on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • 1x 500 mL soil sample was collected at the base of the excavation for Asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory. ACC Ref: EP3244.003_ACC004_v1

Table 8 – Summary of Unexpected Finds Contamination

UFs Ref	Date UFs Raised by TCE	UFs Description and Location	UFs Remediation Methodology	UFs Validation Methodology
UF010	24.07.2023	ACM fragments identified during scrape of B2 material within AEC19a within the eastern batter of AEC19a. Based on the poor condition of the fragments, soil and fragments have been deemed by EP Risk as friable asbestos (F3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as F3 material (AEC19a-001) during Phase 1 of the Remediation Project. F3 material was placed within the Containment Cell on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • 1x 500 mL soil sample was collected at the base of the excavation for Asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory. ACC Ref: EP3244.003_ACC004_v1
		ACM fragments identified during scrape of B2 material within AEC19a within the eastern batter of AEC19a. Based on the fair condition of the fragments, soil and fragments have been deemed by EP Risk as bonded (non-friable) asbestos (B3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as B3 material (AEC19a-002) during Phase 1 of the Remediation Project. B3 material was treated at the central (southern) stockpiling pad, then placed within one of the Asbestos Placement Areas on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC004_v1
UF011	24.07.2023	ACM fragments identified during scrape of B2 material within AEC19a in an area along the western boundary of AEC19a, north of UF007. Based on the fair condition of the fragments, soil and fragments have been deemed by EP Risk as bonded (non-friable) asbestos (B3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as B3 material (AEC19a-002) during Phase 1 of the Remediation Project. B3 material was treated at the central (southern) stockpiling pad, then placed within one of the Asbestos Placement Areas on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC004_v1

Table 8 – Summary of Unexpected Finds Contamination

UFs Ref	Date UFs Raised by TCE	UFs Description and Location	UFs Remediation Methodology	UFs Validation Methodology
UF012	27.07.2023	AC conduit identified during scrape of B2 material within AEC19a in an area along the eastern boundary.	The conduit was carefully removed and wrapped in 200 µm black plastic sheeting for disposal in the asbestos skip bin as Special Waste (Asbestos) during Phase 1 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC004_v1
UF013	24.07.2023	ACM fragments identified during scrape of B2 material within AEC19a in an area along the western wall of TP246. Based on the fair condition of the fragments, soil and fragments have been deemed by EP Risk as bonded (non-friable) asbestos (B3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as B3 material (AEC19a-002) during Phase 1 of the Remediation Project. B3 material was treated at the central (southern) stockpiling pad, then placed within one of the Asbestos Placement Areas on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC004_v1
UF014	25.07.2023	ACM fragments identified during scrape of B2 material within AEC19a in an area along the southwestern portion of AEC19a. Based on the fair condition of the fragments, soil and fragments have been deemed by EP Risk as bonded (non-friable) asbestos (B3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as B3 material (AEC19a-002) during Phase 1 of the Remediation Project. B3 material was treated at the central (southern) stockpiling pad, then placed within one of the Asbestos Placement Areas on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC004_v1

Table 8 – Summary of Unexpected Finds Contamination

UFs Ref	Date UFs Raised by TCE	UFs Description and Location	UFs Remediation Methodology	UFs Validation Methodology
UF015	27.07.2023	AC conduit identified within central west batter of AEC38, adjacent to a tree during vegetation scrape works. A portion of the AC conduit was broken by tooth bucket of the excavator. The length and direction of AC conduit was unknown. Soil within the conduit break zone (approximately 1 m x 1 m to a depth of 0.3 mBGS) was deemed by EP Risk as friable asbestos (F3 material). The remainder of the AC conduit, if removed in good condition was deemed by EP Risk as Special Waste.	During Phase 1 of the Remediation Project: • Soil within the conduit break zone was excavated and for stockpiling at the stockpiling and treatment pad as F3 material. • Following the initial excavation, a 1 m trench on either side of the AC conduit was carefully excavated to expose the remaining length of the conduit. • Once the entire length of the conduit was identified, the conduit was carefully removed from the trench and wrapped in 200 µm black plastic sheeting for disposal in the asbestos skip bin as Special Waste (Asbestos).	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • 1x 500 mL soil sample was collected at the base of the conduit break zone for Asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory. ACC Ref: EP3244.003_ACC009_v1
UF016	28.07.2023	ACM fragments identified during scrape of B2 material within AEC19a in an area along the western boundary of AEC19a. Based on the poor condition of the fragments, soil and fragments have been deemed by EP Risk as friable asbestos (F3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as F3 material (AEC19a-001) during Phase 1 of the Remediation Project. F3 material was placed within the Containment Cell on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • 1x 500 mL soil sample was collected at the base of the excavation for Asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory. ACC Ref: EP3244.003_ACC004_v1

Table 8 – Summary of Unexpected Finds Contamination

UFs Ref	Date UFs Raised by TCE	UFs Description and Location	UFs Remediation Methodology	UFs Validation Methodology
UF017	28.07.2023	ACM fragments identified during scrape of B2 material within AEC19a in an area around TP247, up to TP250. Based on the fair condition of the fragments, soil and fragments have been deemed by EP Risk as bonded (non-friable) asbestos (B3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as B3 material (AEC19a-002) during Phase 1 of the Remediation Project. B3 material was treated at the central (southern) stockpiling pad, then placed within one of the Asbestos Placement Areas on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC004_v1
UF018	31.07.2023	ACM fragments identified during scrape of B2 material within AEC19a in an area along the southern boundary of AEC19a, east of TP256. Based on the poor condition of the fragments, soil and fragments have been deemed by EP Risk as friable asbestos (F3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as F3 material (AEC19a-001) during Phase 1 of the Remediation Project. F3 material was placed within the Containment Cell on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • 1x 500 mL soil sample was collected at the base of the excavation for Asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory. ACC Ref: EP3244.003_ACC004_v1
UF019	12.07.2023	Concrete stockpile contaminated with bonded (non-friable) AC fragments, located north of AEC01a.	Concrete stockpile was removed and transported to the stockpiling pad / treatment pad by TCE as Special Waste during Phase 1 of the Remediation Project. Asbestos contaminated concrete stockpiles were placed within the Containment Cell on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC006_v1

Table 8 – Summary of Unexpected Finds Contamination

UFs Ref	Date UFs Raised by TCE	UFs Description and Location	UFs Remediation Methodology	UFs Validation Methodology
UF020	02.08.2023	Bonded (non-friable) AC conduit identified within AEC33 prior to the vegetation scrape.	The conduit was carefully removed and wrapped in 200 µm black plastic sheeting for disposal in the asbestos skip bin as Special Waste (Asbestos) during Phase 1 of the Remediation Project. Waste was disposed off-site to a licensed landfill facility.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC023_v1
UF021	02.08.2023	Bonded (non-friable) AC sheeting identified within AEC33 prior to the vegetation scrape.	The AC sheeting was carefully removed and wrapped in 200 µm black plastic sheeting for disposal in the asbestos skip bin as Special Waste (Asbestos) during Phase 1 of the Remediation Project. Waste was disposed off-site to a licensed landfill facility.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC023_v1
UF022	03.08.2023	ACM fragments identified during vegetation scrape of AEC38, considered too small / impracticable for emu picking. Based on the small size of the fragments, soil and fragments have been deemed by EP Risk as friable asbestos (F3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as F3 material. F3 material was placed within the Containment Cell on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • On-site field screening for bonded (non-friable) ACM (>7mm). ACC Ref: EP3244.003_ACC007_v1
UF023	09.08.2023	Concrete stockpile suspected to be contaminated with bonded (non-friable) AC fragments identified to the east of AEC38 (upper). EP Risk collected a sample of a fragment for analytical testing. The sample did not contain asbestos. As such, the concrete stockpile was removed from Site by JKW.	N/A	N/A

Table 8 – Summary of Unexpected Finds Contamination

UFs Ref	Date UFs Raised by TCE	UFs Description and Location	UFs Remediation Methodology	UFs Validation Methodology
UF024	11.08.2023	3x AC conduits identified within central batter of AEC38, east of UF015 during JKW earthworks. The 2 westernmost conduits were damaged by the JKW scrapers, with broken conduit fragments spread across the surface of the UFs area. The easternmost conduit was undamaged. The length and direction of AC conduit was unknown but suspected to be similar to UF015. The 2 westernmost conduits, soil within 1 m either side of the conduits were to a depth of 0.3 mBGS, soil across the UFs extent up to a depth of 0.1 mBGS were deemed by EP Risk as friable asbestos (F3 material). The easternmost AC conduit, if removed in good condition was deemed by EP Risk as Special Waste.	During Phase 1 of the Remediation Project: • The 2 westernmost conduits and soil within 1 m of either side to a depth of 0.3 mBGS and soil across the UFs extent up to a depth of 0.1 mBGS was excavated and for stockpiling at the stockpiling and treatment pad as F3 material. • Following the excavation, a 1 m trench on either side of the easternmost AC conduit was carefully excavated to expose the remaining length of the conduit. • The easternmost conduit was carefully removed and wrapped in 200 µm black plastic sheeting for disposal in the asbestos skip bin as Special Waste (Asbestos). • Waste was disposed off-site to a licensed landfill facility.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • 24x 500 mL soil sample was collected at the base of the conduit break zone for asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory. ACC Ref: EP3244.003_ACC016_v1
		2x loads of asbestos contaminated soil originating from the UFs extent were transported by JKW to an area south of the stockpile/treatment pad haul road. Due to the presence of ACM fragments related to the damaged AC conduits, soils within this were deemed by EP Risk as friable (F3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as F3 material during Phase 1 of the Remediation Project. F3 material was placed within the Containment Cell on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • On-site field screening for bonded (non-friable) ACM (>7mm). • 14x 500 mL soil sample was collected at the base of the conduit break zone for Asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory. ACC Ref: EP3244.003_ACC016_v1

Table 8 – Summary of Unexpected Finds Contamination

UFs Ref	Date UFs Raised by TCE	UFs Description and Location	UFs Remediation Methodology	UFs Validation Methodology
UF025	14.08.2023	ACM fragments identified south of AEC38 Upper during JKW earthworks. Based on the fair condition of the fragments, soil and fragments have been deemed by EP Risk as bonded (non-friable) asbestos (B3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as B3 material during Phase 1 of the Remediation Project. B3 material was treated at the central (southern) stockpiling pad, then placed within one of the Asbestos Placement Areas on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • On-site field screening for bonded (non-friable) ACM (>7mm). ACC Ref: EP3244.003_ACC012_v1
UF026	17.08.2023	ACM fragments identified northeast of AEC38 Lower during JKW earthworks. Based on the fair condition of the fragments, soil and fragments have been deemed by EP Risk as bonded (non-friable) asbestos (B3 material).	Soil within the UFs extent was excavated for stockpiling at the stockpiling and treatment pad as B3 material during Phase 1 of the Remediation Project. B3 material was treated at the central (southern) stockpiling pad, then placed within one of the Asbestos Placement Areas on-site during Phase 2 of the Remediation Project.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. • On-site field screening for bonded (non-friable) ACM (>7mm). ACC Ref: EP3244.003_ACC019_v1
UF027	04.09.2023	ACM fragments identified on the surface east of AEC14. Due to small quantities and observations of ACM localised to surficial soils, ACM fragments were deemed by EP Risk as Special Waste.	The ACM fragments were carefully emu picked and placed in a 200 µm asbestos waste bag for disposal in the asbestos skip bin as Special Waste (Asbestos) during Phase 1 of the Remediation Project. Waste was disposed off-site to a licensed landfill facility.	• A visual assessment of the surface soils of the UFs extent for visible asbestos. ACC Ref: EP3244.003_ACC022_v1

6.2 Chronology of Remediation and Validation Works

A summary of the remediation works undertaken by TCE, and validation works undertaken by EP Risk over Phase 1 of the Remediation Project (10 July 2023 and 25 September 2023) and Phase 2 of the Remediation Project (28 September 2023 and 03 November 2023), can be found in **Table 9** below.

Table 9 – Remediation and Validation Works Chronology

Week	Dates	Summary of Works
Phase 1 of the Remediation Project (10 July 2023 and 25 September 2023)		
Week 0	05.07.2023 – 06.07.2023	Delineation sampling undertaken within AEC19a.
Week 1	10.07.2023 – 14.07.2023	Delineation sampling undertaken within AEC19a. Remediation and validation works were undertaken in AEC01a, AEC18, AEC19a, AEC38, Treatment Pad (AEC19a), UF003, UF018 and SP2
Week 2	17.07.2023 – 21.07.2023	Remediation and validation works were undertaken in AEC19a, UF005 and UF007.
Week 3	24.07.2023 – 30.07.2023	Remediation and validation works were undertaken in AEC01a, AEC19a, AEC32 – TP201, AEC32a – TP207, AEC32 and AEC32a Vegetation Scrape, AEC38, AEC39, UF003, UF006, UF008, UF009, UF010, UF011, UF012, UF013, UF014, UF015, UF016 and UF017.
Week 4	31.07.2023 – 04.08.2023	Remediation and validation works were undertaken in AEC13, AEC15, AEC15 Vegetation Scrape, AEC19a, AEC21, AEC23, AEC24a, AEC24a Vegetation Scrape, AEC32, AEC32 and AEC32a Vegetation Scrape, AEC23a, AEC23b, AEC33, AEC38, UF001, UF002 and UF019.
Week 5	07.08.2023 – 11.08.2023	Remediation and validation works were undertaken in AEC09b, AEC13, AEC14, AEC15 Vegetation Scrape, AEC16, AEC22, AEC38 and UF002.
Week 6	14.08.2023 – 18.08.2023	Remediation and validation works were undertaken in AEC14, UF024 and UF025.
Week 7	21.08.2023 – 25.08.2023	Remediation and validation works were undertaken in AEC14, AEC40 and UF026.
Week 8	28.08.2023 – 30.08.2023	Remediation and validation works were undertaken in AEC40.
Week 9	04.09.2023	Remediation and validation works were undertaken in UF027.
Week 10	11.09.2023 – 15.09.2023	No remediation or validation works undertaken.
Week 11	19.09.2023 – 22.09.2023	Movement of bonded (non-friable) ASBINS below HSL (B2) into the Lot 5 Northern Finger Asbestos Placement Area.
Week 12	25.09.2023	Movement of bonded (non-friable) ASBINS below HSL (B2) into the Lot 5 Northern Finger Asbestos Placement Area.
Phase 2 of the Remediation Project (28 September 2023 and 03 November 2023)		
Week 12	28.09.2023 – 29.09.2023	Remediation and validation works undertaken on the B3 material at the central (southern) stockpiling and treatment pad. Movement of bonded ASBINS below HSL (B2) into the Asbestos Placement Areas (Lot 4 Placement Area & Lot 5 Northern Finger Placement Area). Visual clearance inspection of the surface of the bonded (non-friable) portion of the central (southern) stockpiling and treatment pad.

Table 9 – Remediation and Validation Works Chronology

Week	Dates	Summary of Works
Week 13	02.10.2023 – 06.10.2023	Remediation and validation works undertaken on the B3 material at the Central (southern) stockpiling and treatment pad. Movement of bonded ASBINS below HSL (B2) into the Phase 2 Asbestos Placement Areas (Lot 4 Placement Area & Lot 5 Northern Finger Placement Area). Visual clearance inspection of the surface of the bonded (non-friable) portion of the central (southern) stockpiling and treatment pad.
Week 14	09.10.2023 - 13.10.2023	No remediation or validation works reported to be undertaken.
Week 15	16.10.2023 – 20.10.2023	No remediation or validation works reported to be undertaken.
Week 16	23.10.2023 – 27.10.2023	Movement of friable ASBINS below and above HSL (F2 and F3) and asbestos contaminated building materials into the on-site Containment Cell. Visual clearance inspection of the surface of the friable portion of the central (southern) stockpiling and treatment pad.
Week 17	30.10.2023 – 03.11.2023	Movement of friable ASBINS below and above HSL (F2 and F3) and asbestos contaminated building materials into the on-site Containment Cell. Visual clearance inspection of the surface of the friable portion of the central (southern) stockpiling and treatment pad.

6.3 Deviations from the RAP & Addendum

Deviations from the RAP (Alliance 2023) and Addendum (EP Risk 2023a) have been summarised below, along with an assessment of potential material impacts to the outcome of the remediation and validation works.

AECs

AEC13

In Table 9.1 of the RAP (Alliance 2023), as reproduced within **Table 3**, the remediation extent for AEC13 Vegetation Scrape was defined as an area surrounding the AEC13 F3 removal area and limited to the removal of vegetation to facilitate clear and unobstructed visual assessment of surface soils. Due to the identification of a large quantity of bonded (non-friable) ACM fragments in the former house footprint, the vegetation scrape area was extended to include the former house footprint. Furthermore, it was decided by EP Risk for conservative reasons to undertake a surface scrape to natural soils (0.2 mBGL) in the former house footprint instead of removing vegetation due to the amount of fragments identified and the shallow depth of the FILL. Material from the vegetation scrape area was excavated to the stockpiling and treatment pad as bonded (non-friable) (B3) material. Validation sampling within the former house footprint comprised on-site field screening for bonded (non-friable) ACM (>7mm). The enlarged extent of AEC13 was validated as per the RAP and Addendum (Alliance 2023 and EP Risk 2023a, respectively), this deviation from the RAP presents no material impacts to the validation of this AEC.

AEC14

According to the RAP (Alliance 2023), AEC14 is impacted by friable ASBINS to nominal thickness of ~0.1 to 2.2 m. As such, the remediation strategy for AEC14 would entail the excavation of approximately 950 m^3 of material

for off-site disposal. To reduce volumes for off-site disposal, EP Risk undertook a desktop review of the sampling data with consideration of the revised remediation approach applied in EP Risk (2023a).

Based on a review of previous sampling data, EP Risk concluded an appropriate sampling density was undertaken to characterise the material within AEC14. It was noted bonded (non-friable) above the HSL and friable asbestos above and below the HSL was identified at the centre of AEC14 only, within test pits ASB12, TP51, TP155 and TP159. Asbestos was not identified within the other test pits progressed within the extent of AEC14. A summary of these hotspot detections has been provided below in **Table 10.**

Table 10 – AEC14 Hotspots identified by Alliance (2021, 2023b)

Test Pit /Sample Depth	Max Depth of Fill	Test Pit Termination Depth	Report	Result	Exceedance	Remediation Hierarchy
Friable Asbestos (AF/FA) – At or above the HSL (0.01%w/w)						
TP155	0.1 - 1.0	2.3	Alliance (2023)	0.944 %w/w	> HSL	F3
TP159	0.0 - 0.1	0.2	Alliance (2023)	0.047 %w/w	> HSL	F3
Friable Asbestos (AF/FA) – Below the HSL (0.01 %w/w)						
ASB12	0.1 - 1.0	2.0	Alliance (2021)	0.0025 %w/w	< HSL	F2
	1.0 - 2.0			0.0040 %w/w		
Bonded ACM > 7mm – At or above the HSL (0.05 %w/w)						
ASB12	0.0 - 0.1	2.0	Alliance (2021)	0.05839 %w/w	> HSL	B3
	0.1 - 1.0			1.7340 %w/w		
	1.0 - 2.0			1.0417 %w/w		
TP51	2.0 - 2.5	2.5		0.1930 %w/w		
TP155	0.0 - 0.1	2.3	Alliance (2023)	0.944 %w/w		
	1.0 – 1.9			1.188 %w/w		
TP159	0.0 - 0.1	0.2	Alliance (2023)	0.216 %w/w		

As asbestos impacts were localised to the centre of AEC14, the extent of AEC14 was redefined by EP Risk to include test pits ASB12, TP51, TP155, TP159 and the delineation trench, and stop halfway to the nearest clean test pit. This included a portion of a tyre and brick stockpile to the west of TP159.

Prior to the commencement of remediation works, the extent of AEC14 was extended westwards to include test pits TP150 and ASB11 and entirety of the tyre and brick stockpile due to observations of super six sheeting fragments in poor condition on the ground's surface. Due to the presence of super six sheeting fragments in close proximity to the tyre and brick stockpile, EP Risk could not rule out with certainty the building materials were not contaminated with asbestos. The tyre and brick stockpile would be removed as asbestos waste and stockpiled separately to contaminated soils within AEC14 at the stockpiling pad / treatment pad.

Due to the presence of friable asbestos, all material within the redefined extent of AEC14 would be excavated under Class A (friable) conditions as F3 material. Remediation of AEC14 would involve the excavation of soils until an approximate depth of 2.2 mBGL or as per the maximum depth stipulated in the RAP (Alliance 2023) or until natural is intercepted.

With regard to the remainder of AEC14, although asbestos was identified within these test pts, any soil stripped within this area should be undertaken under the supervision of EP Risk as a contingency measure due to Alliance deeming the material as contaminated.

The revised remediation strategy for AEC14 was communicated to ESR, JKW and TCE in a series of emails by EP Risk.

In lieu of in-situ delineation sampling prior to remediation works, validation sampling would be undertaken of the excavation footprint at the conclusion of remediation works, as such this deviation from the RAP presents no material impacts to the validation of this AEC.

AEC15

In Table 9.1 of the RAP (Alliance 2023), as reproduced within **Table 3**, the remediation extent for AEC15 Vegetation Scrape was defined as an area surrounding former house footprint and limited to the removal of vegetation to facilitate clear and unobstructed visual assessment of surface soils. However, due to the identification of a large quantity of bonded (non-friable) ACM fragments in the southern portion of the former house footprint, the vegetation scrape area was extended to include this area. Furthermore, it was decided by EP Risk for conservative reasons to undertake a surface scrape of FILL soils to 0.1 - 0.2 mBGL in the southern portion of the former house footprint instead of removing vegetation due to the amount of fragments identified. Material from the vegetation scrape area was excavated to the stockpiling and treatment pad as bonded (non-friable) (B3) material. The enlarged extent of AEC15 was validated as per the RAP and Addendum (Alliance 2023 and EP Risk 2023a, respectively), this deviation from the RAP presents no material impacts to the validation of this AEC.

AEC21

In Table 10.1 of the RAP (Alliance 2023), as reproduced within **Table 4**, the remediation methodology for AEC21 would involve the excavation of material up to 1 mBGL, for off-site disposal due to the presence of bonded (non-friable) asbestos and demolition rubble (bricks, tile, concrete, geotextile material) which prevents on-site treatment.

Prior to the commencement of remediation works, a decision was made by ESR to retain materials on-site to minimise costs associated with disposal.

Based on a review of the previous environmental investigations undertaken by Alliance, it is understood three (3) test pits were progressed within AEC21 (TP141, TP142 and TP235). Field screening for bonded (non-friable) asbestos > 7 mm was undertaken at all three (3) test pits at the following depths:

- TP141:
  - 0.0 - 0.1mBGS
  - 0.1 - 1.0 mBGS
  - 1.0 - 1.5mBGS
- TP142:
  - 0.0 - 0.1mBGS
  - 0.1 - 1.0 mBGS
  - 1.0 - 1.5mBGS
- TP235:
  - 0.0 - 0.1mBGS
  - 0.1 - 1.0 mBGS

Bonded (non-friable) asbestos and E. coli detections was limited to surficial soils, identified in one (1) test pit, TP141 between 0.0 - 0.1 mBGS, at concentrations below the adopted HSL of 0.05 %w/w, at a concentration of 0.0188 %w/w. Moreover, building rubble was identified in TP141 at a depth of 0.0 – 1.0 mBGS.

Based on a review of the previous environmental investigations, a decision was made by EP Risk therefore to limit remediation works in AEC21 to the top 0.1 mBGS of soil. Due to the absence of demolition waste from the surface of AEC21, it was considered by EP Risk, the in-situ treatment of soils was appropriate given the identification of asbestos between 0.0 – 0.1 mBGS, albeit at concentrations below the adopted HSL. Furthermore, it was considered the treatment of bonded (non-friable) asbestos, which involved two (2) passes of mechanical racking would effectively treat the soil for E.coli, through the turning over of soil. Moreover, as demolition waste was present at depth, and not identified at the surface, EP Risk regarded there to be limited aesthetic risk. Furthermore, the area was expected to be filled as part of construction works. This deviation from the RAP is unlikely to present risk to Site receptors as the area has been filled, sealed and validation was completed as per the RAP and Addendum (Allliance 2023 and EP Risk 2023a, respectively).

AEC23

In Table 9.1 of the RAP (Alliance 2023), as reproduced within **Table 3**, the remediation extent for AEC23 Vegetation Scrape was defined as an area surrounding the former house footprint and limited to the removal of vegetation to facilitate clear and unobstructed visual assessment of surface soils. However, due to the location of an asbestos contaminated stockpile (SP2) and the location of bonded (non-friable) asbestos fill areas (AEC23 and AEC23b) within the footprint of the vegetation scrape area, the vegetation scrape area was extended to include the footprint of the former house, and also included the removal of soils to an approximate depth of 0.2 mBGL, to natural. Material from the vegetation scrape area was excavated to the stockpiling and treatment pad as bonded (non-friable) (B3) material. Validation sampling was not undertaken of the vegetation scrape area due to scraping of material to natural. This deviation from the RAP is unlikely to present a risk to Site receptors as the area was excavated back to natural materials and visually inspected.

AEC24a

In Table 9.1 of the RAP (Alliance 2023), as reproduced within **Table 3**, the remediation extent for AEC24a comprised an area of approximately 25 m^3 with CoPC defined as asbestos fines in surface soils to a thickness of 0.1 mBGS, and was surrounded by a vegetation scrape area for visible asbestos in surface soils.

The boundary for AEC24a had been presented by Alliance (2023) in their figures in a circular shape. Due to the difficulty this presents with regards to excavation works, EP Risk redefined the boundary to comprise a rectangular boundary, which included the surrounding vegetation scrape area to ensure all friable material was captured in the redefinition of AEC24a boundary. This meant an additional material (up to 10 m^3) was excavated to the stockpiling pad as friable (F3) material. This deviation from the RAP is unlikely to present a material risk to the Site as the area was validated as per the RAP and Addendum (Allliance 2023 and EP Risk 2023a, respectively).

AEC32

During the in-situ mechanical raking and emu picking of AEC32, a large quantity of bonded (non-friable) ACM fragments and building and demolition waste was identified within the work area. Material from AEC32 to a maximum depth of 0.1 mBGS was transported to the stockpile pad as B3 material requiring ex-situ treatment.

The purpose of the AEC32 Vegetation Scrape limited to the removal of vegetation to facilitate clear and unobstructed visual assessment of surface soils. However, due to the large quantity of ACM fragments and building and demolition waste identified to the eastern portion of the vegetation scrape area, material from the eastern portion was excavated to 0.2 mBGS and transported to the stockpiling pad as B3 material requiring ex-situ treatment. The enlarged extent of AEC32 was validated as per the RAP and Addendum (Allliance 2023 and EP Risk 2023a, respectively), this deviation from the RAP presents no material impacts to the validation of this AEC.

AEC32a

In Table 9.1 of the RAP (Alliance 2023), as reproduced within **Table 3**, the remediation extent for AEC32a was defined as bonded (non-friable) asbestos to a thickness of 0.1 mBS. However, in Table 10.1 of the RAP (Alliance 2023), as reproduced within **Table 4**, AEC32a has been assigned two (2) potential contamination risks, defined as 'Bonded asbestos in fill soils > 0.1 m below surface', with the preferred remedial option encompassing the excavation of fill soils to the treatment pad area for ex-situ treatment and 'Bonded asbestos in fill soils ≤ 0.1 m below surface', with the preferred remediation option encompassing the in-situ treatment.

EP Risk conducted a review of the sampling data for AEC32a to determine the most appropriate remediation extent and strategy for the area. EP Risk concluded that asbestos was identified within surface soils (0.0 – 0.1 mBS) in one (1) test pit within AEC32a (TP207). As such, remediation of AEC32a would involve the in-situ treatment of 'Bonded asbestos in surface soils ≤0.1 mBS'. Validation sampling would be undertaken in accordance with the validation strategy specified for 'Bonded asbestos in surface soils ≤0.1 mBS' as summarised in **Section 7.3.**

During the in-situ mechanical raking and emu picking of AEC32a, a large quantity of bonded (non-friable) ACM fragments and building and demolition waste was identified within the work area. Material from AEC32 to a maximum depth of 0.1 mBGS was transported to the stockpile pad as B3 material requiring ex-situ treatment. The revised extent of AEC32a was validated as per the RAP and Addendum (Allliance 2023 and EP Risk 2023a, respectively), this deviation from the RAP presents no material impacts to the validation of this AEC.

AEC38

In Table 10.1 of the RAP (Alliance 2023), as reproduced within **Table 4**, AEC38 is impacted by visible asbestos in surface soils. During the walkover of the 'lower' portion of AEC38, multiple bonded (non-friable) ACM fragments <7mm were identified along the southern and southwestern end. Based on the small size of these fragments, two (2) areas were considered impracticable for emu picking. As such, soils within these two (2) areas were scraped to a maximum depth of 0.1 mBGL, with soils transported and stockpiled at the stockpiling pad as F3 material for conservative reasons. These two (2) areas were reported as a UFs, under UF022. Material from the vegetation scrape area was excavated to the stockpiling and treatment pad as bonded (non-friable) (B3) material. The revised extent of AEC38 was validated as per the RAP and Addendum (Allliance 2023 and EP Risk 2023a, respectively), this deviation from the RAP presents no material impacts to the validation of this AEC.

Visible Asbestos in Surface Soils

In AECs where the contamination risk was 'Visible asbestos in surface soils', the RAP (Alliance 2023) recommended a grid-based walkover by a person suitably experienced in the identification of potential ACMs following the stripping of vegetation from the AEC. Two (2) grid-based walkover inspections were undertaken in these AECs to avoid inefficiencies in the clearance process. TCE firstly conducted a grid-based walkover and emu-pick of the ground surface. EP Risk then conducted a final grid-based walkover which formed part of the visual clearance inspection for the AECs. This deviation from the RAP presents no material impacts to the validation of the AECs where visible asbestos was the CoPC prior to remediation.

Vegetation Scrape Areas

Limited information was provided in the RAP (Alliance 2023) with regards to the contamination status of the vegetation that was stripped from these AECs. Due to the observed presence of ACM fragments within surficial soils after vegetation stripping and due to the volumes of soil caught within the root systems of stripped vegetation, all stripped vegetation was deemed as B2 material if inspected by EP Risk or B3 material in not inspected by EP Risk due to time constraints. This deviation from the RAP presents no material impacts to the validation of these AECs as the materials were managed in accordance with the Addendum (EP Risk 2023a).

Unexpected Finds

In the absence of a validation methodology for UFs, EP Risk adopted the following methodology:

- Bonded (non-friable) ACM:
    - A visual assessment of the surface soils of the UFs extent for visible asbestos.
    - On-site field screening for bonded (non-friable) ACM (>7mm).
- Friable ACM:
    - A visual assessment of the surface soils of the UFs extent for visible asbestos.
    - 500 mL soil sample(s) was collected at the base of the excavation / conduit break zone for asbestos gravimetric analysis (non-NATA test) at a NATA accredited laboratory.

Septic Tank System Soils

As per the RAP (Alliance 2023), material associated with septic tank systems was to be classified for off-site disposal. However, ESR communicated to EP Risk, a preference to retain as much material on-site. For each septic tank system, material within the septic tank and material surrounding the septic tank were stockpiled separately for assessment, which involved the collection of soil samples for assessment against the site suitability criteria.

A minimum of eight (8) sampling points are required for assessment of site suitability for an in-situ surface area of up to 0.5 ha, as outlined in the Table 2 of the NSW EPA (2022), referenced in ASC NEPM (2013). However, the sampling density within Table 3 of the NSW EPA (2022) was adopted per stockpile for an ex-situ assessment. A total of three (3) soil samples were collected from each stockpile to classify up to 75 m^3 of material. Samples collected of the stockpiled material were submitted for analysis against a Broad Suite[16] of CoPC and for Faecal Coliforms and E. coli analysis given the origin of the material. The only exception to this, were the stockpiled soils within AEC22 which were analysed for a Reduced Suite[17] of CoPC and for Faecal Coliforms and E. coli.

Following assessment, materials associated with the excavation of septic tank systems were given a materials classification. The results of these suitability assessments have been summarised with **Section 11** of this Report.

The materials classification of one (1) stockpile within AEC22 (AEC22_SEP01) was manually overridden based on EP Risk's visual assessment of the material. EP Risk noted that the concrete tank in AEC22_SEP01, was observed to contain soil inside it that appeared visually similar to that of AEC22_SEP02 (material within septic tank), which was confirmed by the laboratory to contain bonded (non-friable) asbestos and detections of TRH above the ESL. As such, EP Risk concluded the soil inside the concrete tank in AEC22_SEP01, should assume the same material classification as AEC22_SEP02, which was O2 and B3.

This deviation from the RAP and Addendum is unlikely to present a risk to the outcome of the validation of the septic tanks as the stockpiled materials were assessment in accordance with NSW EPA recommended guidelines.

[16] Broad suite typically consist of: Total Recoverable Hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene (BTEXN), Polycyclic Aromatic Hydrocarbons (PAH), Metals (Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Lead (Pb), Mercury (Hg), Nickel (Ni), and Zinc (Zn)), Polychlorinated Biphenyls (PCB), Organochlorine Pesticides (OCP), Organophosphorus Pesticides (OPP) and Asbestos Identification (AS 4964:2004) (0.1 g/kg).

[17] Reduced suite typically consist of: Total Recoverable Hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene (BTEXN), Polycyclic Aromatic Hydrocarbons (PAH), Metals (Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Lead (Pb), Mercury (Hg), Nickel (Ni), and Zinc (Zn)) and Asbestos Identification (AS 4964:2004) (0.1 g/kg).

Asbestos Contaminated Concrete + Brick Stockpiles

According to the written response provided by GKC, the brick stockpile from AEC14 (deemed as F3) and concrete stockpiles contaminated with asbestos (SP2, SP15 and SP16, UF012) was placed within the on-site Containment Cell. These materials will be managed under the future LTEMP for the Containment Cell and therefore this deviation presents no material risk to validation of the Site.

Eastern Stockpiling Pad

The eastern stockpiling pad was constructed atop a former hardstand tennis court which had been removed. Due to time constraints, EP Risk was unable to visually inspect the stockpiling pad prior to its use.

At the conclusion of Phase 1 of the Remediation Project, the eastern stockpiling pad covered an approximate area of 450 m^2 and comprised of O1, O2 and B3 material and septic concrete waste (up to approximately 975 m^3), associated with septic tank systems removed from AEC16, AEC21, AEC22, AEC39 and AEC40 which had been stockpiled on a layer of geotextile fabric.

At the conclusion of Phase 2 of the Remediation Project, O2 materials from 40SEP01 was placed within an Asbestos Placement Area (Lot 5 Northern Finger Placement Area) and O2 and B3 materials from 40SEP02, AEC22_SEP01 and AEC22_SEP02 were consolidated and moved for stockpiling off-site at the adjacent Westlink Stage 2 project, which falls within the same SSD (**Figure 12**). Concrete waste associated with the septic tanks were reportedly washed in-place to ensure no soil remained and disposed to a concrete recycling facility. EP Risk was not engaged to undertake an inspection of this process. It is unknown if FES were inspected the washed concrete waste either.

It is unknown if the eastern stockpiling pad was subject to a visual clearance and validation sampling following removal of B3 material from the footprint. However, a visual clearance inspection and validation sampling of the footprint of the eastern stockpiling pad was considered to be not required, as materials were stockpiled on a layer of geotextile fabric.

As per the Addendum (EP Risk 2023a), B3 material must be subject to mechanical raking and emu picking treatment and successfully validated in order for the material to be downgraded to B2 status. Once classified as B2 material, the material is suitable to remain on-stie subject to placement > 0.1 m below finished ground level in areas where no services will be installed. The location of this material must be tracked, and a survey undertaken to confirm placement at depth.

As per the Addendum (EP Risk 2023a), O2 material is suitable to remain on-site, subject to placement > 2 m below finished ground level and in areas where no services will be installed. The location of this material must be tracked, and a survey undertaken to confirm placement at depth.

An Addendum should be issued to this SRVR to address the remediation / management of the O2 and B3 materials from 40SEP02, AEC22_SEP01 and AEC22_SEP02 that remain stockpiled off-site at the adjacent Westlink Stage 2 project, in accordance with the RAP (Alliance 2023) and Addendum (EP Risk 2023a). This deviation to the RAP and Addendum does not pose a risk to the validation of the Site as the materials have been moved else where within the larger SSD project area.

Stockpiling and Treatment of B3 Soils

The remediation methodology for bonded (non-friable) asbestos in fill soils > 0.1 mBS, involved the excavation of soils for stockpiling and ex-situ treatment at the stockpiling pad / treatment pad.

Only a select few B3 stockpiles (14x stockpiles) were treated and validated during Phase 1 of the Remediation Project, before the process was paused due to time inefficiencies.

The remainder of the stockpiles were treated during Phase 2 of the Remediation Project, which was visually cleared and validated by FES (FES 2024).

EP Risk's review of the ACC (FES 2024) pertaining to the works identified several deviations to the remediation and validation methodology as per the RAP (Alliance 2023) and Addendum (EP Risk 2023a). These have been summarised below and have been discussed further within **Section 10** in EP Risk's review of Phase 2 Validation Documentation:

- Field screening through a 7 mm sieve was undertaken on asbestos gravimetric 500 mL NEPM samples;
- An asbestos gravimetric 500 mL NEPM sample was collected for every ten (10) treated stockpiles (100 m^3);
- The sampling density of 31 samples to an area of 10,000 m^2 adopted by FES was not consistent to the sampling density specified within the RAP (Alliance 2023) of one (1) sample per 5 m x 5 m of excavation base;
- An asbestos gravimetric 500 mL NEPM sample was not collected following removal of friable material from AS5 to verify removal of friable material; and
- Control airborne asbestos fibre air monitoring reports had not been undertaken during the removal / movement of friable AS5 material.

While the above deviations are considered a non-conformance the B2 materials treated during the Phase 2 works have all been buried within the Placements Areas and will be managed under an AMP, therefore the potential risks to Site receptors are considered unlikely. Furthermore, the validation footprints of the Stockpile treatment and storage pads while not sampled at the specified frequency within the RAP and Addendum these areas will likely be fully and permanently sealed within a commercial facility and not assessable to Site receptors. Moreover, the AMP will include an unexpected finds procedure which will cover the whole for any unexpected, localised ACM finds. Therefore, the deviations from the validation methodology are unlikely to present a risk to future Site receptors.

Validation Sampling: On-Site Field Screening

As per the RAP (Alliance 2023), on-site field screening, which involved the collection of 10 L soil sample for processing through a 7 mm sieve was recommended to be undertaken as part of the validation of AECs where the contamination risk was 'Bonded asbestos in fill soils >0.1 m below surface'.

For consistency and to add another line of evidence, during Phase 1 of the Remediation Project, EP Risk also conducted on-site field screening at AECs where the contamination risk was 'Bonded asbestos in surface soils ≤0.1m below surface' and 'Asbestos fines in surface and/or fill soils'. In some AECs, on-site field screening was not undertaken due to excavation to natural stiff clay soils (AEC23 and northern wall of AEC24a).

On-site field screening was not undertaken by EP Risk during Phase 1 of the Remediation Project, where the contamination risk was identified as 'Visible Asbestos in Surface Soils' and 'Bonded (Non-Friable) ACM' as a visual clearance inspection was considered to be appropriate due to minimal disturbance to soils.

On-site field screening was not undertaken for UFs identified during Phase 1 of the Remediation Project, where friable ASBINS (F3 material) was identified as the primary CoPC. A visual clearance inspection and collection of 500 mL soil samples for the assessment of AF/FA was considered sufficient due to EP Risk being able to assess each UF as it was identified. The exception to this was UF024, as UF024 comprised of a large amount of bonded (non-friable) ACM fragments sourced from the damaged AC conduits.

The above noted deviations are unlikely to present a material risk to the validation of the AECs as either visual validation was undertaken or sampling and laboratory analysis was conducted to facilitate validation.

During Phase 2 of the Remediation project, field screening through a 7 mm sieve was reportedly undertaken on asbestos gravimetric 500 mL NEPM samples, instead of using a 10 L discrete, undisturbed sample soil sample, separate to the asbestos gravimetric 500 mL NEPM sample. This deviation / non-conformance to the RAP is discussed further within **Section 10** in EP Risk's review of Phase 2 Validation Documentation. While a non-conformance with the RAP and Addendum samples were still analysed and materials were buried in the Placement Areas that will be managed under an AMP.

7 Validation Sampling, Analysis and Quality Plan

7.1 Overview

Based on the remediation strategy for the Site, validation activities were required for the AECS, UFs and temporary stockpiles footprints as presented and discussed within this Section.

7.2 Data Quality Objectives

To assess whether an appropriate validation sampling strategy was adopted, EP Risk adopted the data quality objectives (DQOs) planning process as:

- Outlined within Section 12 of the RAP (Alliance 2023).
- Recommended in the ASC NEPM 2013.
- Required within the NSW EPA Site Auditor Guidelines (2017).
- With consideration to technical details outlined in United State Protection Agency: Guidance on Systematic Planning Using the Data Quality Objectives Process, ref: EPA QA/G-4 (US EPA, 2006).

Step 1: State the Problem

The Site has a history of use for rural / residential and grazing activities. As presented within **Section 4.1** and **Section 4.2** there are a number of contamination issues, predominately associated with historical ACM from demolition and burial. Additionally, there are two septic tank systems and some aesthetic issues requiring management.

Previous environmental investigations (**Section 3**) reported the Site was considered not suitable for the proposed commercial / industrial, however implementation of the RAP (Alliance 2023) and Addendum (EP Risk 2023a) and the appropriate validation sampling and reporting would allow the Site suitability to be re-assessed.

Step 2: Identify the Decision

Based on the decision-making process for assessing industrial redevelopment site detailed in NSW EPA Guidelines for the NSW Auditor Scheme (3rd Edition), 2017 (EPA 2017), modified to meet the specific project objectives, the following decisions must be made:

- Has soil been assessed against relevant ecological and health-based investigation levels and have any potential risks to receptors been identified? Are there any issues relating to local area background soil concentrations that exceed the appropriate soil criteria?
- Have any potential human health or ecological risks to receptors been identified? Are there any aesthetic concerns in fill soils present at the site?
- Are there any issues relating to the local area background soil concentrations that exceed relevant investigation criteria?
- Are there any chemical mixtures?
- Are there any aesthetic concerns in fill soils present at the site?
- Is a site management strategy required?

Step 3: Identify Inputs to the Decision

Inputs to the decisions are:

- Environmental data (soil) as collected by sampling and analysis and site observations made during previous investigations and additional data collected during the validation sampling and assessment.
- Assessment criteria to be achieved on the Site are based on the intended land use and project objectives, as defined by remediation criteria nominated in this plan.
- Confirmation data generated by sampling and analysis are of an acceptable quality to allow reliable comparison to assessment criteria as undertaken by assessment of quality assurance / quality control (QA/QC) as per the data quality indicators (DQIs) established in this plan.

Step 4: Define the Study Boundaries

The study boundary is limited to the Site boundaries as described in **Section 1.1**. The vertical extent of the investigation varied within each AEC, UF, temporary stockpile and temporary stockpile footprint, ranging from surface up to 2.2 m BGL.

Due to the objectives of the assessment, seasonal variations were not assessed as part of the validation. Data will be representative of the timing and duration of the assessment.

Step 5: Develop a Decision Rule

Laboratory analytical data will be assessed against NSW EPA endorsed criteria. The decision rules adopted to answer the decisions identified are summarised in **Table 11**.

Table 11 – Summary of Decision Rules

Decision	Rule
Has soil been assessed against relevant ecological and health-based investigation levels and have any potential risks to receptors been identified?	The validation criteria are to be based upon guidelines approved under Section 105 of the Contaminated Land Management Act and are appropriate for the purpose of the assessment. Risks to receptors to be assessed by site inspection, sampling, analytical testing and comparison of the results to the adopted validation criteria. If this process is followed the decision is yes, otherwise additional assessment will be required.
Have any potential human health or ecological risks to receptors been identified?	Potential human health or ecological risks to receptors will be assessed by comparison of statistical assessment of the validation results. The following statistical criteria was adopted with respect to soil and soil validation results (where applicable): Either: the reported concentrations are all below the adopted remediation criteria. Or: the average site concentration for each analyte must be below the adopted site criterion; no single analyte concentration exceeds 250% of the adopted remediation criterion; and the standard deviation of the results must be less than 50% of the remediation criteria. And: the 95% upper confidence limit of the arithmetic mean (UCL_{mean}) for each analyte must be below the adopted remediation criterion. If the statistical criteria are satisfied then the decision is yes, otherwise additional assessment is required.
Are there any issues relating to the local area background? soil concentrations that exceed relevant investigation criteria?	Where issues relating to background soil concentrations have been identified then additional assessment will be required. If no issues identified, then additional assessment will not be required.

Table 11 – Summary of Decision Rules	
Decision	**Rule**
Are there any chemical mixtures	Is more than one chemical within a group of contaminants considered to have a similar mode of action present which increase the risk of harm? If there is, a hazard quotient (H') and Hazard Index (HI) should be calculated from the analytical results for each sample in accordance with NEPM 2013. If the HI is calculated to be greater than 1, the decision is Yes. Otherwise, additional assessment is required.
Are there any aesthetic concerns in fill soils present at the site?	If there are any unacceptable staining, odours or significant amounts of anthropogenic fill materials the answer to the decision is Yes. Otherwise, additional assessment is required.
Is a site management strategy required?	If further assessment (required in the Decision rules above) identifies a risk to human health or ecological receptors, then a site management strategy may be required. If no risk to human health or ecological receptors is identified, then a site management strategy is not required.

Step 5: Develop the analytical approach

Field Duplicates and Triplicates

As per the RAP (Alliance 2023), a minimum of one (1) set of field duplicates and triplicates will be collected for each set of twenty (20) samples collected (an equivalent of 5%), excluding asbestos samples. The relative percent difference (RPD) of the detected concentrations in the parent and duplicate, and the parent and triplicate will be calculated, and result compared to the relevant criteria below:

- RPD unlimited where detected concentrations are <10 times the limit of reporting;
- RPD within 50% where detected concentrations are 10-20 times the limit of reporting;
- RPD within 30% where detected concentrations are >20 times the limit of reporting; and
- All laboratory duplicate RPDs within laboratory acceptance criteria.

Trip Spikes and Trip Blanks

As per the RAP (Alliance 2023), one (1) trip spike and one (1) trip blank will be used for each day of sampling if the CoPC includes BTX and/or TRH C_6-C_{10}.

Equipment Rinsate Blanks

As per the RAP (Alliance 2023), one Rinsate blank will be used for each of sampling if non disposable sampling equipment is used that day.

Analytical Laboratory Quality Assurance and Quality Control

As per the RAP (Alliance 2023), the primary analytical laboratory will:

- Be NATA accredited for the methods used; and
- Use a quality assurance and quality control (QA/QC) program that will typically include analysis of method blanks, matrix spikes, surrogate spikes, laboratory control samples and laboratory duplicates.

Data Quality Indicators (DQIs)

The DQIs relevant to this project have been summarised below within **Table 12** (taken directly from Table 12.5.5 of the RAP (Alliance 2023)). The results of DQIs will be discussed in **Section 9.**

Table 12 – DQIs, Requirements and Assessment (Alliance 2023)

Field Considerations	Target Criteria Met	Laboratory Considerations	Target Criteria Met
Completeness			
Experienced sampling team used	Yes	Complete sample receipt advice and chain of custody attached	Yes
Sampling devices and equipment set out in sampling plan were used (Section 12.7 in RAP (Alliance 2023))	Yes	Critical samples identified in sampling plan, analysed	Yes
Critical locations in sampling plan, sampled (Section 12.7 in RAP (Alliance 2023))	Yes	Analysis undertaken addresses CoPC in sampling plan (Section 12.7 in RAP (Alliance 2023))	Yes
Critical locations in sampling plan, collected (Section 12.7 in RAP (Alliance 2023))	Yes	Analytical methods reported in laboratory documentation and appropriate limit of reporting used	Yes
Collected field and calibration logs attached	Yes	Sample holding times met (Section 12.7 in RAP (Alliance 2023))	Yes
Completed chain of custody attached	Yes		
Comparability			
Same sampling team used for all work	Yes	Same laboratory used for all analysis (Section 12.7 in RAP (Alliance 2023))	Yes
Weather conditions suitable for sampling	Yes	Comparable methods if different laboratories used (Section 12.7 in RAP (Alliance 2023))	Yes
Same sample types collected and preserved in same way (Section 12.7 in RAP (Alliance 2023))	Yes	Comparable limits of reporting if different laboratories used	Yes
Relevant samples stored in insulated containers and chilled (Section 12.7 in RAP (Alliance 2023))	Yes	Comparable units of measure if different laboratories have been used (Section 12.7 in RAP (Alliance 2023))	Yes
Representativeness			
Media identified in sampling plan, sampled (Section 12.7 in RAP (Alliance 2023))	Yes	Samples identified in sampling plan, analysed	Yes
Samples required by sampling plan, collected (Section 12.7 in RAP (Alliance 2023))	Yes		
Precision			
Minimum 5% duplicates and triplicates collected and analysed (Section 12.5 in RAP (Alliance 2023))	Yes	All laboratory duplicate RPDs within laboratory acceptance criteria (Section 125 in RAP (Alliance 2023))	Yes

Table 12 – DQIs, Requirements and Assessment (Alliance 2023)			
Field Considerations	**Target Criteria Met**	**Laboratory Considerations**	**Target Criteria Met**
RPD unlimited where detected concentrations are <10 times the limit of reporting.	Yes		
RPD within 50% where detected concentrations are 10-20 times the limit of reporting.	Yes		
RPD within 30% where detected concentrations are >20 times the limit of reporting.	Yes		
Bias (Accuracy)			
Trip blank analyte results less than limit of reporting (Section 12.5 in RAP (Alliance 2023))	Yes	Laboratory method blank results within laboratory acceptance limits (Section 12.5 in RAP (Alliance 2023))	Yes
Trip spike analyte results less between 60% and 140% (Section 12.5 in RAP (Alliance 2023))	Yes	Laboratory control sample results within laboratory acceptance limits (Section 12.5 in RAP (Alliance 2023))	Yes
Rinsate blank analyte results less than limit of reporting (Section 12.5 in RAP (Alliance 2023))	Yes	Laboratory spike sample results within laboratory acceptance limits (Section 12.5 in RAP (Alliance 2023))	Yes

Step 6: Performance and Acceptance Criteria

The risk of decision error should be mitigated by:

- Ensuring fieldwork is undertaken by suitably experienced field staff and sub-contractors with reference to the DQO adopted for this project;
- Ensuring laboratory analysis is undertaken by NATA accredited labraotories; and
- Ensuring assessment of field and laboratory analytical data is undertaken by suitably experienced environmental consultants and/or outsourcing assessment to technical experts (if warranted).

Step 7: Develop the plan for obtaining data

The validation strategy will broadly involve, visual inspections, followed by validation sampling for relevant CoPC (field screening for bonded (non-friable) asbestos, asbestos gravimetric analysis for friable (AF/FA) asbestos and petroleum hydrocarbons, PAH, metals, E. coli and thermotolerant for septic tanks and pits). The results of which are to be summarised, within an ACC.

The sampling density adopted for validation sampling should be in accordance with RAP (Alliance 2023):

- One (1) sample per 5 m x 5 m of excavation base; and
- One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4).

In accordance with the RAP, samples collected from the base of an excavation footprint will be collected across a depth of 0.0 – 0.1 mBGS (Alliance 2023). Moreover, samples collected from the walls of an excavation footprint

will be collected across a profile of 0.1 – 0.2 in thickness and will target suspect materials based on visual and/or olfactory observations (Alliance 2023).

Where samples were collected from a stockpile (i.e. stockpiled materials in and surrounding septic tank systems), samples were collected from a minimum of 0.3 mBS of the stockpile, in a three-dimensional representative grid of sampling points (Alliance 2023).

Validation samples should reflect the CoPC identified in each CoPC.

7.3 Validation Sampling and Analysis Methodology

The adopted validation strategy for each AEC has been summarised in **Table 13** below. Deviations to the RAP (Alliance 2023) and Addendum (EP Risk 2023a) have been summarised in **Section 6.3.**. The adopted validation strategy for each UFs, has been previously discussed within **Table 8.**

Table 13 – Validation Methodology Summary

AEC	CoPC	Validation Strategy
AEC01a, AEC09b, AEC15, AEC18, AEC21, AEC23b, AEC32, AEC32a	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Residual footprint: • A visual clearance inspection of the residual in-situ rake footprint. • Clearance certificate from a LAA or competent person. On-site field screening for bonded (non-friable) ACM (>7mm): • One (1) sample per 5 m x 5 m of excavation base; and • One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4).
AEC23	Bonded (non-friable) asbestos in fill soils >0.1 mBS	Residual footprint: • A visual clearance inspection of the residual remediation excavation footprint. • Clearance certificate from a LAA or competent person. On-site field screening for bonded (non-friable) ACM (>7mm): • One (1) sample per 5 m x 5 m of excavation base; and • One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4).
		Treated B3 stockpiles: • A visual clearance inspection of the residual in-situ rake footprint. • Clearance certificate from a LAA or competent person. On-site field screening for bonded (non-friable) ACM (>7mm): • One (1) sample per 5 m x 5 m of excavation base Asbestos gravimetric analysis (non-NATA test): • One (1) sample per every 10 treated stockpiles (100m^3).
AEC13, AEC14, AEC24a	Friable asbestos as AF or FA in surface and/or fill soils	Residual footprint: • A visual clearance inspection of the residual remediation excavation footprint. • Clearance certificate from a LAA. On-site field screening for bonded (non-friable) ACM (>7mm): • One (1) sample per 5 m x 5 m of excavation base; and

Table 13 – Validation Methodology Summary

AEC	CoPC	Validation Strategy
		• One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4). Asbestos gravimetric analysis (non-NATA test): • One (1) sample per 5 m x 5 m of excavation base; and • One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4).
AEC19a	Friable asbestos as AF or FA in surface and/or fill soils (above HSL) - F3	TP244, TP247 and TP250: • A visual clearance inspection of the residual remediation excavation footprint. • Clearance certificate from a LAA. On-site field screening for bonded (non-friable) ACM (>7mm): • One (1) sample per 5 m x 5 m of excavation base; and • One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4). Asbestos gravimetric analysis (non-NATA test): • One (1) sample per 5 m x 5 m of excavation base; and • One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4).
	Friable asbestos as AF or FA in surface and/or fill soils (below HSL) – F2	TP242: • A visual clearance inspection of the residual remediation excavation footprint. • Clearance certificate from a LAA. On-site field screening for bonded (non-friable) ACM (>7mm): • One (1) sample per 5 m x 5 m of excavation base; and • One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4). Asbestos gravimetric analysis (non-NATA test) • One (1) sample per 5 m x 5 m of excavation base; and • One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4).
	Bonded asbestos in fill soils in surface soils and/or fill soils (above HSL)	DW23, TP246, TP248 and TP256: • A visual clearance inspection of the residual remediation excavation footprint. • Clearance certificate from a LAA. On-site field screening for bonded (non-friable) ACM (>7mm): • One (1) sample per 5 m x 5 m of excavation base; and • One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4).

Table 13 – Validation Methodology Summary		
AEC	**CoPC**	**Validation Strategy**
	Bonded asbestos in fill soils in surface soils and/or fill soils (below HSL)	Remainder of AEC19a, excluding TP244, TP247, TP250, TP242, DW23, TP246, TP248 and TP256: • A visual clearance inspection of the residual remediation excavation footprint. • Clearance certificate from a LAA. On-site field screening for bonded (non-friable) ACM (>7mm): • One (1) sample per 5 m x 5 m of excavation base; and • One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4).
AEC13, AEC15, AEC23, AEC24a, AEC32, AEC32a, AEC33, AEC38	Visible asbestos in surface soils	AEC extent: • A visual clearance inspection of the AEC extent following vegetation strip. • Clearance certificate from a LAA or competent person.
AEC23a, SP2, SP15-SP16	Bonded (non-friable) ACM	AEC extent: • A visual clearance inspection of the AEC extent following removal of bonded (non-friable) ACM. • Clearance certificate from a LAA or competent person.
AEC16, AEC22, AEC39, AEC40	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	AEC extent & stockpiled materials: • A visual inspection of the residual excavation footprint and stockpiled materials. AEC extent (Petroleum hydrocarbons, PAH, metals, E. Coli and thermotolerant coliforms): • One (1) sample per 5 m x 5 m of excavation base; and • One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4). Stockpiled materials (TRH, BTEXN, PAH, Metals, PCB, OCP, OPP, Asbestos, E. coli and Thermotolerant Coliforms): • Three (3) samples per 75 m3 stockpile as per NSW EPA (2022).
AEC21	E. Coli	AEC extent: • A visual inspection of the residual excavation footprint. • Analytical summary tables attached within ACC for AEC21. E. coli and thermotolerant coliforms: • One (1) sample per 5 m x 5 m of excavation base; and • One (1) sample per ten (10) lineal metres of excavation wall for each relevant stratum, or per vertical metre of excavation, whichever is greater, minimum four (4).
AEC14	Aesthetics (tyres and bricks) – asbestos contaminated	AEC extent: • A visual inspection of the AEC extent. • Photographic record.

Table 13 – Validation Methodology Summary		
AEC	**CoPC**	**Validation Strategy**
		• Clearance certificate from a LAA or competent person.
Concrete stockpile SP1, SP3 – SP14	Aesthetics (concrete stockpiles)	Stockpile footprint: • A visual inspection of the stockpile footprint. • Photographic record.
Concrete stockpile SP2, SP15 – SP16	Aesthetics (concrete stockpiles) – asbestos contaminated	Stockpile footprint: • A visual clearance inspection of the stockpile footprint. • Clearance certificate from a LAA or competent person.

Phase 1 of the Remediation Project

Asbestos: On-site field screening for bonded (non-friable) ACM (>7mm)

On-site field screening was applied to AECs / UFs where bonded (non-friable) asbestos and friable asbestos was identified as the CoPC. On-site field screening was not undertaken where the contamination risk was identified as 'Visible Asbestos in Surface Soils' and 'Bonded (Non-Friable) ACM' as a visual clearance inspection was considered to be appropriate due to minimal disturbance to soils.

On-site field screening involved the collection of known 10 L of soil using a shovel and bucket and the processing of the material through a 7 mm sieve. If ACM was detected within the sieve, further excavation / treatment works were required to be undertaken, in lieu of sending the material sample to a NATA accredited laboratory, such as ALS Environmental (ALS) for asbestos bulk ID analysis. The field screening process was repeated until no ACM was detected within the sieve.

The results of the on-site field screening for bonded (non-friable) ACM (>7 mm) were assessed against the criteria specified in **Section 8.**

Where applicable, the results of the on-site field screening have been summarised within the ACCs prepared for each AEC / UFs. The location of validation sampling data has been recorded within the figure attached to the ACC. See **Table 17** for a list of ACCs issued for the Remediation Project. A copy of each ACC has been provided within **Appendix G**.

Asbestos: Asbestos gravimetric analysis (non-NATA test)

The collection of soil samples for asbestos gravimetric analysis (non-NATA test) was applied to AECs / UFs where friable asbestos as AF or FA was the primary CoPC.

EP Risk collected soil samples within 500 mL sample bags. The samples were transported in a cooler box to a NATA accredited laboratory, Coffey Tetra Tech Pty Ltd (Coffey) for analysis. If AF or FA was identified within the sample, further excavation works were required to be undertaken until no ACM was detected within the laboratory sample.

The results of the asbestos gravimetric analyses were assessed against the following criteria specified in **Section 8.**

Where applicable, asbestos gravimetric analysis results have been summarised within the ACCs prepared for each AEC / UFs. The location of validation sampling data has been recorded within the figure attached to the

ACC. See **Table 17** for a list of ACCs issued for the Remediation Project. A copy of each ACC has been provided within **Appendix G**.

Septic Tank Systems: Petroleum hydrocarbons, PAH, metals, E. coli and thermotolerant coliforms

The collection of soil samples for petroleum hydrocarbons, PAH, metals, E. coli and thermotolerant coliforms analysis was applied to AECs / UFs where septic tank systems were identified.

EP Risk collected soil samples from the residual excavation footprint and from stockpiled materials (inside and surrounding septic tank) into laboratory supplied jars. The samples were transported in a cooler box to a NATA accredited laboratory, ALS for analysis. In addition to the CoPC outlined above, soil samples from stockpiled materials were also analysed for additional CoPC (TRH, BTEXN, PAH, Metals, PCB, OCP, OPP, Asbestos, E. coli and Thermotolerant Coliforms) for assessment of site suitability.

The results of the analysis were assessed against the health based, ecological criteria and management limits for site suitability specified in **Section 8.** Based on the analytical results, the material was then classified as O1, O2 or O3 material. If asbestos was identified, the material was given an appropriate asbestos classification.

Septic: E. Coli and thermotolerant coliforms

The collection of soil samples for E. coli and thermotolerant coliforms analysis only was applied to AEC21, where localised septic impacts were identified.

EP Risk collected soil samples from the residual treatment footprint within laboratory supplied jars. The samples were transported in a cooler box to a NATA accredited laboratory, ALS for analysis. The results of the analysis were assessed against the criteria for site suitability specified in **Section 8** and the material was classified as O1, O2 or O3 material.

Phase 2 of the Remediation Project

Treatment of B3 material

FES reported that field screening for bonded (non-friable) ACM >7 mm was undertaken in accordance with the RAP (Alliance 2023) and RAP (EP Risk 2023a).

Bonded (non-friable) footprint of the central (southern) stockpiling and treatment pad

FES reported that field screening through a 7 mm sieve was undertaken on all asbestos gravimetric 500 mL NEPM samples during sample collection and noted no potential ACM retained within the sieve. A total of 31 samples were collected over an area of approximately 10,000 m^2.

Friable footprint of the central (southern) stockpiling and treatment pad

FES collected a total of 15 asbestos gravimetric 500 mL NEPM samples from the surface of the three (3) zones, covering a total area of 7000 m^2.

All validation results have been summarised within the ACCs prepared by FES. The location of validation sampling data has been recorded within the figure attached to the ACC. See **Table 17** for a list of ACCs issued for the Remediation Project. A copy of each ACC has been provided within **Appendix G**.

7.4 Visual Asbestos Clearance Inspections

Phase 1 of the Remediation Project

Following the completion of ASBINS remediation works undertaken during Phase 1 of the Remediation Project, EP Risk conducted a visual clearance inspection of the residual treatment/excavation footprint for all asbestos

AECs and UFs. The purpose of the visual clearance inspection is to confirm that no visible asbestos remained within surficial soils of the treatment / excavation footprint.

Over the course of Phase 1 of the Remediation Project, the exterior surfaces of the excavators used to undertake ASBINS remediation works were decontaminated by TCE and visually inspected by EP Risk prior to leaving the asbestos work area.

At the conclusion of the Project and following final decontamination works, EP Risk conducted a final visual clearance inspection of the interior and exterior surfaces of the plant and equipment used to undertake ASBINS remediation works. This included five (5) excavators, two (2) dump trucks and two (2) decontamination units. Following a satisfactory visual clearance inspection, the excavators, dump trucks and decontamination units were deemed suitable to be demobilised off-site, subject to appropriate clearance airborne asbestos fibre air monitoring results.

See **Table 17** for a list of ACCs issued for the Remediation Project. A copy of each ACC has been provided within **Appendix G**.

Phase 2 of the Remediation Project

A visual clearance inspection was conducted by FES:

- Following the treatment and removal of the stockpiled B3;
- Of the bonded (non-friable) footprint of the central (southern) stockpiling and treatment pad.
- Of the friable footprint of the central (southern) stockpiling and treatment pad.

The purpose of the visual clearance inspection is to confirm that no visible asbestos remained within surficial soils of the treatment / excavation footprint.

See **Table 17** for a list of ACCs issued for the Remediation Project. A copy of each ACC has been provided within **Appendix G**.

8 Soil Remediation Action Criteria

8.1 Basis for Remediation Criteria

To develop appropriate Remediation Action Criteria (RAC) to address the objectives of the remediation, consideration was given to the latest screening criteria made available or approved by NSW EPA under Section 105 of the CLM Act 1997, with an emphasis on the following guidelines:

- ASC NEPM 2013.
- NSW EPA (2017) Auditor Guidelines.

Soil Remediation Action Criteria

The current assessment criteria used in NSW to evaluate soil analytical results are based on the NSW EPA (2017) Auditor Guidelines and the ASC NEPM 2013. These combined guidelines provide the framework for development of remediation criteria and a range of health and ecological based assessment criteria for the application to industrial land use in NSW. Application of these guidelines is briefly described below.

Health-based Criteria

For the protection of human health, the following guidelines have been adopted with consideration to the proposed industrial land use as follows:

- ASC NEPM 2013 health screening levels (HSLs) commercial/industrial (HSL D).
- ASC NEPM 2013 health investigation levels (HILs) commercial/industrial (HIL D).

Ecological-based Criteria

For the protection of ecological assessment, the following guidelines have been adopted as follows:

- ASC NEPM 2013 ecological investigation levels (EILs) Commercial/Industrial.
- ASC NEPM 2013 ecological screening levels (ESLs) Commercial/industrial.

Aesthetics

Consideration for remediation based on the 'aesthetic' contamination as outlined in Schedule B (1) of the ASC NEPM 2013 states that *'there are no numeric Aesthetic Guidelines however site assessment requires balanced consideration of the quality, type and distribution of foreign material or odours in relation to the specific land use and its sensitivity'*. Soil odour and discolouration and the presence of abundant foreign material.

General

Although the ASC NEPM 2013 guidelines indicate that site specific risk-based remediation criteria should be developed as remediation criteria in preference to use of investigation levels for remediation (as investigation levels may be overly conservative) the guidelines referenced above are considered appropriately conservative to be used for site remediation criteria based on the proposed commercial / industrial land use and stakeholder expectations (local authority notice).

In accordance with the above guidelines, the following soil remediation criteria presented in **Table 14** has been adopted.

Table 14 – Adopted Soil Remediation Criteria

Guidelines	COPC	Criteria Reference	Adopted Criteria
ASC NEPM 2013	Bonded ACM	HSL D[18] (commercial/industrial)	0.05% (w/w)
	Fibrous asbestos (FA) and asbestos fines (AF)[19]		0.001% (w/w)
	All forms of asbestos		No visible asbestos for surface soil[20]
	Heavy metals	HIL D (Commercial/industrial)	Validation requirement for remaining surface soils and septic material to be retained onsite.
	Heavy metals / PAH	EIL (Commercial/industrial); < 2 m	
	TRH and BTEXN	Vapour intrusion HSL D (Commercial/industrial). 0 - <1m; coarse ESLs (Commercial/industrial); <2m Management limits (Commercial;/industrial); fine and coarse soil.	Validation requirement for remaining surface soils and septic material to be retained onsite.
	TRH	Management limits (Commercial/industrial); coarse soil.	Validation requirement for remaining surface soils onsite.
	Anthropogenic materials	Aesthetics	Anthropogenic materials removed to the extent practicable

[18] Commercial/industrial D - commercial/industrial such as shops, offices, factories and industrial sites.

[19] The screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures (refer Section 4.10). This screening level is not applicable to free fibres.

[20] Defined as the top 10cm of the soil profile (WA DOH 2021).

9 Quality Assurance and Quality Control Results

A summary of the DQIs and compliance with the target criteria has been summarised in **Table 15 below, with** minor non-conformances discussed further below.

Table 15 – DQIs, Requirements and Assessment of Validation Program

Field Considerations	Target Criteria Met	Laboratory Considerations	Target Criteria Met
Completeness			
Experienced sampling team used	Yes	Complete sample receipt advice and chain of custody attached	Yes
Sampling devices and equipment set out in sampling plan were used (Section 12.7 in RAP (Alliance 2023))	Yes	Critical samples identified in sampling plan, analysed	Yes
Critical locations in sampling plan, sampled (Section 12.7 in RAP (Alliance 2023))	Yes	Analysis undertaken addresses CoPC in sampling plan (Section 12.7 in RAP (Alliance 2023))	Yes
Critical locations in sampling plan, collected (Section 12.7 in RAP (Alliance 2023))	Yes	Analytical methods reported in laboratory documentation and appropriate limit of reporting used	Yes
Collected field and calibration logs attached	Yes	Sample holding times met (Section 12.7 in RAP (Alliance 2023))	Partial, see below.
Completed chain of custody attached	Yes		
Comparability			
Same sampling team used for all work	Yes	Same laboratory used for all analysis (Section 12.7 in RAP (Alliance 2023))	Yes
Weather conditions suitable for sampling	Yes	Comparable methods if different laboratories used (Section 12.7 in RAP (Alliance 2023))	Yes
Same sample types collected and preserved in same way (Section 12.7 in RAP (Alliance 2023))	Yes	Comparable limits of reporting if different laboratories used	Yes
Relevant samples stored in insulated containers and chilled (Section 12.7 in RAP (Alliance 2023))	Yes	Comparable units of measure if different laboratories have been used (Section 12.7 in RAP (Alliance 2023))	Yes
Representativeness			
Media identified in sampling plan, sampled (Section 12.7 in RAP (Alliance 2023))	Yes	Samples identified in sampling plan, analysed	Yes
Samples required by sampling plan, collected (Section 12.7 in RAP (Alliance 2023))	Yes		
Precision			

Table 15 – DQIs, Requirements and Assessment of Validation Program			
Field Considerations	**Target Criteria Met**	**Laboratory Considerations**	**Target Criteria Met**
Minimum 5% duplicates and triplicates collected and analysed (Section 12.5 in RAP (Alliance 2023))	Partial, see below.	All laboratory duplicate RPDs within laboratory acceptance criteria (Section 125 in RAP (Alliance 2023))	Yes
RPD unlimited where detected concentrations are <10 times the limit of reporting.	Partial, see below.		
RPD within 50% where detected concentrations are 10-20 times the limit of reporting.	Partial, see below.		
RPD within 30% where detected concentrations are >20 times the limit of reporting.	Partial, see below.		
Bias (Accuracy)			
Trip blank analyte results less than limit of reporting (Section 12.5 in RAP (Alliance 2023))	Partial, see below.	Laboratory method blank results within laboratory acceptance limits (Section 12.5 in RAP (Alliance 2023))	Yes
Trip spike analyte results less between 60% and 140% (Section 12.5 in RAP (Alliance 2023))	Partial, see below.	Laboratory control sample results within laboratory acceptance limits (Section 12.5 in RAP (Alliance 2023))	Yes
Rinsate blank analyte results less than limit of reporting (Section 12.5 in RAP (Alliance 2023))	Partial, see below.	Laboratory spike sample results within laboratory acceptance limits (Section 12.5 in RAP (Alliance 2023))	Yes

Field Duplicates and Triplicates

The RAP (Alliance 2023) stipulated a minimum of one (1) set of field duplicates and triplicates would be collected for each set of 20 samples collected (an equivalent of 5%), excluding asbestos samples. Therefore, the collection of field duplicates and triplicates were only applicable to AECs containing septic tank systems / pits (AEC16, AEC21, AEC22, AEC39 and AEC40).

A total of 70 soil samples were collected for the assessment of septic tank soils, corresponding to a minimum requirement of four (4) field duplicates and field triplicates.

A total of four (4) unique field duplicates were collected for analysis at the primary laboratory (ALS), which represented 8% of total samples collected:

- AEC16:
  - AEC16_VAL DUP01 linked to AEC16_VAL_O1_N1
  - AEC16_VAL DUP02 linked to AEC16_VAL_O2_N1
- AEC39:
  - AEC39_VAL_DUP01 linked to AEC39_VAL_N1
- AEC40:
  - AEC40_VAL_DUP01 linked to AEC40_VAL_N1

No field duplicates were collected in AEC21. A field duplicate was collected for AEC22 linked to AEC22_VAL_N1; however, this was placed on hold at the primary laboratory (ALS).

A total of five (5) field triplicate were collected, however, four (4) of the five (5) samples were mistakenly analysed at the primary laboratory (ALS) instead of being forwarded to the secondary laboratory (Eurofins). These included the following samples:

- AEC16:
  - AEC16_VAL TRP01 linked to AEC16_VAL_O1_N1
  - AEC16_VAL TRP02 linked to AEC16_VAL_O2_N1
- AEC39:
  - AEC39_VAL_TRP01 linked to AEC39_VAL_N1
- AEC40:
  - AEC40_VAL_TRIP01 linked to AEC40_VAL_N1

In excluding the above samples, only one (1) field triplicate was collected for analysis at the secondary laboratory (Eurofins), which represented 1% of total samples collected:

- AEC22
  - AEC22_VAL_TRP01 (analysed at Eurofins) linked to AEC22_VAL_N1

However, it should be noted that a corresponding field duplicate sample was collected but not analysed by the primary laboratory (ALS).

As per the RAP (Alliance 2023), the RPD for the parent and duplicate and RPD for the parent and triplicate will be calculated, and result compared to the relevant criteria below:

- RPD unlimited where detected concentrations are <10 times the limit of reporting;
- RPD within 50% where detected concentrations are 10-20 times the limit of reporting;
- RPD within 30% where detected concentrations are >20 times the limit of reporting; and
- All laboratory duplicate RPDs within laboratory acceptance criteria.

An RPD compliant with the above criteria was calculated for all analytes in all duplicate samples, with the exception of:

- Arsenic concentrations within AEC16_VAL DUP02, compared to parent sample AEC16_VAL_01_N1.
- Arsenic and lead concentrations within AEC39_VAL_DUP01, compared to parent sample AEC39_VAL_N1.

An RPD compliant with the above criteria was calculated for all analytes in all duplicate samples, with the exception of:

- Arsenic concentrations within AEC16_VAL TRP01, compared to parent sample AEC16_VAL_01_N1.
  - Note, this triplicate sample was analysed at the primary lab instead of secondary lab.
- TPH (C10-C36 Fraction (Sum)) concentrations within AEC22_VAL_TRP01, compared to parent sample AEC22_VAL_N1.
  - Note, there is no corresponding duplicate for this sample.
- Arsenic and chromium (III+VI) concentrations within AEC39_VAL_TRP01, compared to parent sample AEC39_VAL_N1.
  - Note, this triplicate sample was analysed at the primary lab instead of secondary lab.

The discrepancy in RPD calculations for the above samples was considered not to materially affect the results as both parent and duplicate / triplicate samples are within an order of magnitude and therefore a higher RPD is not relevant.

Overall, these non-conformances are related to differing sampling teams, laboratory error and phases of remediation. They are considered minor due to the nature of contamination present on the Site, mostly asbestos, are considered not to materially affect the validation of the Site or the precision and representativeness of the results.

Trip Spikes and Blanks

The RAP (Alliance 2023) stipulated that one (1) trip spike and one (1) trip blank would be used for each day of sampling if the CoPC includes BTEX and/or TRH C_6-C_{10}.

However, trip blanks and spikes were not collected for each day of sampling of septic tank soils.

A trip spike and trip blank were submitted for sampling works undertaken in the following AECs and following dates:

- AEC21 for sampling works undertaken on 31.07.2023. This trip spike and trip blank was later deemed unrequired as E. coli was the only CoPC.
- AEC39 for sampling works undertaken on 26.07.2023.
- AEC40 for sampling works undertaken on 28.07.2023.

A trip spike and trip blank were not submitted for sampling works undertaken in the following AECs and following dates:

- AEC16 for sampling works undertaken on 09.08.2023.
- AEC22 for sampling works undertaken on 10.08.2023.
- AEC40 for sampling works undertaken on 25.07.2023.

This represents a minor non-conformance with the RAP (Alliance 2023) and is considered unlikely to affect the accuracy of the validation data set as the main CoPC was asbestos across the Site.

As per the RAP (Alliance 2023), trip blank analyte results should be less than the limit of reporting, while trip spike analyte results should be less between 60% and 140%. All results were compliant with this precision criteria.

Equipment Rinsate Blanks

The RAP (Alliance 2023) stipulated that one rinsate blank will be used for each of sampling if non-disposable sampling equipment is used that day. However, rinsate blanks were not collected for each day of sampling of septic tank soils.

Rinsate blanks were collected during sampling works undertaken in the following AECs and following dates:

- AEC16 for sampling works undertaken on 09.08.2023. Two (2) Rinsate blanks were mistakenly collected on this day.
    - AEC16_RS01
    - AEC16_RS02
- AEC21 for sampling works undertaken on 31.07.2023.
    - AEC21_RB01
- AEC22 for sampling works undertaken on 31.07.2023.
    - AEC22_RS
- AEC40 for sampling works undertaken on 28.07.2023.
    - AEC40_RS

A rinsate blank was not submitted for sampling works undertaken in the following AECs and following dates:

- AEC39 for sampling works undertaken on 26.07.2023.

- AEC40 for sampling works undertaken on 25.07.2023.

This represents a minor non-conformance with the RAP (Alliance 2023) and is considered unlikely to affect the representativeness of the validation data set as the main CoPC was asbestos across the Site.

As per the RAP (Alliance 2023), rinsate blank analyte results should be less than the limit of reporting. All results were compliant with the above criteria and data are considered representative.

Sample Holding Times

Microbiological analysis was reported to be conducted outside holding times for sample AEC22_SEP02_03 in AEC22 but was not outside holding times for all other samples submitted within the same batch. All Faecal Coliform and E. coli results within the batch were below the biosolids criteria, thus the analysis of this sample outside of holding time is considered not to have materially affected the result.

Microbiological analysis was reported to be conducted outside holding times for sample 40SEP02_01 EXTRA, 40SEP02_02 EXTRA and 40SEP02_03 EXTRA for AEC40. It should be noted these were received as extra samples as flagged by the laboratory on the CoC and then subsequently analysed. All Faecal Coliform and E. coli results within the batch were below the biosolids criteria, thus the analysis of these samples outside of holding time is considered not to have materially affected the representativeness of the data set.

Conclusion

Overall, EP Risk considers that the DQIs for the project have been met and that an acceptable level achieved in the soil sampling and analytical program, therefore the data is appropriate for the purposes of this validation assessment.

10 Review of Phase 2 Validation Documentation

EP Risk was engaged by ESR to act as the Validation Consultant and to prepare a SRVR relating to remediation works undertaken at the Site.

EP Risk was engaged as to undertake the asbestos hygiene and validation works during Phase 1 of the Remediation Project, undertaken between 10 July 2023 and 25 September 2023. FES was engaged to undertake the asbestos hygiene works during Phase 2 of the Remediation Project, undertaken between 28 September 2023 and 03 November 2023.

EP Risk were not invited to conduct inspections of the Phase 2 of the Remediation Project. As such, EP Risk was engaged to undertake a Technical Review of Validation Documentation provided by ESR related to Phase 2 of the Remediation Project (EP Risk 2024a)[21].

EP Risk was provided with the following environmental reports in relation to Phase 2 of the Remediation Project by ESR for Technical Review:

- JKW (2023), Survey, *290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek,* ref: 8686 Asbestos Cell Lot 3, no date.
- JKW (2023a), Survey, *290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek,* ref: 8686 Asbestos Cell Trunk Drainage Corridor, no date.
- RBS (2023), Survey, 2*90-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek*, ref: 8686 Asbestos Cell Northern Finger Survey, dated 27 September 2023.
- FES (2024), Stockpiles – Asbestos Clearance Certificate, 2*90-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek,* ref: E3116 Kemps Creek AC R1, dated 19 October 2023. Later revised as FES (2024), Stockpiles – Asbestos Clearance Certificate, 2*90-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek,* ref: E3116 Kemps Creek AC R2, dated 16 April 2024.
- FES (2024a), Asbestos Clearance Certificate, *290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek,* ref: E3116-2 Kemps Creek AC R2, dated 03 November 2023. Later revised as FES (2024a), Asbestos Clearance Certificate, *290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek,* ref: E3116-2 Kemps Creek AC R2, dated 11 April 2024.
- JKW (2024), Remediation Works – Non-Friable (B2/B3) and Friable (F2) Containment Cell Report, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: JKW Report B2 Rev Material 1 Rev1, no date. Later revised as JKW (2024a), Remediation Works – Non-Friable (B2/B3) Burial Zone Report, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: JKW Report B2 Material 1 Rev2, no date.
- JKW (2024a), Remediation Works – Friable (F3) Containment Cell Report, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: JKW Report F3 Material Rev1, no date. Later revised as JKW (2024c), Remediation Works – Friable (F2/F3) Containment Cell Report, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: JKW Report F3 Material Rev2, no date.
- FES (2023) Air Monitoring Report, *290-308 Aldington Road & 59-62 Abbotts Road, Kemps Creek, NSW, 2178*, ref: E3116-2 Rev 1, dated 02 November 2023.

[21] EP Risk (2024a), Technical Review of Validation Documentation, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.007_v1, dated 09 April 2024.

As part of this Technical Review, EP Risk required further clarification from the remediation contractors and asbestos hygiene consultant involved in the works. The questions raised by EP Risk within the Technical Review and subsequent emails, were forwarded to ESR to redirect onto relevant contractors and consultants.

EP Risk has summarised the reports and documents relevant to Phase 2 of the Remediation Project, below. EP Risk has provided its commentary and outlined any deviations to the methodology stipulated in the RAP (Alliance 2023) and Addendum (EP Risk 2023a) within the summaries below. These details have been briefly summarised within **Section 6.3** as deviations to the RAP.

JKW (2023), JKW (2023a) and RBS (2023) Survey

Three (3) survey plans relating to the placement areas and on-site containment cell were provided to EP Risk for review.

Further information on the contents of this survey was requested as part of the Technical Review conducted by EP Risk (2024). The updated surveys relating to the Asbestos Placement Areas and on-site Containment Cell were attached to the rear of the JKW (2024) and JKW (2024a) reports and provided within **Appendix D** and **Appendix E.**

FES (2024) Stockpiles – Asbestos Clearance Certificate

FES (2024) prepared an ACC related to asbestos removal works pertaining to the stockpiled soils within two (2) designated zones, marked as 'Area A' and 'Area B' on the site plan attached to the rear of the ACC.

Based on a review of the site plan and written responses obtained from GKC in relation to EP Risk (2024), the ACC appeared to relate to the treatment of B3 stockpiles within the central (southern) stockpiling and treatment pad as well as a clearance of the footprint of the central (southern) stockpiling and treatment pad used to stockpile / treat bonded (non-friable) ASBINS.

Remediation works and visual inspection dates were reported to be from 28 September 2023 to 05 October 2023. Omega was the Class A LARC involved in the works.

The treatment of the B3 stockpiles was reportedly undertaken in 10 m^3 batches, in accordance with the methodology described in the Addendum (EP Risk 2023a). GKC (2024) confirmed in their response to EP Risk (2024), that field screening for bonded (non-friable) ACM >7 mm was undertaken, with no potential ACM identified in the sieve.

Following the treatment of the stockpiled B3, now B2 material, FES progressively conducted a visual clearance inspection of the footprint of the central (southern) stockpiling and treatment pad and collected validation soil samples comprised of an asbestos gravimetric 500 mL NEPM sample.

According to the written response provided by GKC, a grid system was utilised by FES to ensure the entire footprint was assessed. An asbestos gravimetric 500 mL NEPM sample was collected from the surface of each gridded area, labelled as 'AS' with a unique number. FES reported that field screening through a 7 mm sieve was undertaken on all asbestos gravimetric 500 mL NEPM samples during sample collection and noted no potential ACM retained within the sieve. A total of 31 samples were collected over an area of approximately 10,000 m^2.

Due to detections of bonded (non-friable) asbestos within sample AS17, material within AS17 was respread and rescreened, then revalidated with another asbestos gravimetric 500 mL NEPM sample (AS17/2). Asbestos was not identified within AS17/2.

Due to detections of amosite within AF/FA portion within sample AS5, material within AS5 was deemed as containing friable asbestos by FES. As such, material within AS5 was removed to the friable asbestos stockpiling pad to be dealt in another stage.

As per as per the SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* 2022, control airborne asbestos fibre air monitoring is not mandatory for works that involve bonded (non-friable) asbestos. Control airborne asbestos fibre air monitoring was not undertaken during the treatment and movement of B2 and B3 stockpiles.

Following the removal of the treated material, works, FES concluded in the ACC that asbestos impacted soil was removed from the surface of the bonded (non-friable) central (southern) stockpiling and treatment pad and surficial soils were free of visible asbestos contamination.

EP Risk Comments:

- Field screening through a 7 mm sieve was reportedly undertaken on all asbestos gravimetric 500 mL NEPM samples during sample collection. This is noted as a non-conformance, as field screening should be undertaken using a 10 L soil sample, separate to the asbestos gravimetric 500 mL NEPM sample, which should be a discrete, undisturbed sample.
- A copy of the analytical laboratory report was sighted in the earlier version of the ACC (R1) in relation to asbestos gravimetric 500 mL NEPM samples collected from the footprint of the central (southern) stockpiling and treatment pad; however, the analytical laboratory report has been removed from the latest version of the ACC (R2) for unknown reasons.
- It is unknown if an asbestos gravimetric 500 mL NEPM sample was collected for every ten (10) treated stockpiles (100 m^3) as per the Addendum (EP Risk 2023a), as no analytical results and laboratory reports were discussed within or appended to the ACC in relation to this. However, due to the placement of this material at depth, under a degree of asbestos controls (Class B), within the two (2) placement areas on-site, which were overlaid with site-won material and eventually will be covered under hardstand, the risk to Site occupants, should AF/FA be present within the treated B2 material is considered to be low.
- The sampling density of 31 samples to an area of 10,000 m^2 adopted by FES was not consistent to the sampling density specified within the RAP (Alliance 2023) of one (1) sample per 5 m x 5 m of excavation base. Based on the validation requirements in the RAP (Alliance 2023), 400 validation samples should have been collected from the footprint of the bonded (non-friable) portion of the central (southern) stockpiling and treatment pad. However, it should be noted, that this sampling density was devised specifically for validation sampling of AECs identified in the RAP and the collection of 400 validation samples is considered not appropriate based on projected time and cost to undertake the sampling. The collection of 31 validation samples for assessment of AF/FA and combined with a visual clearance was considered to be satisfactory by EP Risk as the results indicate that only a minor area of the footprint was impacted by asbestos (AS17 and AS5).
- EP Risk understand AS17 and AS5 were subsequently remediated by either retreatment or removal to the friable stockpiling area. It is unknown how much material from AS5 was removed to the friable stockpiling area, however quantities are anticipated to be minor. An asbestos gravimetric 500 mL NEPM sample was collected of in-situ soils following the retreatment of AS17, however not collected following removal of friable material from AS5. This is considered a minor non-conformance, given the Site will eventually be covered under hardstand.

FES (2024a) Asbestos Clearance Certificate

FES (2024a) prepared an ACC related to asbestos removal works pertaining to the stockpiled soils and soil surface (up to a depth of 0.01 mBGL) across the three (3) designated zones, identified as the asbestos removal zone, waste and transit route and machinery cleaning zone on the site plan attached to the rear of the ACC.

Based on a review of the site plan and written responses obtained from GKC in relation to EP Risk (2024), the ACC appeared to relate to the removal of F2 and F3 stockpiles within the central (southern) stockpiling pad and the clearance of the footprint of the central (southern) stockpiling pad used to stockpile friable ASBINS.

Remediation works were undertaken prior to 01 November 2023, with visual inspection dates reported from 24 October 2023 to 27 October 2023, 30 October 2023 and 01 November 2023. Penny Green was reported as the Class A LARC involved in the works.

Following the removal of stockpiled F2 and F3 material, FES conducted a visual clearance inspection of the footprint of the central (southern) stockpiling and treatment pad used to stockpile friable ASBINS and collected validation soil samples comprised of an asbestos gravimetric 500 mL NEPM sample.

According to the written response provided by GKC, field screening was also undertaken on all asbestos gravimetric 500 mL NEPM samples during sample collection and noted no potential ACM retained within the sieve through a 7 mm sieve. A total of 15 samples were collected over an area of approximately 7,000 m^2.

FES collected a total of 15 asbestos gravimetric 500 mL NEPM samples from the surface of the three (3) zones, covering a total area of 7000 m^2, with each sample labelled as 'FS' with a unique number.

Due to detections of chrysotile, amosite and crocidolite within the AF/FA portion within sample FS6, material within FS6 was further remediated and another validation sample was collected on remaining in-situ soils as FS6a. Asbestos was subsequently not identified within sample FS6a.

As per the SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* 2022, control airborne asbestos fibre air monitoring is required to be undertaken by an LAA if works involve friable asbestos. Control airborne asbestos fibre air monitoring was undertaken on selected days of friable asbestos removal works (FES 2023).

Following the above works, FES concluded asbestos impacted soil was removed from the surface of the friable central (southern) stockpiling pad and surficial soils were free of visible asbestos contamination.

EP Risk Comments:

- Field screening through a 7 mm sieve was reportedly undertaken on all asbestos gravimetric 500 mL NEPM samples during sample collection. This is noted as a non-conformance, as field screening should be undertaken using a 10 L soil sample, separate to the asbestos gravimetric 500 mL NEPM sample, which should be a discrete, undisturbed sample.
- The sampling density of 15 samples to an area of 7,000 m^2 adopted by FES was not consistent to the sampling density specified within the RAP (Alliance 2023) of one (1) sample per 5 m x 5 m of excavation base. Based on the validation requirements in the RAP (Alliance 2023), 280 validation samples should have been collected from the footprint of the friable portion of the central (southern) stockpiling and treatment pad. However, it should be noted, that this sampling density was devised specifically for validation sampling of AECs identified in the RAP and the collection of 280 validation samples is considered not appropriate based on projected time and cost to undertake the sampling. The collection of 15 validation samples for assessment of AF/FA, combined with a visual clearance was considered to be satisfactory by EP Risk as the results indicate that only a minor area of the footprint was impacted by asbestos (FS6).
- EP Risk understand FS6 subsequently remediated by removal, to an unspecified location, assumed to within the on-site containment cell. It is unknown how much material from FS6 was removed, however quantities are anticipated to be minor. An asbestos gravimetric 500 mL NEPM sample was collected of in-situ soils following the removal of friable material from FS6, with no asbestos detected within the revalidation sample.

JKW (2024) Remediation Works – Bonded (Non-Friable) (B2/B3) Burial Zone Report

In response to EP Risk (2024), JKW prepared a Report providing further information relating to the on-site burial of B2 (including former B3 material subsequent to treatment) at depth within two (2) designated Asbestos Placement Areas (termed burial zones by JKW) (JKW 2024a).

Remediation works were undertaken between 28 September 2023 to 05 October 2023. Omega was reported as the Class A LARC involved in the works. FES was reported as the LAA involved in the works.

As per EP Risk (2023a), the RAP Addendum required B2 material to be placed at a minimum > 0.1 m below finished ground level and in areas where no services will be installed, with the location of this material tracked, and a survey undertaken to confirm placement at depth. Additional requirements were placed on the burial of the material by ESR. It is understood ESR required the material to be placed at a minimum > 2 m below finished ground level to ensure adequate clearance from future building works, services and landscaping.

B2 material was buried within two (2) Asbestos Placement Areas on-site (**Figure 10**):

1) **'Lot 4' Placement Area:** encompasses a portion of the new Lot 4, currently a portion of Lot 111 and Lot 112 in DP1296469.
    a. Contained B2 material from TP246 (AEC19a), TP248 (AEC19a), TP256 (AEC19a), DW23 (AEC19a), Treated Stockpile, AEC19a-002, AEC13, AEC15, AEC23, AEC32a, AEC38, UF025 and UF026.
    b. Covered an area of approximately 8,050 m^2
    c. Had a theoretical capacity of 12,500 m^3, and an actual quantity of 12,384 m^3 of material.
    d. The average fill depth was 2.9 m with maximum fill depth of 5.3 m.
    e. Material was placed at an approximate depth of 3.2 m – 7.6 m below finished surface levels and covered with Site won clay / shale.
    f. The capping material was placed and certified by a Level 1 Geotechnical Consultant from Douglas Partners.
2) **'Lot 5 Northern Finger' Placement Area:** encompasses a portion of the new Lot 5, currently a portion of Lot 112 in DP129649.
    a. Contained B2 material from AEC19a.
    b. Covered an area of approximately 19,800 m^2.
    c. Had a theoretical capacity of 8,500 m^3 and an actual quantity of 8,185 m^3.
    d. The average fill depth was 2.1 m with maximum fill depth of 4.9 m.
    e. Material was placed at an approximate depth of 2.2 – 4.8 m below finished surface levels and covered with Site won clay / shale, blended to geotechnical specifications stipulated by Douglas Partners.
    f. The capping material was placed and certified by a Level 1 Geotechnical Consultant from Douglas Partners.

A survey was undertaken of both Asbestos Placement Areas prior to burial works, subsequent to burial works and of the final ground level to confirm the placement of the material at depth. The surveys have been attached as an appendix to the JKW (2024a) report, and within **Appendix D**.

Control airborne asbestos fibre air monitoring was not undertaken during the movement of B2 material into the placement areas. As per as per the SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* 2022,

control airborne asbestos fibre air monitoring is not mandatory for works that involve bonded (non-friable) asbestos.

EP Risk comments:

- Both surveys indicate the B2 material has been placed at appropriate depths in accordance with the Addendum (EP Risk 2023a).
- EP Risk were not provided with a copy of the report from Douglas Partners to verify the capping material used on Site. Should there be any deficiencies in the capping material, the risk posed to Site occupants is considered to be low, as the Site will be covered in hardstand and fill materials will generally not be accessible except during maintenance activities.
- An AMP has been prepared for the Site and will cover unexpected finds during maintenance activities.

JKW (2024a) Remediation Works - Friable (F2/F3) Containment Cell Report

In response to EP Risk (2024), JKW prepared a Report providing further information relating to the on-site burial of F2 and F3 material within an on-site Containment Cell (JKW 2024a). According to the written response provided by GKC, asbestos contaminated building materials including the brick stockpile from AEC14 and concrete stockpiles SP2, SP15 and SP16 were also placed within the on-site Containment Cell.

Remediation works were undertaken between 23 October 2023 to 01 November 2023. Penny Green was reported as the Class A LARC involved in the works. FES was reported as the LAA involved in the works.

As per EP Risk (2023a), the RAP Addendum required the material within the on-site Containment Cell to be placed at a minimum > 0.5 m below finished ground level. Additional requirements were placed on the burial of the material by ESR. It is understood ESR required the material to be placed at a minimum > 2 m below finished ground level to ensure adequate clearance from future building works, services, and landscaping.

The details of the on-site Containment Cell (**Figure 11**) have been summarised below:

- The on-site Containment Cell was constructed within a portion of the Trunk Drainage Swale, currently a portion of Lot 112 in DP1296469.
- This Containment Cell contained F2 and F3 material from TP242 (AEC19a), TP244 (AEC19a), TP247 (AEC19a), TP250 (AEC19a), AEC19a-001, AEC01a, AEC13, AEC14, AEC24a and UF024.
- According to the written response provided by GKC, brick stockpile from AEC14 (deemed as F3) and concrete stockpiles contaminated with asbestos (SP2, SP15, SP16 and UF019) was also placed within the on-site Containment Cell.
- The on-site Containment Cell had a theoretical capacity of 2,250 m^3 and an actual quantity of 2,198 m^3.
- The average fill depth was 2.5 m, with a maximum fill depth of 3.2 m;
- Material was placed at an approximate depth of 0.8 – 4.2 m below finished surface levels, encapsulated with a hi visibility geotextile marker layer and covered with Site won clay / shale, blended to geotechnical specifications stipulated by Douglas Partners.
- The capping material was placed and certified by a Level 1 Geotechnical Consultant from Douglas Partners.

A survey was undertaken of the on-site Containment Cell prior to burial works, subsequent to burial works and of the final ground level to confirm the placement of material at depth. The surveys have been attached as an appendix to the JKW (2024c) report, and within **Appendix E**.

As per the SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* 2022, control airborne asbestos fibre air monitoring is required to be undertaken by an LAA if works involve friable asbestos. Control airborne asbestos fibre air monitoring was undertaken on selected days of the asbestos removal works (FES 2023).

EP Risk comments:

- The survey indicated that F2 and F3 material and asbestos contained building materials have been placed within the Containment Cell, at appropriate depths, in accordance with the Addendum (EP Risk 2023a).
- EP Risk were not provided with a copy of the report from Douglas Partners to verify the capping material used on Site. Should there be any deficiencies in the capping material, the risk posed to Site occupants is considered to be low, as the Site will be covered in hardstand and will unlikely be intercepted.

FES (2023) Air Monitoring Report

Control airborne asbestos fibre air monitoring was undertaken by FES during the removal / movement of friable material between 23 October 2023 to 27 October 2023 in accordance with *NOHSC:3003(2005).*

Four (4) air monitors were placed around the boundary of the friable portion of the central (southern) stockpiling pad. All results were below the SafeWork NSW action level of 0.01 fibres/mL. As per the RAP (Alliance 2023), no further action is required if a result of <0.01 fibres/mL is obtained.

EP Risk Comments

- Control airborne asbestos fibre air monitoring had not been undertaken during all days where the removal / movement of friable material occurred during Phase 2 of the Remediation Project. However, based on available results of monitoring, being below the SafeWork NSW action level of 0.01 fibres/mL, works were likely to have been adequately controlled.
- Control airborne asbestos fibre air monitoring was reported to be undertaken in accordance with *NOHSC:3003(2005)*, however EP Risk notes the following inconsistencies:
    - A <0.01 fibres/mL result was incorrectly reported for all field blank samples. As field blank samples are not run under a pump, a time and volume calculation cannot be applied. The result should be reported as a fibre count only.
    - The on and off time is the same across each air monitoring sample and for all days of monitoring which is unrealistic and may not reflect a true sampling period.
- These reporting errors are considered minor and unlikely to impact the final <0.01 fibres/mL result.

11 Validation Results

Any deviations to the validation methodology stipulated in the RAP (Alliance 2023) and Addendum (EP Risk 2023a) have been summarised in **Section 11.**

11.1 Airborne Asbestos Fibre Air Monitoring Results

Phase 1 of the Remediation Project

The results of the daily control airborne asbestos fibre air monitoring undertaken at the boundary of the asbestos work area during remediation works were below the SafeWork NSW Action Level of 0.01 fibres / mL. As per the RAP (Alliance 2023), no further action is required if a result of <0.01 fibres/mL is obtained.

The results of the clearance asbestos airborne asbestos fibre air monitoring undertaken within the cab of the excavators, dump trucks and decontamination units used during remediation works were below the SafeWork NSW Action Level of 0.01 fibres / mL. As per the RAP (Alliance 2023), no further action is required if a result of <0.01 fibres/mL is obtained. Subsequently, the excavators, dump trucks and decontamination units were deemed suitable to be demobilised off-site.

As per the RAP (Alliance 2023), no further action is required if a result of <0.01 fibres/mL is obtained.

A copy of the airborne asbestos fibre air monitoring reports has been provided within **Appendix H**.

Phase 2 of the Remediation Project

See **Section 10** for EP Risk's comments on control airborne asbestos fibre air monitoring undertaken during the removal / movement of friable material during Phase 2 of the Remediation Project.

A copy of the airborne asbestos fibre air monitoring reports has been provided within **Appendix H**.

11.2 Visual Asbestos Clearance Inspections

Phase 1 of the Remediation Project

Following the completion of ASBINS remediation works, EP Risk conducted a visual clearance inspection of the residual treatment / excavation footprint of each AEC / UFs. No visible asbestos remained within surficial soils of the treatment / excavation footprint.

Prior to demobilisation off-site, EP Risk also conducted a final visual clearance inspection of the excavators, dump trucks and decontamination units used during remediation works. No visible asbestos was identified to the exterior and interior surfaces of the inspected plant and equipment.

Note, interim visual clearance inspections of the tracks and buckets of excavators were undertaken periodically over the course of the remediation project. The findings of these inspections were documented by EP Risk in the form of a photographic record.

An ACC was prepared by EP Risk for each AEC / UFs and plant / equipment to summarise the findings of the visual clearance inspection.

See **Table 17** for a list of ACCs issued for the Remediation Project. A copy of each ACC has been provided within **Appendix G**.

Phase 2 of the Remediation Project

Treatment of B3 material

Following the treatment of each 10 m^3 batch of B3 material at the central (southern) stockpiling and treatment pad, FES conducted a visual inspection for visible ACM. An ACC was prepared by FES for the treatment of the B3 material (FES 2024).

Bonded (non-friable) footprint of the central (southern) stockpiling and treatment pad

Following the removal of bonded (non-friable) stockpiles from the central (southern) stockpiling and treatment pad, FES conducted a visual clearance inspection of the bonded (non-friable) footprint of the pad, to confirm the pad was free of asbestos contamination. An ACC was subsequently prepared by FES to document the findings of the visual clearance inspection (FES 2024).

Friable footprint of the central (southern) stockpiling and treatment pad

Following the removal of friable stockpiles and building materials contaminated with asbestos from the central (southern) stockpiling and treatment pad, FES conducted a visual clearance inspection of the friable footprint of the pad, to confirm the pad was free of asbestos contamination. An ACC was subsequently prepared by FES to document the findings of the visual clearance inspection (FES 2024a).

See **Table 17** for a list of ACCs issued for the Remediation Project. A copy of each ACC has been provided within **Appendix G**.

11.3 Asbestos Validation Sampling

Phase 1 of the Remediation Project

Treatment of B3 material

The results of the validation sampling undertaken during Phase 1 of the Remediation Project in relation to the treatment of B3 material has been summarised in **Table 16**.

In conclusion:

- All field screening results, calculated as bonded (non-friable) ACM >7 mm in soil concentrations, were less than the ASC NEPC 2013 HSL D and laboratory LOR as summarised within the ACCs presented in **Appendix G**.
- All asbestos gravimetric samples were less than the 0.001 %w/w criteria for all land uses and laboratory LOR as summarised within the ACCs presented in **Appendix G**.

Table 16 – Validation Results for the Treatment of B3 Material prior to burial in Placement Areas

Stockpile ID	Stockpile Size	Date	Validation Result	
			Bonded (non-friable) ACM (>7mm field screen)	Asbestos gravimetric analysis (AF/FA in 500 mL soil sample)
	NEPM 2013 Schedule B1, Table 7 HSLs for Asbestos Contamination in Soil (Commercial / Industrial)		**0.05 %w/w**	**0.01 %w/w**
DW23_006	10 m^3	13.07.2023	No Asbestos Detected	-
DW23_007	10 m^3	13.07.2023	No Asbestos Detected	-

Table 16 – Validation Results for the Treatment of B3 Material prior to burial in Placement Areas				
Stockpile ID	**Stockpile Size**	**Date**	**Validation Result**	
			Bonded (non-friable) ACM (>7mm field screen)	**Asbestos gravimetric analysis (AF/FA in 500 mL soil sample)**
	NEPM 2013 Schedule B1, Table 7 HSLs for Asbestos Contamination in Soil (Commercial / Industrial)		**0.05 %w/w**	**0.01 %w/w**
DW23_009	10 m^3	18.07.2023	No Asbestos Detected	-
DW23_010	10 m^3	18.07.2023	No Asbestos Detected	-
DW23_011	10 m^3	14.07.2023	No Asbestos Detected	-
DW23_012	10 m^3	18.07.2023	No Asbestos Detected	-
DW23_013	10 m^3	14.07.2023	No Asbestos Detected	-
DW23_014	10 m^3	14.07.2023	No Asbestos Detected	-
DW23_016	10 m^3	14.07.2023	No Asbestos Detected	No Asbestos Detected
DW23_017	10 m^3	14.07.2023	No Asbestos Detected	-
DW23_018	10 m^3	14.07.2023	No Asbestos Detected	-
DW23_021	10 m^3	14.07.2023	No Asbestos Detected	-
DW23_022	10 m^3	14.07.2023	No Asbestos Detected	-
DW23_XX (Stockpile Tag not found)	10 m^3	14.07.2023	No Asbestos Detected	-

AECs/UFs

Following a satisfactory visual clearance inspection of the residual treatment / excavation footprint of each AEC / UFs, validation sampling was undertaken by EP Risk in accordance with the RAP (Alliance 2023).

In conclusion:

- All field screening results, calculated as bonded (non-friable) ACM >7 mm in soil concentrations, were less than the ASC NEPC 2013 HSL D and laboratory LOR as summarised within the ACCs presented in **Appendix G**.
- All asbestos gravimetric samples were less than the 0.001 %w/w criteria for all land uses and laboratory LOR as summarised within the ACCs presented in **Appendix G**.

A list of the relevant ACCs issued as part of this Remediation Project has been summarised in **Table 17** below.

Table 17 - Asbestos Clearance Certificate Summary

Asbestos AEC / UFs / Plant / Equipment	ACC Report Reference
AEC01a	EP Risk (2023), Asbestos Clearance Certificate – AEC01a, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC002_v1, dated 02 August 2023.
AEC09b	EP Risk (2023), Asbestos Clearance Certificate – AEC09b, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC010_v1, dated 14 August 2023.
AEC13	EP Risk (2023), Asbestos Clearance Certificate – AEC13 & UF002, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC013_v1, dated 15 April 2024.
AEC14	EP Risk (2023), Asbestos Clearance Certificate – AEC14, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC014_v1, dated 11 April 2024.
AEC15	EP Risk (2023), Asbestos Clearance Certificate – AEC15, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC015_v1, dated 24 August 2023.
AEC16	EP Risk (2023), Asbestos Clearance Certificate – UF024, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC016_v1, dated 12 September 2023.
AEC18	EP Risk (2023), Asbestos Clearance Certificate – AEC18, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC001_v1, dated 18 July 2023.
AEC19a	EP Risk (2023), *Asbestos Clearance Certificate – AEC19a*, UF005 - UF014, & UF016 - UF018, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC004_v1, dated 12 April 2024.
AEC21	EP Risk (2023), Asbestos Clearance Certificate – AEC21, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC017_v1, dated 24 August 2023.
AEC23, AEC23a & AEC23b	EP Risk (2023), Asbestos Clearance Certificate – AEC23, AEC23a, AEC23b & SP2, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC018_v1, dated 15 April 2024.
AEC24a	EP Risk (2023), Asbestos Clearance Certificate – AEC24a, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC021_v1, dated 14 August 2023.
AEC32 & AEC32a	EP Risk (2023), Asbestos Clearance Certificate – AEC32 & AEC32a, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC005_v1, dated 07 August 2023.
AEC33	EP Risk (2023), Asbestos Clearance Certificate – AEC33, UF020 and UF021, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC023_v2, dated 08 August 2023.
AEC38	EP Risk (2023), Asbestos Clearance Certificate – AEC38 and UF022, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC007_v1, dated 08 August 2023.
Concrete stockpile SP2	EP Risk (2023), Asbestos Clearance Certificate – AEC23, AEC23a, AEC23b & SP2, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC018_v1, dated 15 April 2024.
Tyre and brick stockpile	EP Risk (2023), Asbestos Clearance Certificate – AEC14, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC014_v1, dated 11 April 2024.
UF001	EP Risk (2023), Asbestos Clearance Certificate – UF001, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC011_v1, dated 07 August 2023.

Table 17 - Asbestos Clearance Certificate Summary

Asbestos AEC / UFs / Plant / Equipment	ACC Report Reference
UF002 (Concrete stockpile SP15 and SP16)	EP Risk (2023), Asbestos Clearance Certificate – AEC13 & UF002, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC013_v1, dated 15 April 2024.
UF003	EP Risk (2023), Asbestos Clearance Certificate – UF003, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC003_v1, dated 02 August 2023.
UF005, UF006, UF007, UF008, UF009, UF010, UF011, UF012, UF013, UF014, UF016, UF017 & UF018.	EP Risk (2023), Asbestos Clearance Certificate – AEC19a, UF005 - UF014, & UF016 - UF018*, Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek,* NSW, ref: EP3244.003_ACC004_v1, dated 12 April 2024.
UF015	EP Risk (2023), Asbestos Clearance Certificate – UF015, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC009_v1, dated 03 August 2023.
UF019	EP Risk (2023), Asbestos Clearance Certificate – UF019, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC006_v1, dated 07 August 2023.
UF020 & UF021	EP Risk (2023), Asbestos Clearance Certificate – AEC33, UF020 and UF021, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC023_v2, dated 08 August 2023.
UF022	EP Risk (2023), Asbestos Clearance Certificate – AEC38 and UF022, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC007_v1, dated 08 August 2023.
UF024	EP Risk (2023), Asbestos Clearance Certificate – UF024, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC016_v1, dated 12 September 2023.
UF025	EP Risk (2023), Asbestos Clearance Certificate – UF025, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC012_v1, dated 05 September 2023.
UF026	EP Risk (2023), Asbestos Clearance Certificate – UF026*, Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC019_v1, dated 05 September 2023.
UF027	EP Risk (2023), Asbestos Clearance Certificate – UF027, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC022_v1, dated 08 September 2023.
5 Tonne Excavator	EP Risk (2023), Asbestos Clearance Certificate – 5 Tonne Excavator, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC020_v1, dated 28 August 2023.
8 Tonne Excavator	EP Risk (2023), Asbestos Clearance Certificate – 8 Tonne Excavator, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC008_v1, dated 14 August 2023.
30 Tonne Volve Excavator	EP Risk (2023), Asbestos Clearance Certificate – 30 Tonne Volvo Excavator*, Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC028_v1, dated 31 August 2023.
35 Tonne Volvo Excavator	EP Risk (2023), Asbestos Clearance Certificate – 35 Tonne Volvo Excavator*, Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC029_v1, dated 30 August 2023.
48 Tonne Kobelco Excavator	EP Risk (2023), Asbestos Clearance Certificate – 48 Tonne Kobelco Excavator, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC027_v1, dated 28 August 2023.

Table 17 - Asbestos Clearance Certificate Summary	
Asbestos AEC / UFs / Plant / Equipment	**ACC Report Reference**
25 Tonne Dump Truck	EP Risk (2023), Asbestos Clearance Certificate – 25 Tonne Moxy, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC026_v1, dated 28 August 2023.
30 Tonne Dump Truck	EP Risk (2023), Asbestos Clearance Certificate – 30 Tonne Moxy, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC024_v1, dated 28 August 2023.
Decontamination Unit	EP Risk (2023), Asbestos Clearance Certificate – Decontamination Unit, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW*, ref: EP3244.003_ACC025_v1, dated 02 August 2023.
Decontamination Unit	EP Risk (2023), Asbestos Clearance Certificate – Decontamination Unit, *Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW,* ref: EP3244.003_ACC030_v1, dated 31 August 2023.
Treatment of B3 material during Phase 2 of the Remediation Project	FES (2024c), Stockpiles – Asbestos Clearance Certificate, *290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek,* ref: E3116 Kemps Creek AC R2, dated 16 April 2024.
Footprint of the bonded (non-friable) portion of the central (southern) stockpiling pad	FES (2024), Stockpiles – Asbestos Clearance Certificate, *290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek,* ref: E3116 Kemps Creek AC R2, dated 16 April 2024.
Footprint of the friable portion of the central (southern) stockpiling pad	FES (2024a), Asbestos Clearance Certificate, *290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek,* ref: E3116-2 Kemps Creek AC R2, dated 11 April 2024.

Phase 2 of the Remediation Project

Treatment of B3 material

According to the written response provided by GKC, that field screening for bonded (non-friable) ACM >7 mm was undertaken in accordance with the RAP (Alliance 2023) and RAP (EP Risk 2023a).

In conclusion, all field screening results, calculated as bonded (non-friable) ACM >7 mm in soil concentrations, were less than the ASC NEPC 2013 HSL D and laboratory LOR as summarised within the ACCs presented in **Appendix G**.

Bonded (non-friable) footprint of the central (southern) stockpiling and treatment pad

FES reported that field screening through a 7 mm sieve was undertaken on all asbestos gravimetric 500 mL NEPM samples during sample collection and noted no potential ACM retained within the sieve. A total of 31 samples were collected over an area of approximately 10,000 m^2.

Due to detections of bonded (non-friable) asbestos within sample AS17, material within AS17 was respread and rescreened, then revalidated with another asbestos gravimetric 500 mL NEPM sample (AS17/2). Asbestos was not identified within AS17/2.

Due to detections of amosite within AF/FA portion within sample AS5, material within AS5 was deemed as containing friable asbestos by FES. As such, material within AS5 was removed to the friable asbestos stockpiling pad to be dealt in another stage.

In conclusion:

- All field screening results, calculated as bonded (non-friable) ACM >7 mm in soil concentrations, were less than the ASC NEPC 2013 HSL D and laboratory LOR as summarised within the ACCs presented in **Appendix G**.
- All asbestos gravimetric samples were less than the 0.001 %w/w criteria for all land uses and laboratory LOR as summarised within the ACCs presented in **Appendix G**.

Friable footprint of the central (southern) stockpiling and treatment pad

FES collected a total of 15 asbestos gravimetric 500 mL NEPM samples from the surface of the three (3) zones, covering a total area of 7000 m^2.

Due to detections of chrysotile, amosite and crocidolite within the AF/FA portion within sample FS6, material within FS6 was further remediated and another validation sample was collected on remaining in-situ soils as FS6a. Asbestos was not subsequently identified within sample FS6a.

In conclusion, all asbestos gravimetric samples were less than the 0.001 %w/w criteria for all land uses and laboratory LOR as summarised within the ACCs presented in **Appendix G**.

A list of the relevant ACCs issued as part of this Remediation Project has been summarised in **Table 18** below.

Table 18 - Asbestos Clearance Certificate Summary

Asbestos AEC / UFs / Plant / Equipment	ACC Report Reference
Treatment of B3 material during Phase 2 of the Remediation Project & Footprint of the bonded (non-friable) portion of the central (southern) stockpiling pad	FES (2024), Stockpiles – Asbestos Clearance Certificate, *290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek,* ref: E3116 Kemps Creek AC R2, dated 16 April 2024.
Footprint of the friable portion of the central (southern) stockpiling pad	FES (2024a), Asbestos Clearance Certificate, *290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek,* ref: E3116-2 Kemps Creek AC R2, dated 11 April 2024.

11.4 Septic Tank Systems Validation Results

Visual Inspections

The lateral and vertical extent of the septic tank systems were undefined in the RAP (Alliance 2023). The septic tank systems and associated infrastructure were carefully excavated and removed by TCE using a 5 - 8 tonne excavator, with as little material removed as possible.

A visual inspection was subsequently undertaken by EP Risk of the residual excavation footprint and of the stockpiled materials from within and surrounding the septic tank. The purpose of the visual inspection was to

identify any visual and olfactory signs of septic contamination and determine if additional excavation works were required.

Visual or olfactory signs associated with septic tank use were expected and noted. No other visual or olfactory indicators of other forms of contamination were identified. The findings of the visual inspections were documented by EP Risk in the form of a photographic record attached within **Appendix A.**

Validation Sampling

Following a visual inspection of the residual excavation footprint and of the stockpiled materials from within and surrounding the septic tank, validation sampling was undertaken by EP Risk. The stockpiles materials were sampled and assessed to determine suitability to remain on-site as ESR wanted to retain all soil materials on-site to minimise costs associated with disposal.

A summary of the validation samples collected have been summarised within **Table 19** below and the final classification of the material summarised within **Table 20**. An analytical summary table has been prepared for each septic AEC, a copy of which has been attached within **Appendix B**.

Overall, materials associated with the septic systems were generally considered suitable to remain on the Site. Some minor quantities required management measures as noted in **Table 20**.

At the conclusion of Phase 2 of the Remediation Project, O2 materials from 40SEP01 was placed within an Asbestos Placement Area (Lot 5 Northern Finger Placement Area) and O2 and B3 materials from 40SEP02, AEC22_SEP01 and AEC22_SEP02 were consolidated and moved for stockpiling off-site within the Westlink Stage 2 project, which falls within the same SSD **(Figure 12)**. Concrete waste associated with the septic tanks were reportedly washed in-place to ensure no soil remained and disposed to a concrete recycling facility.

This deviation and non-conformance from the RAP (Alliance 2023) and Addendum (EP Risk 2023a) has been discussed further in **Section 6.3** and **Section 12.**

Table 19 – Septic Tank / Pit Validation Samples

AEC	CoPC	Sample Date	No. of samples	Field Duplicates	Field Triplicates	Trip Spikes / Blanks	Rinsate Blanks
AEC16	2 x septic tank systems (petroleum, hydrocarbons, PAH, metals, pathogens)	09.08.2023	22	4[22]	0	0	2
AEC21	1x septic pit (E. Coli and thermotolerant coliforms)	31.07.2023	6	0	0	1	1
AEC22	1x Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	10.08.2023	14	0	0	-	1

[22] Two (2) field triplicate samples, AEC16_VAL TRP01 and AEC16_VAL TRP02, were mistakenly analysed at the primary laboratory (ALS) instead of being forwarded to the secondary laboratory (Eurofins). As such, these samples are considered extra field duplicate samples.

Table 19 – Septic Tank / Pit Validation Samples

AEC	CoPC	Sample Date	No. of samples	Field Duplicates	Field Triplicates	Trip Spikes / Blanks	Rinsate Blanks
AEC39	1x septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	26.07.2023	8	2[23]	1	1	0
AEC40	2x septic tank systems side by side (petroleum, hydrocarbons, PAH, metals, pathogens)	25.07.2023	3	0	0	-	0
		28.07.2023	17	2[24]	0	1	1
Total			70	6	2	3	5

Table 20 – Septic Tank Systems Materials Classification Check

AEC	CoPC	Classification – Validation Result	Management Requirements	Final Location of Material
AEC16 – 2x septic tank systems				
16SEP01 (Material within septic tank)	Petroleum hydrocarbons, PAH, metals, E. coli and thermotolerant coliforms	O1 – suitable to remain on the Site	No management requirements	No placement requirements
16SEP02 (Material within septic tank)				
16VAL01 (Material surrounding septic tank)				
16VAL02 (Material surrounding septic tank)				
AEC16_VAL_01 (Excavation footprint)	TRH, BTEX, PAH, Metals (8), PCB, OCP, OPP and Asbestos	O1 - suitable to remain on the Site	Appropriately validated, no additional excavation required	N/A – in-situ
AEC16_VAL_02 (Excavation footprint)				

[23] One (1) field triplicate sample, AEC39_VAL_TRP01, was mistakenly analysed at the primary laboratory (ALS) instead of being forwarded to the secondary laboratory (Eurofins). As such, this samples is considered an extra field duplicate sample.

[24] One (1) field triplicate sample, AEC40_VAL_TRIP01, was mistakenly analysed at the primary laboratory (ALS) instead of being forwarded to the secondary laboratory (Eurofins). As such, this samples is considered an extra field duplicate sample.

Table 20 – Septic Tank Systems Materials Classification Check				
AEC	**CoPC**	**Classification – Validation Result**	**Management Requirements**	**Final Location of Material**
AEC21 – 1x septic pit				
AEC21 (in-situ footprint)	E. coli and thermotolerant coliforms	O1 - suitable to remain on the Site	No management requirements	N/A – in-situ
AEC22 – 1x septic tank system				
AEC22_SEP01 – (Material within septic tank including septic tank structure)	TRH, BTEX, PAH, Metals (8) and Asbestos	O2 and B3 – suitable to remain onsite with management Up to 75 m^3	Treatment for bonded (non-friable) asbestos, placement of material at > 2 m below finished ground level, and in an area of no services + survey	Consolidated together with 40SEP02 and stockpiled in the adjacent Westlink Stage 2 project, which falls within the same SSD **(Figure 12).**
AEC22_SEP02 (Material within septic tank)		O2 and B3 - suitable to remain onsite with management Up to 75 m^3		
AEC22_VAL01 (Material surrounding septic tank)		O1 - suitable to remain on the Site	No management requirements	No placement requirements
AEC22_VAL (Excavation footprint)	Petroleum hydrocarbons, PAH, metals, E. coli and thermotolerant coliforms	O1 - suitable to remain on the Site	Appropriately validated, no additional excavation required	N/A – in-situ
AEC39 – 1x septic tank system				
39VAL01 – Material surrounding septic tank	TRH, BTEX, PAH, Metals (8), PCB, OCP, OPP and Asbestos	O1 - suitable to remain on the Site	No management requirements	No placement requirements
AEC39_VAL - Excavation Footprint	Petroleum hydrocarbons, PAH, metals, E. coli and thermotolerant coliforms	O1 - suitable to remain on the Site	Appropriately validated, no additional excavation required	N/A – in-situ
AEC40 – 2x septic tank systems				
40SEP01 (Material within septic tank)	TRH, BTEX, PAH, Metals (8), PCB, OCP, OPP and Asbestos	O2 - suitable to remain onsite with management Up to 150 m^3	Placement of material at > 2 m below finished ground level, and in an area of no services + survey	Placed within Lot 5 Northern Finger Asbestos Placement Area
40SEP02 (Material within septic tank)				Consolidated together with AEC22_SEP01 and

Table 20 – Septic Tank Systems Materials Classification Check				
AEC	**CoPC**	**Classification – Validation Result**	**Management Requirements**	**Final Location of Material**
				AEC22_SEP02 and stockpiled in the adjacent Westlink Stage 2 project, which falls within the same SSD **(Figure 12).**
40VAL01 (Material surrounding septic tank)		O1 - suitable to remain on the Site	No management requirements	No placement requirements
40VAL02 (Material surrounding septic tank)				
40VAL04 (Material surrounding septic tank)				
AEC40_VAL (Excavation Footprint)	Petroleum hydrocarbons, PAH, metals, E. coli and thermotolerant coliforms	O1 - suitable to remain on the Site	Appropriately validated, no additional excavation required	N/A – in-situ

11.5 Aesthetics (Concrete Stockpiles) Validation Results

Following the removal of concrete stockpiles (not contaminated with asbestos) identified to present an aesthetic risk by JKW, EP Risk conducted a visual inspection and prepared a photographic log to document / confirm the removal of concrete stockpiles. The photographic log is presented within **Appendix A** of this Report.

Overall, majority of the concrete stockpiles were removed with only minor volumes of residual concrete material considered impractical to remove via heavy plant observed to remain on the Site's surface. In considering the commercial / industrial land use of the Site, which is one of the least sensitive land uses and development plans indicating that majority of the Site expected to be fully and permanently sealed with concrete, the remaining aesthetic risk is considered to be minimal.

12 Discussion

12.1 Remedial Works Overview

Remediation and validation works undertaken at the Site, completed in two (2) phases:

- Phase 1 of the Remediation Project - was undertaken between 10 July 2023 and 25 September 2023 by Class A Licensed Asbestos Remediation Contractor (LARC), TCE Contracting Pty Ltd (TCE) as engaged by JK Williams Pty Ltd (JKW), with asbestos hygiene and validation works undertaken by EP Risk. EP Risk was engaged by ESR from 10 July 2023 to 04 September 2023, and later engaged by TCE from 19 September 2023 to 25 September 2023.
- Phase 2 of the Remediation Project - was undertaken 28 September 2023 and 03 November 2023, by Class A LARC Omega Hazmat Pty Ltd (Omega) and Penny Green Pty Ltd (Penny Green), as engaged by Ground King Civil Pty Ltd (GKC) with asbestos hygiene works undertaken by Foundation Earth Sciences Pty Ltd (FES).

Onsite remediation works over the two Phases from the AECs and UFs generally included a combination of removal via excavation and temporary stockpiling. Followed by treatment where feasible and then placement within either the Asbestos Placement Areas when or placement within the Containment Cell in accordance with he Addendum (EP Risk 2023a).

12.2 Validation Summary

Overall, the remediated AECs and UFs were validated and are considered suitable for the proposed land use. Furthermore, the B3 materials were remediated and validated as B2 materials suitable for burial within the Asbestos Placement Areas and the friable ABSINS materials and asbestos contaminated building materials (bricks and concrete) were placed within the Containment Cell.

The central (southern) stockpiling and treatment pad footprints are also considered validated and suitable for the proposed land use after the movement of materials to the Asbestos Placement Areas or Containment Cell.

Eastern Stockpiling Pad Materials

The eastern stockpiling pad was constructed atop a former hardstand tennis court which had been removed. At the conclusion of Phase 1 of the Remediation Project, the eastern stockpiling pad covered an approximate area of 450 m^2 and comprised of O2 and B3 material and septic concrete waste (up to approximately 975 m^3) , associated with septic tank systems removed from AEC16, AEC21, AEC22, AEC39 and AEC40 which had been stockpiled on a layer of geotextile fabric (**Table 19**). It is noted these materials were suitable to remain on the Site however a minor amount of O2 and B3 material from AEC22 and AEC40 (up to approximately 300 m^3) required further management.

At the conclusion of Phase 2 of the Remediation Project, O2 materials from 40SEP01 was placed within an Asbestos Placement Area (Lot 5 Northern Finger Placement Area) and O2 and B3 materials from 40SEP02, AEC22_SEP01 and AEC22_SEP02 were consolidated and moved for stockpiling off-site at the adjacent Westlink Stage 2 project, which falls within the same SSD **(Figure 12)**. Concrete waste associated with the septic tanks were reportedly washed in-place to ensure no soil remained and disposed to a concrete recycling facility.

As per the Addendum (EP Risk 2023a), B3 material must be subject to mechanical raking and emu picking treatment and successfully validated in order for the material to be downgraded to B2 status. Once classified as B2 material, the material is suitable to remain on-stie subject to placement > 0.1 m below finished ground level in areas where no services will be installed. The location of this material must be tracked, and a survey undertaken to confirm placement at depth.

As per the Addendum (EP Risk 2023a), O2 material is unsuitable to remain on-site, subject to placement > 2 m below finished ground level and in areas where no services will be installed. The location of this material must be tracked, and a survey undertaken to confirm placement at depth.

An Addendum should be issued to this SRVR to address the completion of the above works in accordance with the RAP (Alliance 2023) and Addendum (EP Risk 2023a).

12.3 Waste Disposal Summary

At the end of the Phase 1 of the Remediation Project bonded (non-friable) ACM, in the form of AC fragments (AEC23a, UF027 and treatment of B3 materials), AC sheeting (UF021) and AC conduits (UF003, UF012, UF015, UF020 and UF024) were the only materials disposed off-site at a licensed landfill facility as Special Waste (Asbestos). Bonded (non-friable) ACM within these AECs and UFs were wrapped in 200 µm black plastic sheeting or placed within 200 µm asbestos waste bags for disposal in a skip bin (1 tonne) that was collected at the end of remediation works and transported to a licensed landfill facility, Bingo Industries as Special Waste (Asbestos). A copy of waste disposal dockets provided has been provided in **Appendix I** below.

During Phase 2 of the Remediation Project (28 September 2023 and 03 November 2023), bonded (non-friable) ACM associated with the treatment of B3 material and asbestos contaminated tyres and geotextile fabric (48.48 tonnes) were the only materials disposed off-site at a licensed landfill facility, Bingo Industries as Special Waste (Asbestos). A copy of waste disposal dockets provided has been provided in **Appendix I** below.

Concrete waste associated with the septic tanks were reportedly washed in-place to ensure no soil remained and disposed to a concrete recycling facility. A copy of disposal dockets has not been provided.

12.4 Assessment of Validation Decision Rules

An assessment of the validation DQOs as outlined on **Section 7.2** is presented in **Table 10** below.

Table 21 – Assessment of Decision Rules

Decision	Rule	Outcome
Has soil been assessed against relevant ecological and health-based investigation levels and have potential risks to receptors been identified?	The validation criteria are to be based upon guidelines approved under Section 105 of the Contaminated Land Management Act and are appropriate for the purpose of the assessment. Risks to receptors to be assessed by site inspection, sampling, analytical testing and comparison of the results to the adopted validation criteria. If this process is followed the decision is yes, otherwise additional assessment will be required.	All validation samples have been assessed against the relevant ecological and health-based investigation levels. Potential risks to receptors have not been identified. All results were less than the adopted criteria or the limit of reporting.
Have potential human health or ecological risks to receptors been identified?	Potential human health or ecological risks to receptors will be assessed by comparison of statistical assessment of the validation results. The following statistical criteria was adopted with respect to soil and soil validation results (where applicable): Either: the reported concentrations are all below the adopted remediation criteria.	Potential human health or ecological risks to receptors have not been identified as all results were less than the adopted criteria or the limit of reporting within the AECs, UFs and temporary stockpile footprints. Materials containing friable ABSINS were placed within the containment cell and do pose a human health risk if disturbed. Asbestos contaminated building materials (bricks and

Table 21 – Assessment of Decision Rules

Decision	Rule	Outcome
	Or: the average site concentration for each analyte must be below the adopted site criterion; no single analyte concentration exceeds 250% of the adopted remediation criterion; and the standard deviation of the results must be less than 50% of the remediation criteria. And: the 95% upper confidence limit of the arithmetic mean (UCL_{mean}) for each analyte must be below the adopted remediation criterion. If the statistical criteria are satisfied then the decision is yes, otherwise additional assessment is required.	concrete) were also placed within the containment cell. Materials containing bonded ACM below the adopted HSL within the Asbestos Placement Areas do not pose a risk to human health however should be managed in accordance with an AMP. B3 and O2 materials associated with the septic tanks from AEC22 had been moved for stockpiling off-site at the adjacent Westlink Stage 2 project, which falls within the same SSD **(Figure 12).** An Addendum should be issued to this SRVR to address the completion of remaining remediation and validation works in accordance with the RAP (Alliance 2023) and Addendum (EP Risk 2023a).
Are there issues relating to the local area background soil concentrations that exceed relevant investigation criteria?	Where issues relating to background soil concentrations have been identified then additional assessment will be required. If no issues identified, then additional assessment will not be required.	There were no issues identified relating to background concentrations and therefore additional assessment is not required.
Are there chemical mixtures?	Is more than one chemical within a group of contaminants considered to have a similar mode of action present which increase the risk of harm? If there is, a hazard quotient (H') and Hazard Index (HI) should be calculated from the analytical results for each sample in accordance with NEPM 2013. If the HI is calculated to be greater than 1, the decision is Yes. Otherwise, additional assessment is required.	An increase in risk from chemical mixtures was not found, therefore no additional assessment is required.
Are there any aesthetic concerns in fill soils present at the site?	If there are any unacceptable staining, odours or significant amounts of anthropogenic fill materials the answer to the decision is Yes. Otherwise, additional assessment is required.	While concrete was placed within the containment cell this does not pose an aesthetic concern as the cell is capped and will be managed by an LTEMP. Identified aesthetic issues were validated as part of this validation assessment and therefore additional assessment is not required.

Table 21 – Assessment of Decision Rules

Decision	Rule	Outcome
Is a site management strategy required?	If further assessment (required in the Decision rules above) identifies a risk to human health or ecological receptors, then a site management strategy may be required. If no risk to human health or ecological receptors is identified, then a site management strategy is not required.	Due to the presence of the ABSINS materials remaining onsite in the containment cell an LTEMP is required. Further, while the ABSINS materials within the placement areas do not pose a human health risk an AMP will ensure controls are present if works are required through these areas. Additionally, the AMP applies to the whole Site if unexpected finds are uncovered during maintenance or construction works.

13 Post-Remediation Conceptual Site Model

Overall, due to the remediation and subsequent validation activities on the Site the source-pathway-receptor (SPR) linkages identified within **Section 4.5** are predominately incomplete. All UFs were validated and are also considered incomplete. A Post-Remediation CSM summary table for the AECs has been provided in **Table 21** below.

As noted within **Section 12,** an approximate volume of 225 m^3 O2 and B3 materials from 40SEP02, AEC22_SEP01 and AEC22_SEP02 were consolidated and moved for stockpiling off-site at the adjacent Westlink Stage 2 project, which falls within the same SSD.

As per the Addendum (EP Risk 2023a), B3 material must be subject to mechanical raking and emu picking treatment and successfully validated in order for the material to be downgraded to B2 status. Once classified as B2 material, the material is suitable to remain on-stie subject to placement > 0.1 m below finished ground level in areas where no services will be installed. The location of this material must be tracked, and a survey undertaken to confirm placement at depth.

As per the Addendum (EP Risk 2023a), O2 material is unsuitable to remain on-site, subject to placement > 2 m below finished ground level and in areas where no services will be installed. The location of this material must be tracked, and a survey undertaken to confirm placement at depth.

An Addendum should be issued to this SRVR to address the completion of the above works in accordance with the RAP (Alliance 2023) and Addendum (EP Risk 2023a).

Overall, EP Risk considered the remedial works described in the RAP (Alliance 2023) and Addendum (EP Risk 2023a) successfully implemented based upon the completion of the remediation and validation work within the Site boundary. Further site management strategy is required as ABSINS remains in-situ within the Containment Cell and Asbestos Placement Areas.

Subject to the implementation of the LTEMP and AMP, the potential SPR linkages to site users and subsurface maintenance workers are not complete. Therefore, there is no requirement for notification of the Site to the EPA under Section 60 of the Contaminated Land Management Act 1997.

In the event unexpected ACM may become uncovered, outside of the Containment Cell, through proposed future development or maintenance works, this should be managed in accordance with the AMP.

Table 22 – Post-Remediation CSM: Potential and Complete Exposure Pathways

AEC	Extent	Affected Media	CoPC	Source	Release Mechanism	Exposure Pathway	On-site	
							Current and future intrusive construction and maintenance workers.	Future commercial / industrial workers
AEC01	~80 m^2, nominal thickness of ~0.1 m	Soil	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Uncontrolled filling	Fugitive dust	Inhalation	Incomplete	
AEC09b	~60 m^2, nominal thickness of ~0.1 m	Soil	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Waste disposal	Fugitive dust	Inhalation	Incomplete	
AEC13	~270 m^2, nominal thickness of ~0.3 m	Soil	Visible asbestos in surface soils Friable asbestos as AF or FA in surface and/or fill soils	Hazardous building materials and demolition	Fugitive dust	Inhalation	Incomplete	
AEC14	~950 m^2, nominal thickness of ~0.1 to 2.2 m	Soil	Asbestos fines in surface and/or fill soils Aesthetics (tyre and brick stockpile)	Uncontrolled filling	Fugitive dust	Inhalation	Incomplete	
AEC15	~100 m^2, nominal thickness of ~0.1 m	Soil	Visible asbestos in surface soils	Hazardous building materials Demolition	Fugitive dust	Inhalation	Incomplete	
AEC16	~3 m^2, nominal thickness of 1.5 m of tank	Soil	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Domestic effluent disposal	Fugitive dust	Inhalation Ingestion Dermal Contact	Incomplete	

Table 22 – Post-Remediation CSM: Potential and Complete Exposure Pathways

AEC	Extent	Affected Media	CoPC	Source	Release Mechanism	Exposure Pathway	On-site	
							Current and future intrusive construction and maintenance workers.	Future commercial / industrial workers
AEC18	~30 m^2, nominal thickness of ~0.1 m	Soil	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Uncontrolled filling	Fugitive dust	Inhalation	Incomplete	
AEC19a	~5,700 m^2, nominal thickness of 0.3-4 m thick	Soil	Friable asbestos as AF or FA in surface and/or fill soils (above HSL) Friable asbestos as AF or FA in surface and/or fill soils (below HSL) Bonded asbestos in fill soils in surface soils and/or fill soils (above HSL) Bonded asbestos in fill soils in surface soils and/or fill soils (below HSL)	Uncontrolled filling	Fugitive dust	Inhalation	Incomplete	
AEC21	~100 m^2, nominal thickness of ~1 m	Soil	Bonded asbestos in surface soils ≤0.1 mBS E. Coli	Septic discharge Uncontrolled filling	Fugitive dust	Inhalation Ingestion Dermal Contact	Incomplete	

Table 22 – Post-Remediation CSM: Potential and Complete Exposure Pathways

AEC	Extent	Affected Media	CoPC	Source	Release Mechanism	Exposure Pathway	On-site	
							Current and future intrusive construction and maintenance workers.	Future commercial / industrial workers
AEC22	~3 m^2, nominal thickness of 1.5 m of tank	Soil	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Domestic effluent disposal	Fugitive dust	Inhalation Ingestion Dermal Contact	Materials stockpiled on adjacent Westlink Stage 2, under the same SSD **(Figure 12).** Remediation and validation required in accordance with the RAP (Alliance 2023) and Addendum (EP Risk 2023a)	
AEC23	215 m^2, nominal thickness of ~0.2 m	Soil	Visible asbestos in surface soils Bonded (non-friable) asbestos in fill soils >0.1 mBS	Hazardous building materials deterioration and demolition	Fugitive dust	Inhalation	Incomplete	
AEC23a	Three wheelie bins, approximately 250 L each	-	Bonded (non-friable) ACM	Hazardous building materials deterioration and demolition	Fugitive dust	Inhalation	Incomplete	
AEC23b	~80 m^2, nominal thickness of ~0.1 m	Soil	Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Hazardous building materials deterioration and demolition	Fugitive dust	Inhalation	Incomplete	

Table 22 – Post-Remediation CSM: Potential and Complete Exposure Pathways

AEC	Extent	Affected Media	CoPC	Source	Release Mechanism	Exposure Pathway	On-site	
							Current and future intrusive construction and maintenance workers.	Future commercial / industrial workers
AEC24a	~25 m^2, nominal thickness of ~0.1 m	Soil	Visible asbestos in surface soils Friable asbestos as AF or FA in surface and/or fill soils	Shallow uncontrolled filling	Fugitive dust	Inhalation	Incomplete	
AEC32	~80 m^2, nominal thickness of ~0.1 m	Soil	Visible asbestos in surface soils Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Demolition of hazardous building materials	Fugitive dust	Inhalation	Incomplete	
AEC32a	~230 m^2, nominated thickness of ~0.1 m	Soil	Visible asbestos in surface soils Bonded (non-friable) asbestos in surface soils ≤0.1 mBS	Demolition of hazardous building materials	Fugitive dust	Inhalation	Incomplete	
AEC33	~ <2000 m^2	Soil	Visible asbestos in surface soils	Demolition	Fugitive dust	Inhalation	Incomplete	
AEC38	~8200 m^2	Soil	Visible asbestos in surface soils	Demolition	Fugitive dust	Inhalation	Incomplete	
AEC39	~3 m^2, nominal thickness of 1.5 m of tank. Absorption system extent unknown	Soil	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Domestic effluent disposal	Fugitive dust	Inhalation Ingestion Dermal Contact	Incomplete	

Table 22 – Post-Remediation CSM: Potential and Complete Exposure Pathways

AEC	Extent	Affected Media	CoPC	Source	Release Mechanism	Exposure Pathway	On-site	
							Current and future intrusive construction and maintenance workers.	Future commercial / industrial workers
AEC40	~3 m^2, nominal thickness of 1.5 m of tank. Absorption system extent unknown	Soil	Septic tank system (petroleum, hydrocarbons, PAH, metals, pathogens)	Domestic effluent disposal	Fugitive dust	Inhalation Ingestion Dermal Contact	Materials stockpiled on adjacent Westlink Stage 2, under the same SSD **(Figure 12).** Remediation and validation required in accordance with the RAP (Alliance 2023) and Addendum (EP Risk 2023a).	
Concrete stockpile SP2, SP15 – SP16	150 m^3	-	Bonded (non-friable) ACM Aesthetics (concrete stockpiles)	Demolition	Fugitive dust	Inhalation	Incomplete	
Concrete stockpiles SP1, SP3-SP14	~2,100 m^3	-	Aesthetics (concrete stockpiles)	Demolition	Fugitive dust	Inhalation	Incomplete	

14 Asbestos Management Plan (AMP)

The objective of the AMP (EP Risk 2024) for the ongoing management of ASBINS placed on-site at depth within two (2) Asbestos Placement Areas, containing concentrations of bonded (non-friable) asbestos below the health screening level (HSL) for a commercial / industrial land use criteria of 0.05 %w/w and the management of unexpected asbestos finds at the Site, outside the Asbestos Placement Areas, applicable to any earthworks, including penetration below the concrete hardstand at the Site.

The two (2) Asbestos Placement Areas are described below:

1) **Lot 4 Placement Area** (**Figure 10**)**:** Bonded (non-friable) asbestos at concentrations below the adopted HSL (0.05 %w/w), were placed within a portion of Lot 4 (currently a portion of Lot 111 and Lot 112 in DP1296469). The Lot 4 Placement Area covered an area of approximately 8,050 m^2. The Lot 4 Placement Area has a theoretical capacity of 12,500 m^3, with an actual volume of 12,384 m^3. The average fill depth was 2.9 m, with maximum fill depth of 5.3 m. Material was placed at an approximate depth of 3.2 m – 7.6 m below finished surface levels and covered with Site won clay / shale.

2) **Lot 5 Northern Finger Placement Area** (**Figure 10**)**:** Bonded (non-friable) asbestos at concentrations below the adopted HSL (0.05 %w/w), was buried within a portion of the Lot 5 Northern Finger (currently a portion of Lot 112 in DP1296469). The Lot 5 Northern Finger Placement Area covered an area of approximately 19,800 m^2. The Lot 5 Northern Finger Placement Area has a theoretical capacity of 8,500 m^3, with an actual volume of 8,185 m^3. The average fill depth was 2.1 m, with maximum fill depth of 4.9 m. Material was placed at an approximate depth of 2.2 – 4.8 m below finished surface levels and covered with Site won clay/shale.

15 Long Term Environmental Management Plan (LTEMP)

The objective of the LTEMP (EP Risk 2024c) is to document the management framework and responsibilities for the on-site Containment Cell during the operational use and any potential future development, construction and/or maintenance works.

The Containment Cell is located within a portion of Lot 112 in DP1296469, within a portion of the new Trunk Drainage Swale (**Figure 11**).

Contaminants managed under the scope of this LTEMP comprise previously identified friable asbestos in soils (ASBINS), present as asbestos fines (AF) and fibrous asbestos (FA) at concentrations below and above the health screening level (HSL) for a commercial / industrial land use criterion of 0.05 %w/w, and building materials contaminated with asbestos including brick and concrete stockpiles, now placed within a Containment Cell constructed on-site.

The Containment Cell had a theoretical capacity of 2,250 m^3 and an actual quantity of 2,198 m^3. The average fill depth was 2.5 m, with a maximum fill depth of 3.2 m. Material was placed at a minimum depth of 0.5 mBGL in accordance with the Addendum (EP Risk 2023a) to an approximate depth of 0.8 – 4.2 m below finished surface levels and was encapsulated with a hi visibility geotextile marker layer and covered with Site won clay / shale. It is understood the elevation of the swale will be raised further above this capping later and the swale will be completed with a mix of landscaping and rock/concrete materials.

16 Conclusion

ESR engaged EP Risk to prepare a SRVR (the Report) following the assessment, treatment and validation of remedial works at the Westlink Stage 1 Project (the Project) located at 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek, NSW, 2178 (the Site).

This Report covers remediation and validation works undertaken at the Site, completed in two (2) phases only:

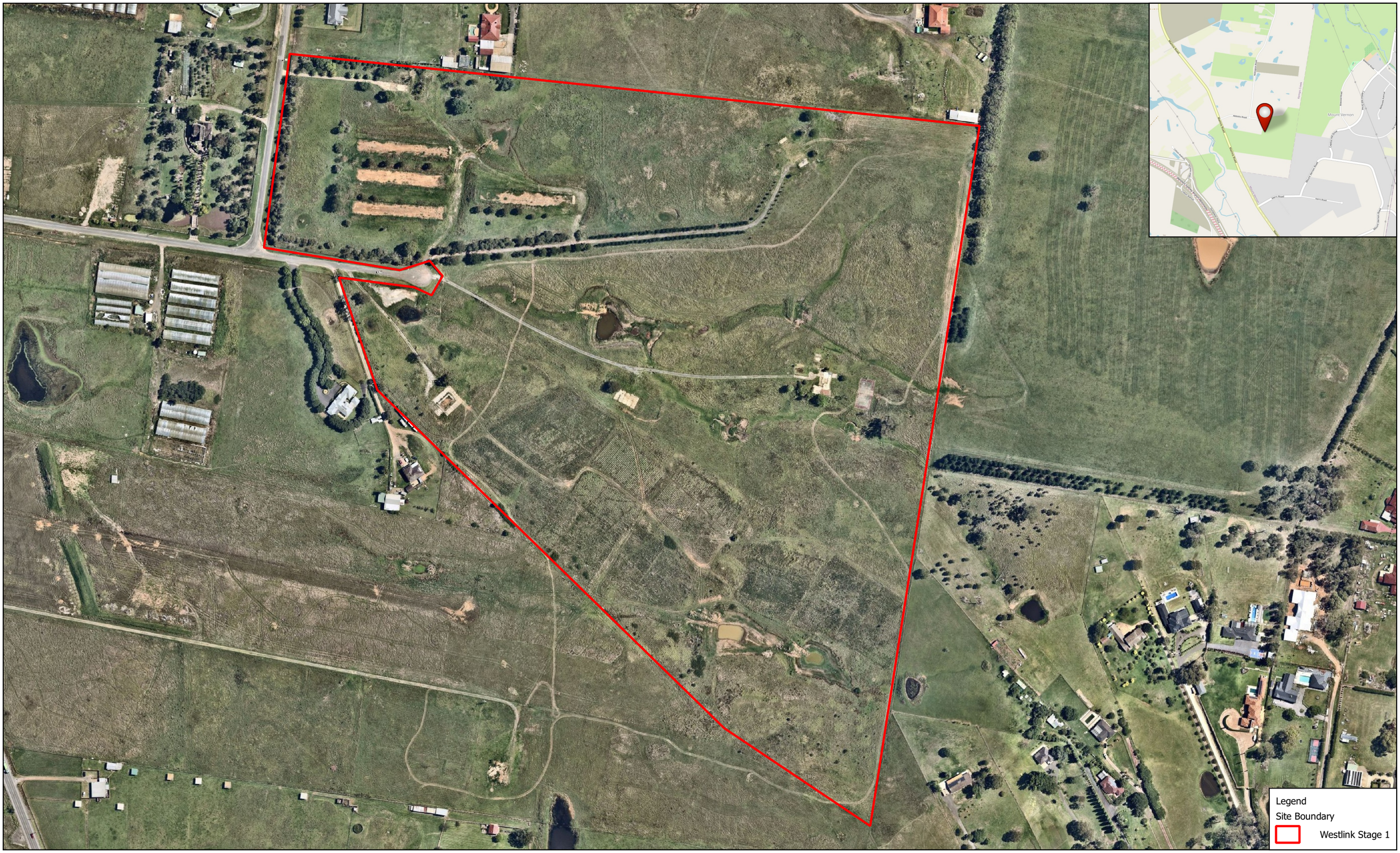
- Phase 1 of the Remediation Project - was undertaken between 10 July 2023 and 25 September 2023 by Class A Licensed Asbestos Remediation Contractor (LARC), TCE Contracting Pty Ltd (TCE) as engaged by JK Williams Pty Ltd (JKW) with asbestos hygiene and validation works undertaken by EP Risk. EP Risk was engaged by ESR from 10 July 2023 to 04 September 2023, and later engaged by TCE from 19 September 2023 to 25 September 2023.
- Phase 2 of the Remediation Project - was undertaken 28 September 2023 and 03 November 2023, by Class A LARC Omega Hazmat Pty Ltd (Omega) and Penny Green Pty Ltd (Penny Green), as engaged by Ground King Civil Pty Ltd (GKC) with asbestos hygiene works undertaken by Foundation Earth Sciences Pty Ltd (FES).

Based on the findings of the visual clearance inspections, field observations, analytical results and subject to the limitations within this SRVR, EP Risk consider the remediation works described in the RAP (Alliance 2023) and Addendum (EP Risk 2023a) successfully implemented within the Site boundary. It should be noted an approximate volume of 225 m^3 O2 and B3 materials from 40SEP02, AEC22_SEP01 and AEC22_SEP02 were consolidated and moved for stockpiling off-site at the adjacent Westlink Stage 2 project, which falls within the same SSD **(Figure 12).** An Addendum should be issued to this SRVR to address the completion of the above works in accordance with the RAP (Alliance 2023) and Addendum (EP Risk 2023a), however the footprint of the Site is considered appropriately remediated and validated.

Further site management strategy is required as ABSINS remains in-situ within the Containment Cell and Asbestos Placement Areas. In the event an unexpected ACM is uncovered, through proposed future development or maintenance works, outside of the Containment Cell or Placement Areas, this should be managed in accordance with the AMP.

Overall, subject to the implementation of the AMP (EP Risk 2024b) and LTEMP (EP Risk 2024c), the Site (Lot 111, 112 and 113 and DP 1296469) is considered suitable for the proposed commercial / industrial land use.

Figures



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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 1 - Site Location and Site Layout (Pre-Remediation)

Job No: EP3244
Date: 13/08/2024
Drawing Ref: EP3244.006
Version No: v1

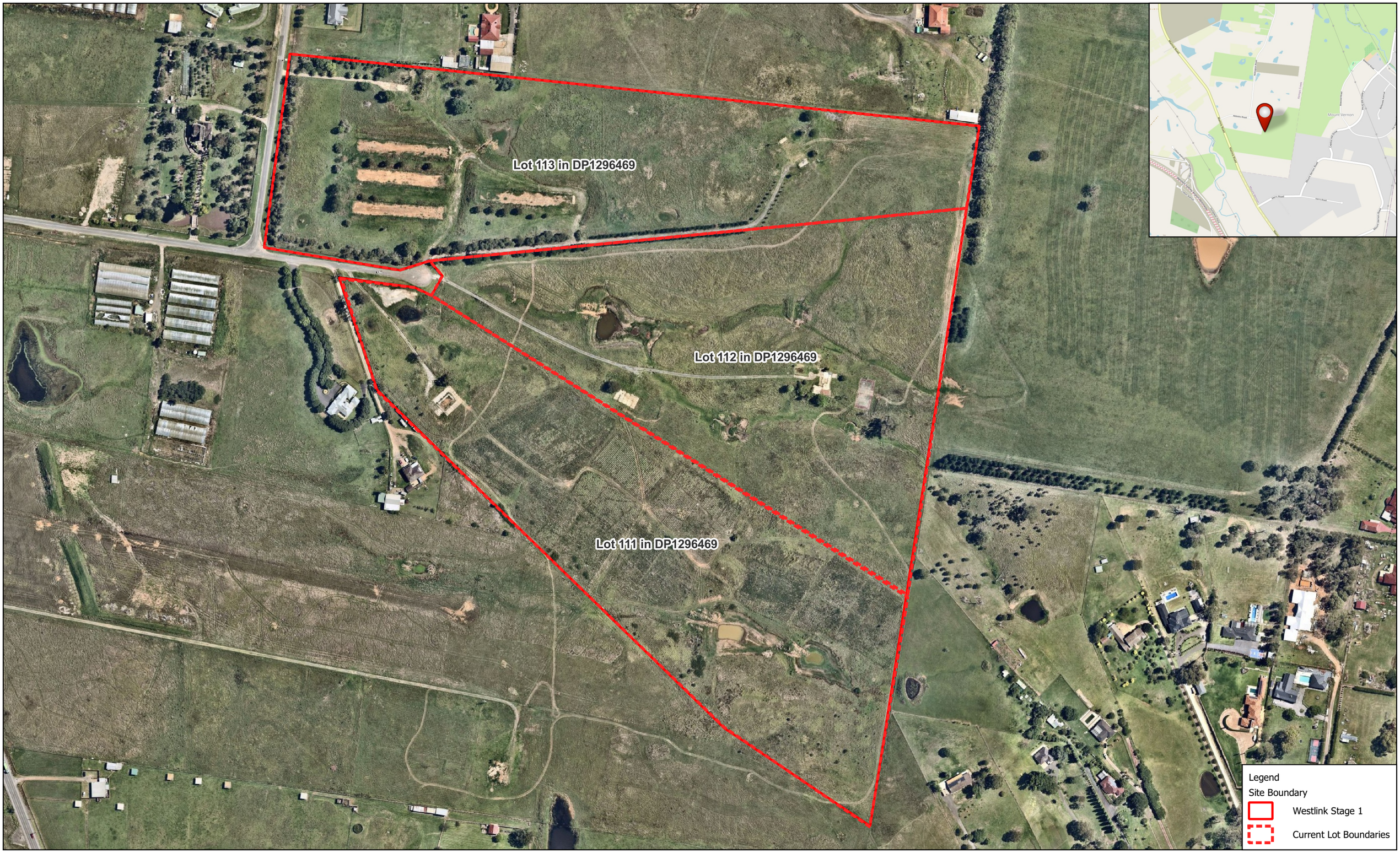
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Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: KG
Scale of regional map not shown
Source: Nearmap

Citation Certification ISO 9001 Quality management system
Citation Certification ISO 45001 OH&S management system
Citation Certification ISO 14001 Environment management system



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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 2 - Existing Lot Boundaries (Pre-Remediation)

Job No: EP3244
Date: 13/08/2024
Drawing Ref: EP3244.006
Version No: v1

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Approximate Scale Only

Coordinate System: WGS 84
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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 3 - Site Location and Site Layout (Post Remediation)

Job No: EP3244
Date: 13/08/2024
Drawing Ref: EP3244.006
Version No: v1

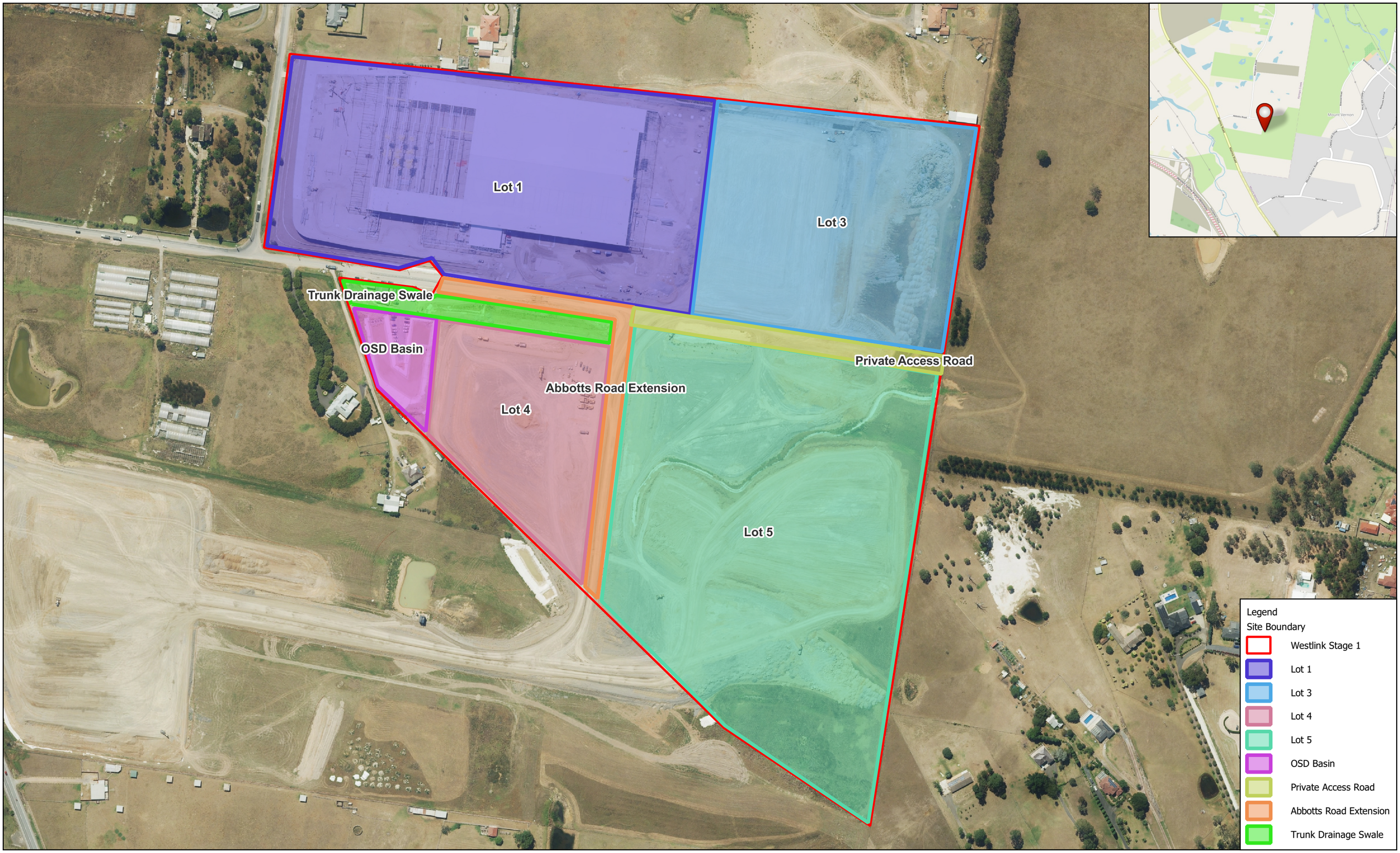
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Source: Nearmap

Citation Certification ISO 9001 Quality management system
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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 4 - Development Plan (Post Remediation)

Job No: EP3244
Date: 13/08/2024
Drawing Ref: EP3244.006
Version No: v1

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Approximate Scale Only

Coordinate System: WGS 84
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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 5 - Site Layout and Asbestos AECs (Pre-Remediation)

Job No: EP3244
Date: 13/08/2024
Drawing Ref: EP3244.006
Version No: v1

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Approximate Scale Only

Coordinate System: WGS 84
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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 6 - Site Layout and Concrete Stockpiles (Pre-Remediation)

Job No: EP3244
Date: 13/08/2024
Drawing Ref: EP3244.006
Version No: v1

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Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: KG
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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 7 - Site Layout and Septic Tanks/Pits (Pre-Remediation)

Job No: EP3244
Date: 13/08/2024
Drawing Ref: EP3244.006
Version No: v1

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Approximate Scale Only

Coordinate System: WGS 84
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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 8 - Site Layout and UFs (Pre-Remediation)

Job No: EP3244
Date: 13/08/2024
Drawing Ref: EP3244.006
Version No: v1

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Approximate Scale Only

Coordinate System: WGS 84
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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 9 - Site Layout and Stockpiling and Treatment Pads (Pre-Remediation)

Job No: EP3244
Date: 13/08/2024
Drawing Ref: EP3244.006
Version No: v1

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Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: KG
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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 10 - Asbestos Placement Areas Location

Job No: EP3244
Date: 13/08/2024
Drawing Ref: EP3244.006
Version No: v1

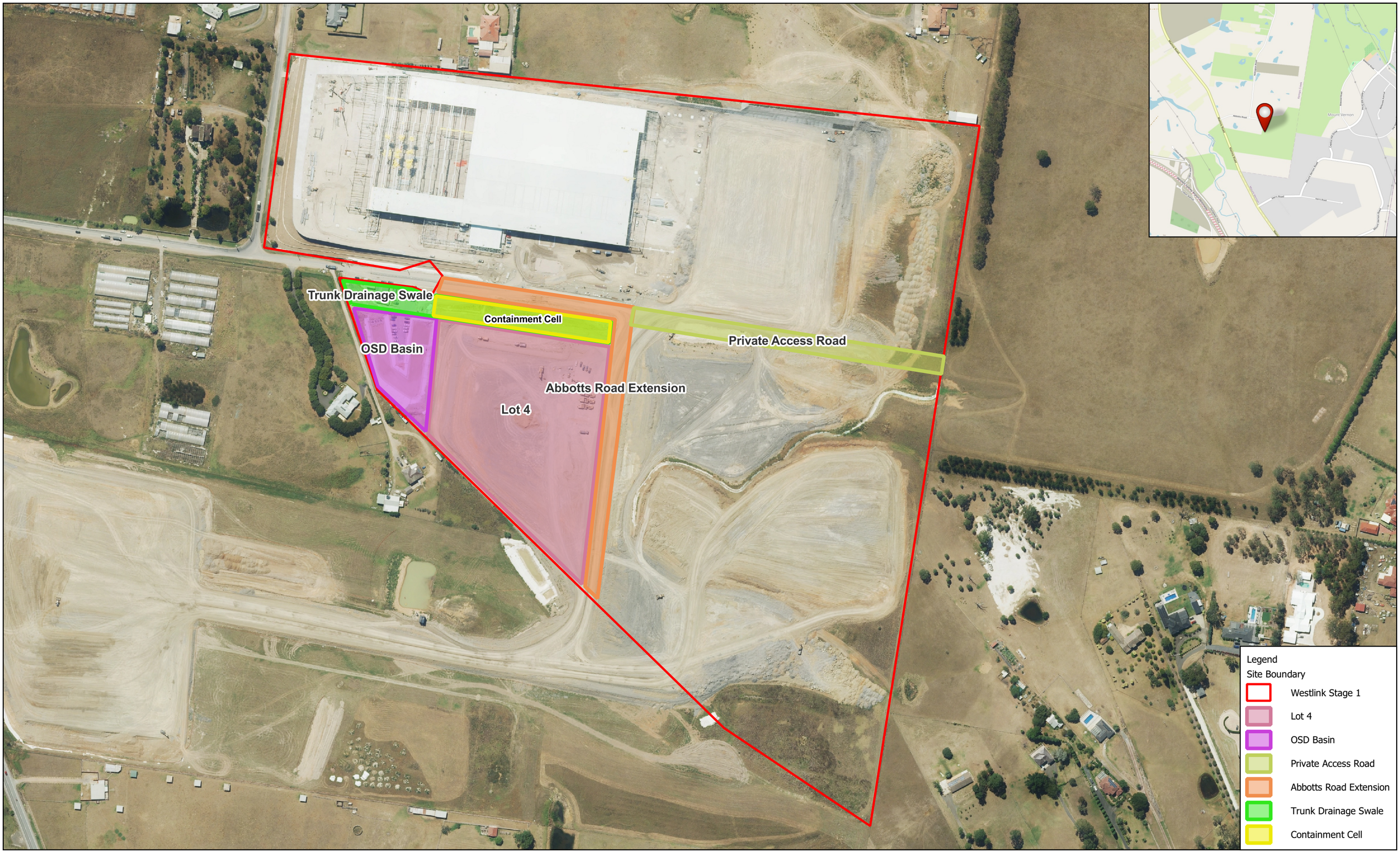
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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 11 - Containment Cell Location

Job No: EP3244
Date: 13/08/2024
Drawing Ref: EP3244.006
Version No: v1

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Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: KG
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Source: Nearmap

ISO 9001 Quality management system
ISO 45001 OH&S management system
ISO 14001 Environment management system



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Site Remediation and Validation Report (SRVR)
Westlink Stage 1 - Aldington Road & Abbotts Road, Kemps Creek

Figure 12 - Location of O2 and B3 material

Job No: EP3244
Date: 28/08/2024
Drawing Ref: EP3244.006
Version No: v1

N

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Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: KG
Scale of regional map not shown
Source: Nearmap

Citation Certification ISO 9001 Quality management system
Citation Certification ISO 45001 OH&S management system
Citation Certification ISO 14001 Environment management system

Appendix A

PHOTOGRAPHIC LOGS



Plate 1 – 01/08/2023

Photo of SP2, concrete stockpile contaminated with ACM prior to removal off-site.
No photo sourced of the ground surface following the removal of SP04.



Plate 2 – 09/08/2023

Photo of SP5, concrete stockpile prior to removal off-site.
No photo sourced of the ground surface following the removal of SP5.



Plate 3 – 12/07/2023

Photo of SP6, concrete stockpile prior to removal off-site.



Plate 4 – 09/08/2023

Photo of former location of SP6, concrete stockpile following removal off-site.
Only small quantities of remnant material remaining on ground surface, suitable for a commercial/industrial land use.



Plate 5 – 12/07/2023

Photo of SP7, concrete stockpile prior to removal off-site.
No photo sourced of the ground surface following the removal of SP5.



Plate 6 – 07/08/2023

Photo of former location of SP7, concrete stockpile following removal off-site.
SP7area subject to subsequent vegetation scrape.



Plate 7 – 12/07/2023

Photo of SP8, concrete stockpile prior to removal off-site.



Plate 8 – 09/08/2023

Photo of former location of SP8, concrete stockpile following removal off-site.
Only small quantities of remnant material remaining on ground surface, suitable for a commercial/industrial land use.



Plate 9 – 09/08/2023

Photo of former location of SP9 and SP10, concrete stockpiles following removal off-site. Only small quantities of remnant material remaining on ground surface, suitable for a commercial/industrial land use.



Plate 10 – 01/08/2023

Photo of former location of SP11, concrete stockpile following removal off-site. Only small quantities of remnant material remaining on ground surface, suitable for a commercial/industrial land use.



Plate 11 – 01/08/2023

Photo of former location of SP12, concrete stockpile following removal off-site.
Only small quantities of remnant material remaining on ground surface, suitable for a commercial/industrial land use.



Plate 12 – 01/08/2023

Photo of former location of SP13 and SP14, concrete stockpiles following removal off-site.
SP13 area subject to subsequent in-situ asbestos treatment.
SP14 area subject to subsequent vegetation scrape.



Plate 13 – 01/08/2023

Photo of former location of SP13 and SP14, concrete stockpiles following removal off-site.
SP13 area subject to subsequent in-situ asbestos treatment.
SP14 area subject to subsequent vegetation scrape.



Plate 14 – 11/07/2023

Photo of SP15, concrete stockpile contaminated with ACM prior to removal off-site.



Plate 15 – 11/07/2023

Photo of SP16, concrete stockpile contaminated with ACM prior to removal off-site.



Plate 16 – 08/08/2023

Photo of former location of SP15, concrete stockpiles contaminated with ACM following removal off-site. SP15 area subject to subsequent excavation of ASBINS.



Plate 17 – 08/08/2023

Photo of former location of SP16, concrete stockpiles contaminated with ACM following removal off-site. SP16 area subject to subsequent excavation of ASBINS.



Plate 1 – 09/08/2023

Photo of 16SEP01 - Material within septic tank



Plate 2 – 10/08/2023

Photo of 16SEP02 - Material within septic tank



Plate 3 – 09/08/2023

Photo of 16VAL01 – Material surrounding septic tank



Plate 4 – 09/08/2023

Photo of 16VAL02 – Material surrounding septic tank

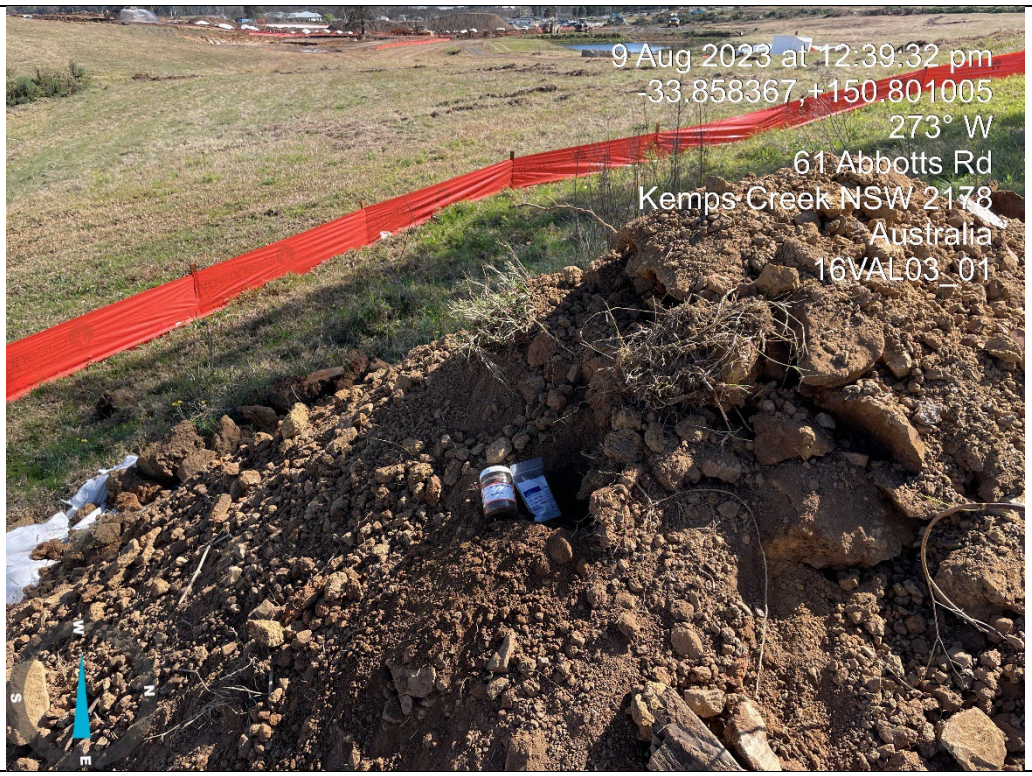


Plate 5 – 10/08/2023

Photo of 16VAL03 – Material surrounding septic tank



Plate 6 – 09/08/2023

Photo of AEC16_VAL_01 - Excavation footprint

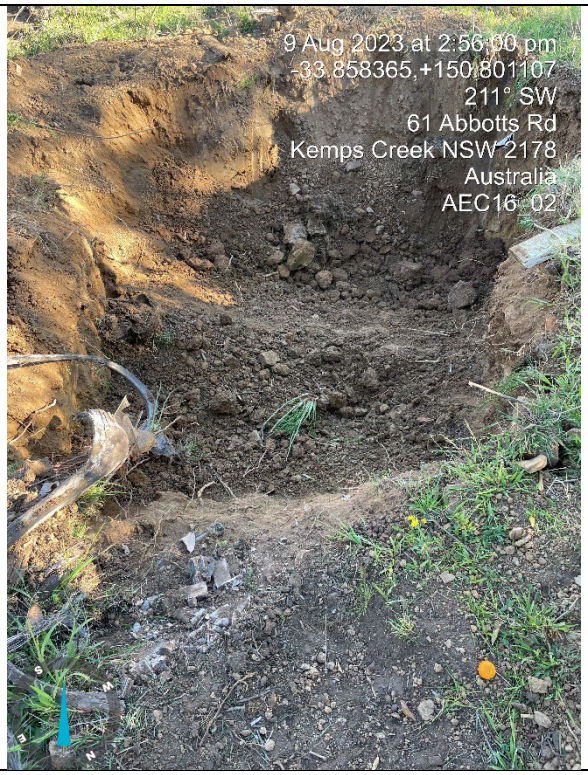


Plate 7 – 09/08/2023

Photo of AEC16_VAL_02 - Excavation footprint



Plate 8 – 31/07/2023

Photo of AEC21, subsequent to in-situ treatment



Plate 9 – 10/08/2023

Photo of AEC22_SEP01 - Material within septic tank including septic tank structure



Plate 10 – 10/08/2023

Photo of AEC22_SEP02 - Material within septic tank



Plate 11 – 10/08/2023

Photo of AEC22_VAL01 - Material surrounding septic tank



Plate 12 – 26/07/2023

Photo of 39VAL01 – Material surrounding septic tank



Plate 13 – 26/07/2023

Photo of AEC39_VAL – Excavation footprint



Plate 14 – 25/07/2023

Photo of 40SEP01 - Material within septic tank



Plate 15 – 24/08/2023

Photo of 40SEP02 - Material within septic tank



Plate 16 – 24/08/2023

Photo of 40VAL01 - Material surrounding septic tank



Plate 17 – 24/08/2023

Photo of 40VAL02 - Material surrounding septic tank



Plate 18 – 28/07/2023

Photo of 40VAL04 - Material surrounding septic tank

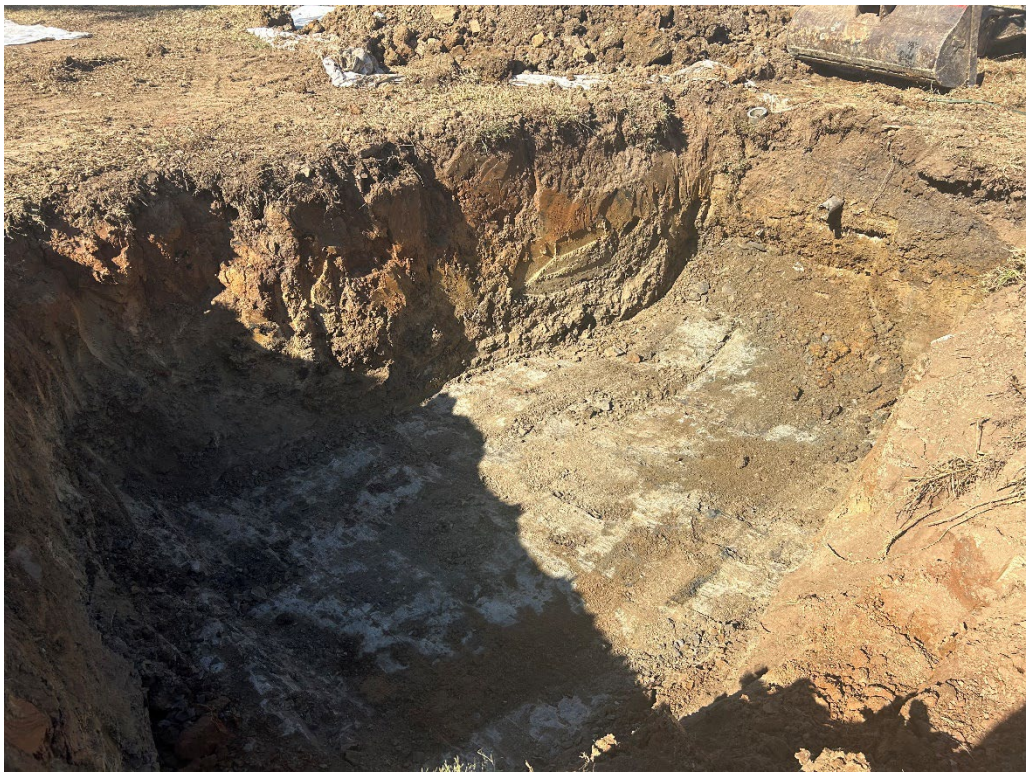


Plate 19 – 28/07/2023

Photo of AEC40_VAL – Excavation Footprint



Plate 20 – 24/08/2023

Photo of Concrete Tank 1 from AEC40



Plate 21 – 24/08/2023
Photo of AEC40_VAL – Excavation Footprint

Appendix B

ANALYTICAL SUMMARY TABLES

				Asbestos	TRH							BTEX							
				Asbestos ID (AS4964-2004)	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX
				g/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.1	10	10	50	50	100	100	50	1	0.2	0.5	0.5	0.5	0.5	0.5	0.2
Direct Contact HSL D Commercial/ Industrial					26,000		20,000		27,000	38,000		11,000	430		27,000			81,000	
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil					700		1,000		3,500	10,000									
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=0m, <1m						260 | 370 | 630		NL					3 | 3 | 3 | 3	NL	NL			230	
>=0m, <1m						260		NL						3	NL	NL			230	
>=1m, <2m						370		NL						3	NL	NL			NL	
>=2m, <4m						630		NL						3	NL	NL			NL	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																			
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind												370							
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil						215	170	170	1,700	3,300			75	135	165			180	
EPA 2000 Use and Disposal Of Biosolids																			
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**															
Material Within Septic Tank																			
16SEP01	**16SEP01_01**	**Soil**	**09 Aug 2023**	**O1**	NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	16SEP01_02				NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	16SEP01_03				NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
16SEP02	**16SEP02_01**	**Soil**	**09 Aug 2023**	**O1**	NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	16SEP02_02				NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	16SEP02_03				NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
Material Surrounding Septic Tank																			
16VAL01	**16VAL01_01**	**Soil**	**09 Aug 2023**	**O1**	NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	16VAL01_02				NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	16VAL01_03				NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
16VAL02	**16VAL02_01**	**Soil**	**09 Aug 2023**	**O1**	NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	16VAL02_02				NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	16VAL03_01				NAD	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
Excavation Footprint																			
AEC16_VAL_01	**AEC16_VAL_01_B1**	**Soil**	**09 Aug 2023**	**O1**	-	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	AEC16_VAL_01_E1				-	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	AEC16_VAL_01_N1				-	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	AEC16_VAL_01_S1				-	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	AEC16_VAL_01_W1				-	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
AEC16_VAL_02	**AEC16_VAL_02_B1**	**Soil**	**09 Aug 2023**	**O1**	-	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	AEC16_VAL_02_E1				-	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	AEC16_VAL_02_N1				-	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	AEC16_VAL_02_S1				-	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	AEC16_VAL_02_W1				-	<10	<10	<50	<50	<100	<100	<50	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2

NAD = No Asbestos Detected
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Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

				Biological		Metals							PAH									
				Faecal Coliforms	E. Coli	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene
				MPN/g	orgs/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				2	2	5	1	2	5	5	0.1	2	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Direct Contact HSL D Commercial/ Industrial																							
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=0m, <1m																							
>=0m, <1m																							
>=1m, <2m																							
>=2m, <4m																							
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil						3,000	900	3,000	240,000	1,500	730	6,000	400,000										
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind						160		770															
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																		1.4					
EPA 2000 Use and Disposal Of Biosolids				1000	100																		
Stockpile ID	**Field ID**	**Matrix**	**Date**																				
Material Within Septic Tank																							
16SEP01	**16SEP01_01**	**Soil**	**09 Aug 2023**	<2	<2	7	<1	14	32	11	<0.1	13	54	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	16SEP01_02			<2	<2	8	<1	16	29	15	<0.1	17	61	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	16SEP01_03			<2	<2	7	<1	17	37	14	<0.1	19	70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
16SEP02	**16SEP02_01**	**Soil**	**09 Aug 2023**	<2	<2	11	<1	18	36	12	<0.1	20	73	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	16SEP02_02			<2	<2	9	<1	20	31	13	<0.1	20	74	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	16SEP02_03			<2	<2	<5	<1	11	12	<5	<0.1	9	33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Material Surrounding Septic Tank																							
16VAL01	**16VAL01_01**	**Soil**	**09 Aug 2023**	<2	<2	8	<1	17	31	16	<0.1	21	68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	16VAL01_02			<2	<2	8	<1	19	36	23	<0.1	19	65	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	16VAL01_03			<2	<2	<5	<1	14	47	13	<0.1	16	83	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
16VAL02	**16VAL02_01**	**Soil**	**09 Aug 2023**	<2	<2	9	<1	17	39	14	<0.1	19	73	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	16VAL02_02			<2	<2	8	<1	18	36	12	<0.1	20	84	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	16VAL03_01			<2	<2	10	<1	18	34	16	<0.1	21	68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Excavation Footprint																							
AEC16_VAL_01	**AEC16_VAL_01_B1**	**Soil**	**09 Aug 2023**	<2	<2	<5	<1	15	45	20	0.1	24	92	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC16_VAL_01_E1			<2	<2	6	<1	18	46	16	<0.1	25	80	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC16_VAL_01_N1			<2	<2	<5	<1	19	37	14	<0.1	19	71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC16_VAL_01_S1			<2	<2	26	<1	14	32	15	<0.1	17	62	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC16_VAL_01_W1			<2	<2	15	<1	15	39	14	<0.1	20	55	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
AEC16_VAL_02	**AEC16_VAL_02_B1**	**Soil**	**09 Aug 2023**	<2	<2	10	<1	18	35	14	<0.1	22	70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC16_VAL_02_E1			<2	<2	7	<1	18	45	11	<0.1	19	73	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC16_VAL_02_N1			<2	<2	11	<1	17	34	13	<0.1	22	76	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC16_VAL_02_S1			<2	<2	8	<1	20	34	11	<0.1	22	67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC16_VAL_02_W1			<2	<2	6	<1	18	28	10	<0.1	19	59	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

				PAH						Halogenated Benzenes	Organochlorine Pesticides										
				Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	Hexachlorobenzene	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2
Direct Contact HSL D Commercial/ Industrial							11,000															
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand	>=0m, <1m																					
	>=1m, <2m																					
	>=2m, <4m																					
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil										4,000	80				45		530					
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind							370															640
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																						
EPA 2000 Use and Disposal Of Biosolids																						
Stockpile ID	**Field ID**	**Matrix**	**Date**																			
Material Within Septic Tank																						
16SEP01	**16SEP01_01**	**Soil**	**09 Aug 2023**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	16SEP01_02			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	16SEP01_03			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
16SEP02	**16SEP02_01**	**Soil**	**09 Aug 2023**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	16SEP02_02			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	16SEP02_03			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
Material Surrounding Septic Tank																						
16VAL01	**16VAL01_01**	**Soil**	**09 Aug 2023**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	16VAL01_02			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	16VAL01_03			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
16VAL02	**16VAL02_01**	**Soil**	**09 Aug 2023**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	16VAL02_02			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	16VAL03_01			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
Excavation Footprint																						
AEC16_VAL_01	**AEC16_VAL_01_B1**	**Soil**	**09 Aug 2023**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_01_E1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_01_N1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_01_S1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_01_W1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
AEC16_VAL_02	**AEC16_VAL_02_B1**	**Soil**	**09 Aug 2023**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_02_E1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_02_N1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_02_S1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_02_W1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-

NAD = No Asbestos Detected
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Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

				Organochlorine Pesticides													Organophosphorous Pesticides						
				DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Direct Contact HSL D Commercial/ Industrial																							
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=0m, <1m																							
>=0m, <1m																							
>=1m, <2m																							
>=2m, <4m																							
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				3,600		2,000				100				50		2,500					2,000		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																							
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																							
EPA 2000 Use and Disposal Of Biosolids																							
Stockpile ID	**Field ID**	**Matrix**	**Date**																				
Material Within Septic Tank																							
16SEP01	**16SEP01_01**	**Soil**	**09 Aug 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	16SEP01_02			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	16SEP01_03			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
16SEP02	**16SEP02_01**	**Soil**	**09 Aug 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	16SEP02_02			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	16SEP02_03			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Material Surrounding Septic Tank																							
16VAL01	**16VAL01_01**	**Soil**	**09 Aug 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	16VAL01_02			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	16VAL01_03			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
16VAL02	**16VAL02_01**	**Soil**	**09 Aug 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	16VAL02_02			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	16VAL03_01			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Excavation Footprint																							
AEC16_VAL_01	**AEC16_VAL_01_B1**	**Soil**	**09 Aug 2023**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_01_E1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_01_N1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_01_S1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_01_W1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AEC16_VAL_02	**AEC16_VAL_02_B1**	**Soil**	**09 Aug 2023**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_02_E1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_02_N1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_02_S1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC16_VAL_02_W1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NAD = No Asbestos Detected
AD = Asbestos Detected
NL = Non-limiting

Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

	Organophosphorous Pesticides								PCBs	Pesticides				TPH				
	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion	Monocrotophos	Prothiofos	PCBs (Sum of total)	Demeton-S-methyl	Fenamiphos	Parathion	Pirimphos-ethyl	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.05	0.05	0.05	0.05	0.05	0.2	0.2	0.05	0.1	0.05	0.05	0.2	0.05	10	50	100	100	50
Direct Contact HSL D Commercial/ Industrial																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand >=0m, <1m																		
>=0m, <1m																		
>=1m, <2m																		
>=2m, <4m																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil									7									
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																		
EPA 2000 Use and Disposal Of Biosolids																	1,000	100
Stockpile ID	**Field ID**	**Matrix**	**Date**																	
Material Within Septic Tank																				
16SEP01	**16SEP01_01**	**Soil**	**09 Aug 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	16SEP01_02			<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	16SEP01_03			<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
16SEP02	**16SEP02_01**	**Soil**	**09 Aug 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	16SEP02_02			<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	16SEP02_03			<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
Material Surrounding Septic Tank																				
16VAL01	**16VAL01_01**	**Soil**	**09 Aug 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	16VAL01_02			<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	16VAL01_03			<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
16VAL02	**16VAL02_01**	**Soil**	**09 Aug 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	16VAL02_02			<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	16VAL03_01			<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
Excavation Footprint																				
AEC16_VAL_01	**AEC16_VAL_01_B1**	**Soil**	**09 Aug 2023**	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC16_VAL_01_E1			-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC16_VAL_01_N1			-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC16_VAL_01_S1			-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC16_VAL_01_W1			-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
AEC16_VAL_02	**AEC16_VAL_02_B1**	**Soil**	**09 Aug 2023**	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC16_VAL_02_E1			-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC16_VAL_02_N1			-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC16_VAL_02_S1			-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC16_VAL_02_W1			-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50

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Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					Biological	
					Faecal Coliforms	E. Coli
					MPN/g	orgs/g
EQL					2	2
EPA 2000 Use and Disposal Of Biosolids					1000	100
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**		
Raked In-Situ Footprint						
AEC21	**AEC21_VAL_001**	**Soil**	**31 Jul 2023**	**O1**	58	27
	AEC21_VAL_002				<2	<2
	AEC21_VAL_003				6	6
	AEC21_VAL_004				<2	<2
	AEC21_VAL_005				<2	<2
	AEC21_VAL_006				<2	<2

Environmental Standards
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					Asbestos	TRH							BTEX					
					Asbestos ID (AS4964-2004)	C10-C16 (F2 minus Naphthalene)	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C40 (Sum of total)	C34-C40	C16-C34	Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)
					g/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.1	50	10	10	50	50	100	100	1	0.2	0.5	0.5	0.5	0.5
Direct Contact HSL D Commercial/Industrial							20,000				38,000	27,000	11,000	430		27,000		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil							1,000		1,000		10,000	3,500						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand						NL		260 | 370 | 630						3 | 3 | 3 | 3	NL	NL		
>=0m, <1m						NL		260						3	NL	NL		
>=1m, <2m						NL		370						3	NL	NL		
>=2m, <4m						NL		630						3	NL	NL		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind													370					
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil						170		215	170		3,300	1,700		50	85	70		
EPA 2000 Use and Disposal of Biosolids																		
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**														
Material Within Septic Tank including Septic Tank Structure																		
AEC22_SEP01	**AEC22_SEP01_01**	**Soil**	**10 Aug 2023**	**O2 and B3**	NAD	<50	<10	<10	<50	<50	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC22_SEP01_02				NAD	<50	<10	<10	<50	<50	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC22_SEP01_03				NAD	<50	<10	<10	<50	<50	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
Material Within Septic Tank																		
AEC22_SEP02	**AEC22_SEP02_01**	**Soil**	**10 Aug 2023**	**O2 and B3**	NAD	<50	<10	<10	<50	420	140	280	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC22_SEP02_02				AD	<50	<10	<10	<50	4,170	1,620	2,550	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC22_SEP02_03				NAD	<50	<10	<10	<50	490	180	310	<1	<0.2	<0.5	<0.5	<0.5	<0.5
Material Surrounding Septic Tank																		
AEC22_VAL01	**AEC22_VAL01_01**	**Soil**	**10 Aug 2023**	**O1**	NAD	<50	<10	<10	<50	<50	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL01_02				NAD	<50	<10	<10	<50	<50	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL01_03				NAD	<50	<10	<10	<50	<50	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
Excavation Footprint																		
AEC22_VAL	**AEC22_VAL_B1**	**Soil**	**10 Aug 2023**	**O1**	-	<50	<10	<10	<50	<50	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL_E1				-	<50	<10	<10	<50	<50	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL_N1				-	<50	<10	<10	<50	<50	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL_S1				-	<50	<10	<10	<50	<50	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL_W1				-	<50	<10	<10	<50	<50	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5

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Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

		BTEX		Biological		Metals								PAH								
		Xylene Total	Total BTEX	Faecal Coliforms	E. Coli	Arsenic	Cadmium	Chromium (VI)	Copper	Lead	Mercury	Nickel	Zinc	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene
		mg/kg	mg/kg	orgs/g	orgs/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.5	0.2	2	2	5	1	2	5	5	0.1	2	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Direct Contact HSL D Commercial/Industrial		81,000																				
NEPM 2013 Table 1B(7) Management Limits Comm / Ind																						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapou		230																				
>=0m, <1m		230																				
>=1m, <2m		NL																				
>=2m, <4m		NL																				
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil						3,000	900	3,000	240,000	1,500	730	6,000	400,000									
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind						160																
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil		105																1.4				
EPA 2000 Use and Disposal of Biosolids				1000	100																	
Stockpile ID	**Field ID**																					
Material Within Septic Tank including Septic Tank Struc																						
AEC22_SEP01	**AEC22_SEP01_01**	<0.5	<0.2	2	2	8	<1	16	38	17	<0.1	16	73	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC22_SEP01_02	<0.5	<0.2	2	2	7	<1	21	84	30	<0.1	25	162	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC22_SEP01_03	<0.5	<0.2	2	2	8	<1	20	54	32	<0.1	19	117	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Material Within Septic Tank																						
AEC22_SEP02	**AEC22_SEP02_01**	<0.5	<0.2	<2	<2	13	<1	33	219	106	<0.1	27	319	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC22_SEP02_02	<0.5	<0.2	<2	<2	10	<1	38	200	84	<0.1	31	487	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC22_SEP02_03	<0.5	<0.2	<2	<2	11	<1	27	208	82	<0.1	19	367	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Material Surrounding Septic Tank																						
AEC22_VAL01	**AEC22_VAL01_01**	<0.5	<0.2	<2	<2	8	<1	17	42	21	<0.1	20	86	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL01_02	<0.5	<0.2	<2	<2	9	<1	14	39	18	<0.1	20	82	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL01_03	<0.5	<0.2	<2	<2	8	<1	18	38	23	<0.1	15	77	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Excavation Footprint																						
AEC22_VAL	**AEC22_VAL_B1**	<0.5	<0.2	<2	<2	7	<1	17	36	16	<0.1	15	65	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL_E1	<0.5	<0.2	<2	<2	7	<1	14	44	19	<0.1	22	75	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL_N1	<0.5	<0.2	<2	<2	10	<1	15	49	16	<0.1	29	90	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL_S1	<0.5	<0.2	<2	<2	6	<1	15	46	19	<0.1	30	80	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC22_VAL_W1	<0.5	<0.2	<2	<2	7	<1	16	46	22	<0.1	22	80	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

NAD = No Asbestos Detected
AD = Asbestos Detected
NL = Non-limiting

Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comn
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for \
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coars
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

		PAH											TPH				
		Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of total)	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	10	50	100	100	50
Direct Contact HSL D Commercial/Industrial						11,000											
NEPM 2013 Table 1B(7) Management Limits Comm / Ind																	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapou																	
>=0m, <1m																	
>=1m, <2m																	
>=2m, <4m																	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil									40	40	40	4,000					
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind						370											
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																	
EPA 2000 Use and Disposal of Biosolids																	
Stockpile ID	**Field ID**																
Material Within Septic Tank including Septic Tank Struc																	
AEC22_SEP01	**AEC22_SEP01_01**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	<100	<100	<50
	AEC22_SEP01_02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	<100	<100	<50
	AEC22_SEP01_03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	<100	<100	<50
Material Within Septic Tank																	
AEC22_SEP02	**AEC22_SEP02_01**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	180	200	380
	AEC22_SEP02_02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	1,060	2,720	3,780
	AEC22_SEP02_03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	200	240	440
Material Surrounding Septic Tank																	
AEC22_VAL01	**AEC22_VAL01_01**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	<100	<100	<50
	AEC22_VAL01_02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	<100	<100	<50
	AEC22_VAL01_03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	<100	<100	<50
Excavation Footprint																	
AEC22_VAL	**AEC22_VAL_B1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	<100	<100	<50
	AEC22_VAL_E1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	<100	<100	<50
	AEC22_VAL_N1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	<100	<100	<50
	AEC22_VAL_S1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	<100	<100	<50
	AEC22_VAL_W1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<10	<50	<100	<100	<50

NAD = No Asbestos Detected
AD = Asbestos Detected
NL = Non-limiting

Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comn
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for \
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coars
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					Asbestos	TRH							BTEX					
					Asbestos ID (AS4964-2004)	C10-C16 (F2 minus Naphthalene)	C10-C16	C10-C40 (Sum of total)	C6-C10	C6-C10 (F1 minus BTEX)	C16-C34	C34-C40	Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)
					g/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.1	50	50	50	10	10	100	100	1	0.2	0.5	0.5	0.5	0.5
Direct Contact HSL D Commercial/ Industrial							20,000		26,000		27,000	38,000	11,000	430		27,000		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil							1,000		700		3,500	10,000						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand						NL				260 | 370 | 630				3 | 3 | 3 | 3	NL	NL		
>=0m, <1m						NL				260				3	NL	NL		
>=1m, <2m						NL				370				3	NL	NL		
>=2m, <4m						NL				630				3	NL	NL		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind													370					
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil						170	170			215	1,700	3,300		75	135	165		
EPA 2000 Use and Disposal Of Biosolids																		
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**														
Material surrounding Septic Tank																		
39VAL01	**39VAL01_01**	**Soil**	**26 Jul 2023**	**O1**	NAD	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	39VAL01_02				NAD	<50	<50	610	<10	<10	330	280	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	39VAL01_03				NAD	<50	<50	440	<10	<10	240	200	<1	<0.2	<0.5	<0.5	<0.5	<0.5
Excavation Footprint																		
N/A	**AEC39_VAL_B1**	**Soil**	**26 Jul 2023**	**O1**	NAD	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC39_VAL_E1				NAD	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC39_VAL_N1				NAD	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC39_VAL_S1				NAD	<50	<50	170	<10	<10	170	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5
	AEC39_VAL_W1				NAD	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5

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Environmental Standards
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					BTEX		Biological		Metals							
					Xylene Total	Total BTEX	Faecal Coliforms	E. Coli	Arsenic	Cadmium	Chromium (VI)	Copper	Lead	Mercury	Nickel	Zinc
					mg/kg	mg/kg	orgs/g	orgs/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	0.2	2	2	5	1	2	5	5	0.1	2	5
Direct Contact HSL D Commercial/ Industrial					81,000											
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand					230											
>=0m, <1m					230											
>=1m, <2m					NL											
>=2m, <4m					NL											
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil									3,000	900		240,000	1,500	730	6,000	400,000
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind									160							
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil					180											
EPA 2000 Use and Disposal Of Biosolids							1000	100								
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**												
Material surrounding Septic Tank																
39VAL01	**39VAL01_01**	**Soil**	**26 Jul 2023**	**O1**	<0.5	<0.2	2	2	9	<1	14	25	15	<0.1	13	70
	39VAL01_02				<0.5	<0.2	11	11	10	<1	16	50	20	<0.1	15	112
	39VAL01_03				<0.5	<0.2	3	3	11	<1	15	37	18	<0.1	14	90
Excavation Footprint																
N/A	**AEC39_VAL_B1**	**Soil**	**26 Jul 2023**	**O1**	<0.5	<0.2	<2	<2	6	<1	6	17	8	<0.1	3	20
	AEC39_VAL_E1				<0.5	<0.2	<2	<2	7	<1	22	36	16	<0.1	26	92
	AEC39_VAL_N1				<0.5	<0.2	<2	<2	<5	<1	8	19	19	<0.1	7	41
	AEC39_VAL_S1				<0.5	<0.2	<2	<2	<5	<1	7	18	12	<0.1	6	48
	AEC39_VAL_W1				<0.5	<0.2	<2	<2	8	<1	6	22	9	<0.1	7	17

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Environmental Standards
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					PAH											
					Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Direct Contact HSL D Commercial/ Industrial																		11,000
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
>=0m, <1m																		
>=1m, <2m																		
>=2m, <4m																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																		370
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil									1.4									
EPA 2000 Use and Disposal Of Biosolids																		
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**														
Material surrounding Septic Tank																		
39VAL01	**39VAL01_01**	**Soil**	**26 Jul 2023**	**O1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	39VAL01_02				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	39VAL01_03				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Excavation Footprint																		
N/A	**AEC39_VAL_B1**	**Soil**	**26 Jul 2023**	**O1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC39_VAL_E1				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC39_VAL_N1				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC39_VAL_S1				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC39_VAL_W1				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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Environmental Standards
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					PAH			Halogenated Benzenes	Organochlorine Pesticides							
					Phenanthrene	Pyrene	PAHs (Sum of total)	Hexachlorobenzene	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Direct Contact HSL D Commercial/ Industrial																
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																
>=0m, <1m																
>=1m, <2m																
>=2m, <4m																
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil							4,000	80				45		530		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																
EPA 2000 Use and Disposal Of Biosolids																
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**												
Material surrounding Septic Tank																
39VAL01	**39VAL01_01**	**Soil**	**26 Jul 2023**	**O1**	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	39VAL01_02				<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	39VAL01_03				<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Excavation Footprint																
N/A	**AEC39_VAL_B1**	**Soil**	**26 Jul 2023**	**O1**	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-
	AEC39_VAL_E1				<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-
	AEC39_VAL_N1				<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-
	AEC39_VAL_S1				<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-
	AEC39_VAL_W1				<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-

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AD = Asbestos Detected
NL = Non-limiting

Environmental Standards
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					Organochlorine Pesticides														
					d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Direct Contact HSL D Commercial/ Industrial																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
>=0m, <1m																		
>=1m, <2m																		
>=2m, <4m																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil								3,600		2,000				100				50
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind							640											
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																		
EPA 2000 Use and Disposal Of Biosolids																		
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**														
Material surrounding Septic Tank																		
39VAL01	**39VAL01_01**	**Soil**	**26 Jul 2023**	**O1**	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	39VAL01_02				<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	39VAL01_03				<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Excavation Footprint																		
N/A	**AEC39_VAL_B1**	**Soil**	**26 Jul 2023**	**O1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC39_VAL_E1				-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC39_VAL_N1				-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC39_VAL_S1				-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC39_VAL_W1				-	-	-	-	-	-	-	-	-	-	-	-	-	-

NAD = No Asbestos Detected
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NL = Non-limiting

Environmental Standards
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					Organochlorine Pesticides		Organophosphorous Pesticides													
					Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Direct Contact HSL D Commercial/ Industrial																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
>=0m, <1m																		
>=1m, <2m																		
>=2m, <4m																		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil						2,500					2,000							
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																		
EPA 2000 Use and Disposal Of Biosolids																		
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**														
Material surrounding Septic Tank																		
39VAL01	**39VAL01_01**	**Soil**	**26 Jul 2023**	**O1**	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	39VAL01_02				<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	0.83	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	39VAL01_03				<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	0.34	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Excavation Footprint																		
N/A	**AEC39_VAL_B1**	**Soil**	**26 Jul 2023**	**O1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC39_VAL_E1				-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC39_VAL_N1				-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC39_VAL_S1				-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC39_VAL_W1				-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Environmental Standards
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					Organophosphorous Pesticides			PCBs	Pesticides				TPH				
					Methyl parathion	Monocrotophos	Prothiofos	PCBs (Sum of total)	Demeton-S-methyl	Fenamiphos	Parathion	Pirimphos-ethyl	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.2	0.2	0.05	0.1	0.05	0.05	0.2	0.05	10	50	100	100	50
Direct Contact HSL D Commercial/ Industrial																	
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																	
>=0m, <1m																	
>=1m, <2m																	
>=2m, <4m																	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil								7									
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																	
EPA 2000 Use and Disposal Of Biosolids																	
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**													
Material surrounding Septic Tank																	
39VAL01	**39VAL01_01**	**Soil**	**26 Jul 2023**	**O1**	<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	39VAL01_02				<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	140	340	480
	39VAL01_03				<0.2	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	140	190	330
Excavation Footprint																	
N/A	**AEC39_VAL_B1**	**Soil**	**26 Jul 2023**	**O1**	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC39_VAL_E1				-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC39_VAL_N1				-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC39_VAL_S1				-	-	-	-	-	-	-	-	<10	<50	<100	170	170
	AEC39_VAL_W1				-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50

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Environmental Standards
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
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2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

	Asbestos	TRH							BTEX								Biological	
	Asbestos ID (AS4964-2004)	C10-C16 (F2 minus Naphthalene)	C10-C16	C10-C40 (Sum of total)	C6-C10	C6-C10 (F1 minus BTEX)	C16-C34	C34-C40	Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	Faecal Coliforms	E. Coli
	g/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	orgs/g	orgs/g
EQL	0.1	50	50	50	10	10	100	100	1	0.2	0.5	0.5	0.5	0.5	0.5	0.2	2	2
Direct Contact HSL D Commercial/ Industrial			20,000		26,000		27,000	38,000	11,000	430		27,000			81,000			
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil			1,000		700		3,500	10,000										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand		NL				260 | 370 | 630				3 | 3 | 3 | 3	NL	NL			230			
>=0m, <1m		NL				260				3	NL	NL			230			
>=1m, <2m		NL				370				3	NL	NL			NL			
>=2m, <4m		NL				630				3	NL	NL			NL			
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind									370									
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil		170	170			215	1,700	3,300		75	135	165			180			
EPA 2000 Use and Disposal Of Biosolids																	1000	100

Stockpile ID	Field ID	Matrix	Date	Classification																
Material within Septic Tank																				
40SEP01	40SEP01_01	Soil	25 Jul 2023	O2	NAD	<50	<50	160	<10	<10	160	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	3	3
	40SEP01_02				NAD	<50	<50	1,930	<10	<10	1,380	550	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2
	40SEP01_03				NAD	<50	<50	4,860	<10	<10	3,310	1,550	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	>1,600	<2
40SEP02	40SEP02_01	Soil	28 Jul 2023	O2	NAD	<50	<50	15,400	23	22	5,840	9,520	<1	<0.2	0.6	<0.5	<0.5	<0.5	<0.5	0.6	11	11
	40SEP02_02				NAD	<50	<50	21,900	23	21	15,400	6,540	<1	<0.2	1.7	<0.5	<0.5	<0.5	<0.5	1.7	42	42
	40SEP02_03				NAD	<50	<50	9,340	16	16	6,520	2,820	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	20	20
	40SEP02_01 EXTRA				NAD	<50	<50	15,400	23	22	5,840	9,520	<1	<0.2	0.6	<0.5	<0.5	<0.5	<0.5	0.6	11	11
	40SEP02_02 EXTRA				NAD	<50	<60	21,900	23	21	15,400	6,540	<1	<0.2	1.7	<0.5	<0.5	<0.5	<0.5	1.7	42	42
	40SEP02_03 EXTRA				NAD	<50	<50	9,340	16	16	6,520	2,820	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	20	20
Material surrounding Septic Tank																				
40VAL01	40VAL01_01	Soil	28 Jul 2023	O1	NAD	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2
40VAL02	40VAL02_01	Soil	28 Jul 2023	O1	NAD	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2
	40VAL02_02	Soil	28 Jul 2023		NAD	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2
40VAL04	40VAL04_01	Soil	28 Jul 2023	O1	NAD	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2
	40VAL04_02				NAD	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2
	40VAL04_03				NAD	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2
Excavation Footprint																				
N/A	AEC40_VAL_B1	Soil	28 Jul 2023	O1	-	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2
	AEC40_VAL_E1				-	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2
	AEC40_VAL_N1				-	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2
	AEC40_VAL_S1				-	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2
	AEC40_VAL_W1				-	<50	<50	<50	<10	<10	<100	<100	<1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<2	<2

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Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					Metals								PAH									
					Arsenic	Cadmium	Chromium (VI)	Copper	Lead	Mercury	Nickel	Zinc	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					5	1	2	5	5	0.1	2	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Direct Contact HSL D Commercial/ Industrial																						
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																						
>=0m, <1m																						
>=1m, <2m																						
>=2m, <4m																						
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil					3,000	900		240,000	1,500	730	6,000	400,000										
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind					160																	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																	1.4					
EPA 2000 Use and Disposal Of Biosolids																						
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**																		
Material within Septic Tank																						
40SEP01	**40SEP01_01**	**Soil**	**25 Jul 2023**	**O2**	7	<1	24	68	19	<0.1	16	238	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	40SEP01_02				7	1	24	137	24	0.3	17	466	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	40SEP01_03				<5	1	21	190	19	0.2	16	523	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
40SEP02	**40SEP02_01**	**Soil**	**28 Jul 2023**	**O2**	<5	2	30	354	28	0.3	14	687	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
	40SEP02_02				8	3	44	537	49	0.6	22	1,190	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	40SEP02_03				<5	1	26	304	25	0.3	11	570	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
	40SEP02_01 EXTRA				<5	2	30	354	28	0.3	14	687	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
	40SEP02_02 EXTRA				8	3	44	537	49	0.6	22	1190	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	40SEP02_03 EXTRA				<5	1	2	304	25	0.3	11	570	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Material surrounding Septic Tank																						
40VAL01	**40VAL01_01**	**Soil**	**28 Jul 2023**	**O1**	6	<1	17	37	17	<0.1	14	112	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
40VAL02	**40VAL02_01**	**Soil**	**28 Jul 2023**	**O1**	<5	<1	20	38	18	<0.1	15	51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	40VAL02_02	**Soil**	**28 Jul 2023**	**O1**	7	<1	16	32	16	<0.1	13	58	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
40VAL04	**40VAL04_01**	**Soil**	**28 Jul 2023**	**O1**	7	<1	17	30	19	<0.1	14	58	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	40VAL04_02				41	<1	16	34	19	<0.1	17	86	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	40VAL04_03				6	<1	15	28	17	<0.1	16	66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Excavation Footprint																						
N/A	**AEC40_VAL_B1**	**Soil**	**28 Jul 2023**	**O1**	6	<1	12	21	14	<0.1	15	64	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC40_VAL_E1				6	<1	18	30	14	<0.1	10	46	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC40_VAL_N1				6	<1	19	38	15	<0.1	16	51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC40_VAL_S1				8	<1	15	32	12	<0.1	10	68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	AEC40_VAL_W1				24	<1	16	33	18	<0.1	15	79	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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AD = Asbestos Detected
NL = Non-limiting

Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
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2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
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2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					PAH							Halogenated Benzenes	Organochlorine Pesticides									
					Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	Hexachlorobenzene	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Direct Contact HSL D Commercial/ Industrial								11,000														
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																						
>=0m, <1m																						
>=1m, <2m																						
>=2m, <4m																						
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil											4,000	80				45		530				
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind								370														
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																						
EPA 2000 Use and Disposal Of Biosolids																						
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**																		
Material within Septic Tank																						
40SEP01	**40SEP01_01**	**Soil**	**25 Jul 2023**	**O2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40SEP01_02				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40SEP01_03				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
40SEP02	**40SEP02_01**	**Soil**	**28 Jul 2023**	**O2**	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40SEP02_02				<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.06	<0.06	<0.06	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06
	40SEP02_03				<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40SEP02_01 EXTRA				<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40SEP02_02 EXTRA				<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.06	<0.06	<0.06	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06
	40SEP02_03 EXTRA				<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05
Material surrounding Septic Tank																						
40VAL01	**40VAL01_01**	**Soil**	**28 Jul 2023**	**O1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
40VAL02	**40VAL02_01**	**Soil**	**28 Jul 2023**	**O1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40VAL02_02	**Soil**	**28 Jul 2023**		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
40VAL04	**40VAL04_01**	**Soil**	**28 Jul 2023**	**O1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40VAL04_02				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40VAL04_03				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Excavation Footprint																						
N/A	**AEC40_VAL_B1**	**Soil**	**28 Jul 2023**	**O1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_E1				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_N1				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_S1				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_W1				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-

NAD = No Asbestos Detected
AD = Asbestos Detected
NL = Non-limiting

Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

				Organochlorine Pesticides										
				DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Direct Contact HSL D Commercial/ Industrial														
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil														
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand														
>=0m, <1m														
>=1m, <2m														
>=2m, <4m														
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil					3,600		2,000				100			
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind				640										
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil														
EPA 2000 Use and Disposal Of Biosolids														
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**										
Material within Septic Tank														
40SEP01	**40SEP01_01**	**Soil**	**25 Jul 2023**	**O2**	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40SEP01_02				<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40SEP01_03				<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
40SEP02	**40SEP02_01**	**Soil**	**28 Jul 2023**	**O2**	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40SEP02_02				<0.3	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
	40SEP02_03				<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40SEP02_01 EXTRA				<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40SEP02_02 EXTRA				<0.3	<0.05	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
	40SEP02_03 EXTRA				<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Material surrounding Septic Tank														
40VAL01	**40VAL01_01**	**Soil**	**28 Jul 2023**	**O1**	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
40VAL02	**40VAL02_01**	**Soil**	**28 Jul 2023**	**O1**	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40VAL02_02	**Soil**	**28 Jul 2023**		<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
40VAL04	**40VAL04_01**	**Soil**	**28 Jul 2023**	**O1**	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40VAL04_02				<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	40VAL04_03				<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Excavation Footprint														
N/A	**AEC40_VAL_B1**	**Soil**	**28 Jul 2023**	**O1**	-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_E1				-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_N1				-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_S1				-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_W1				-	-	-	-	-	-	-	-	-	-	-

NAD = No Asbestos Detected
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Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					Organochlorine Pesticides			Organophosphorous Pesticides													
					Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2
Direct Contact HSL D Commercial/ Industrial																				
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																				
>=0m, <1m																				
>=1m, <2m																				
>=2m, <4m																				
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil					50		2,500					2,000								
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																				
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																				
EPA 2000 Use and Disposal Of Biosolids																				
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**																
Material within Septic Tank																				
40SEP01	**40SEP01_01**	**Soil**	**25 Jul 2023**	**O2**	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	40SEP01_02				<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	40SEP01_03				<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
40SEP02	**40SEP02_01**	**Soil**	**28 Jul 2023**	**O2**	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	40SEP02_02				<0.06	<0.06	<0.3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.3
	40SEP02_03				<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	40SEP02_01 EXTRA				<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	40SEP02_02 EXTRA				<0.06	<0.06	<0.3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.3
	40SEP02_03 EXTRA				<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
Material surrounding Septic Tank																				
40VAL01	**40VAL01_01**	**Soil**	**28 Jul 2023**	**O1**	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
40VAL02	**40VAL02_01**	**Soil**	**28 Jul 2023**	**O1**	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	40VAL02_02	**Soil**	**28 Jul 2023**		<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
40VAL04	**40VAL04_01**	**Soil**	**28 Jul 2023**	**O1**	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	40VAL04_02				<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
	40VAL04_03				<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
Excavation Footprint																				
N/A	**AEC40_VAL_B1**	**Soil**	**28 Jul 2023**	**O1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_E1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_N1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_S1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	AEC40_VAL_W1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NAD = No Asbestos Detected
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Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

					Organophosphorous Pesticides		PCBs	Pesticides				TPH				
					Monocrotophos	Prothiofos	PCBs (Sum of total)	Demeton-S-methyl	Fenamiphos	Parathion	Pirimphos-ethyl	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.2	0.05	0.1	0.05	0.05	0.2	0.05	10	50	100	100	50
Direct Contact HSL D Commercial/ Industrial																
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																
>=0m, <1m																
>=1m, <2m																
>=2m, <4m																
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil							7									
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																
EPA 2000 Use and Disposal Of Biosolids																
Stockpile ID	**Field ID**	**Matrix**	**Date**	**Classification**												
Material within Septic Tank																
40SEP01	**40SEP01_01**	**Soil**	**25 Jul 2023**	**O2**	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	140	140
	40SEP01_02				<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	380	1,440	1,820
	40SEP01_03				<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	690	3,490	4,180
40SEP02	**40SEP02_01**	**Soil**	**28 Jul 2023**	**O2**	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	3,200	10,200	13,400
	40SEP02_02				<0.3	<0.06	<0.1	<0.06	<0.06	<0.3	<0.06	<10	<60	4,670	15,900	20,600
	40SEP02_03				<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	1,860	6,880	8,740
	40SEP02_01 EXTRA				<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	3,200	10,200	13,400
	40SEP02_02 EXTRA				<0.3	<0.06	<0.1	<0.06	<0.06	<0.3	<0.06	<10	<60	4,670	15,900	20,600
	40SEP02_03 EXTRA				<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	1,860	6,880	8,740
Material surrounding Septic Tank																
40VAL01	**40VAL01_01**	**Soil**	**28 Jul 2023**	**O1**	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
40VAL02	**40VAL02_01**	**Soil**	**28 Jul 2023**	**O1**	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	40VAL02_02	**Soil**	**28 Jul 2023**		<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
40VAL04	**40VAL04_01**	**Soil**	**28 Jul 2023**	**O1**	<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	40VAL04_02				<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
	40VAL04_03				<0.2	<0.05	<0.1	<0.05	<0.05	<0.2	<0.05	<10	<50	<100	<100	<50
Excavation Footprint																
N/A	**AEC40_VAL_B1**	**Soil**	**28 Jul 2023**	**O1**	-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC40_VAL_E1				-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC40_VAL_N1				-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC40_VAL_S1				-	-	-	-	-	-	-	<10	<50	<100	<100	<50
	AEC40_VAL_W1				-	-	-	-	-	-	-	<10	<50	<100	<100	<50

NAD = No Asbestos Detected
AD = Asbestos Detected
NL = Non-limiting

Environmental Standards
Direct Contact HSL D Commercial/ Industrial
2013, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2000, EPA 2000 Table 3.5 Use and Disposal of Biosolids

	Lab Report Number		ES2326971	ES2326971		ES2326971	ES2326971		ES2326971	ES2326971		ES2326971	ES2326971		ES2327164	1018996	
	Field ID		AEC16_VAL_01_N1	AEC16_VAL TRP02		AEC16_VAL_01_N1	AEC16_VAL TRP01		AEC16_VAL_01_N1	AEC16_VAL DUP02		AEC16_VAL_01_N1	AEC16_VAL DUP01		AEC22_VAL_N1	AEC22_VAL_TRP01	
	Date		09 Aug 2023	09 Aug 2023		09 Aug 2023	09 Aug 2023		09 Aug 2023	09 Aug 2023		09 Aug 2023	09 Aug 2023		10 Aug 2023	11 Aug 2023	
	Matrix Type		Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD
	Laboratory		ALS	ALS		ALS	ALS		ALS	ALS		ALS	ALS		ALS	Eurofins	
	Non-conformance			Analysed at primary lab			Analysed at primary lab									No corresponding duplicate	
	Unit	EQL															
Asbestos																	
Asbestos (Trace)	-																
Synthetic Mineral Fibre	--																
APPROVED IDENTIFIER:	-																
Asbestos Type	Detect																
Asbestos fibres	g/kg	0.1															
Biota																	
Biota Description	-																
Mass																	
weight of sample	g	0.01															
Particulates																	
Organic Fibre	--																
BTEX																	
Naphthalene (VOC)	mg/kg	0.5	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<0.5	0
Benzene	mg/kg	0.1	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.1	0
Toluene	mg/kg	0.1	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Ethylbenzene	mg/kg	0.1	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Xylene (m & p)	mg/kg	0.2	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0
Xylene (o)	mg/kg	0.1	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0
Xylene Total	mg/kg	0.3	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.3	0
Total BTEX	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2		
TRH																	
C6-C10 Fraction (F1)	mg/kg	10	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<20	0
C6-C10 (F1 minus BTEX)	mg/kg	10	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<20	0
>C10-C16 Fraction (F2)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
>C10-C16 Fraction (F2 minus Naphthalene)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
>C16-C34 Fraction (F3)	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
>C34-C40 Fraction (F4)	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
>C10-C40 Fraction (Sum)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<100	0
Biological																	
Faecal Coliforms	orgs/100g	200													<200		
E. Coli	orgs/g	2													<2		
Inorganics																	
Moisture Content	%	1	12.5	17.0	31	12.5	7.7	48	12.5	8.2	42	12.5	17.4	33	8.1		
Moisture Content (dried @ 103°C)	%	1														8.8	
Metals																	
Arsenic	mg/kg	2	<5	<5	0	<5	9	57	<5	13	89	<5	5	0	10	9.8	2
Cadmium	mg/kg	0.4	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<0.4	0
Chromium (III+VI)	mg/kg	2	19	18	5	19	13	38	19	17	11	19	20	5	15	14	7
Copper	mg/kg	5	37	35	6	37	26	35	37	36	3	37	41	10	49	40	20
Lead	mg/kg	5	14	13	7	14	9	43	14	16	13	14	14	0	16	18	12
Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Nickel	mg/kg	2	19	20	5	19	14	30	19	20	5	19	20	5	29	25	15
Zinc	mg/kg	5	71	61	15	71	55	25	71	71	0	71	70	1	90	81	11
PAH																	
Acenaphthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(a) pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Chrysene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Naphthalene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Phenanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
PAHs (Sum of total)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
TPH																	
C6-C9 Fraction	mg/kg	10	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<20	0
C10-C14 Fraction	mg/kg	20	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	22	0
C15-C28 Fraction	mg/kg	50	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	67	0
C29-C36 Fraction	mg/kg	50	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<50	0
C10-C36 Fraction (Sum)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	89	56

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 50 (1 - 10 x EQL); 50 (10 - 30 x EQL); 50 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

	Lab Report Number		ES2324984	ES2324984		ES2324984	ES2324984		ES2325381	ES2325381		ES2325381	ES2325381	
	Field ID		AEC39_VAL_N1	AEC39_VAL_TRP01		AEC39_VAL_N1	AEC39_VAL_DUP01		AEC40_VAL_N1	AEC40_VAL_TRIP01		AEC40_VAL_N1	AEC40_VAL_DUP01	
	Date		26 Jul 2023	26 Jul 2023		26 Jul 2023	26 Jul 2023		28 Jul 2023	28 Jul 2023		28 Jul 2023	28 Jul 2023	
	Matrix Type		Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD	Soil	Soil	RPD
	Laboratory		ALS	ALS		ALS	ALS		ALS	ALS		ALS	ALS	
	Non-conformance			Analysed at primary lab						Analysed at primary lab				
	Unit	EQL												
Asbestos														
Asbestos (Trace)	-		0			0								
Synthetic Mineral Fibre	--		0			0								
APPROVED IDENTIFIER:	-		1			1								
Asbestos Type	Detect		1			1								
Asbestos fibres	g/kg	0.1	0			0								
Biota														
Biota Description	-		1			1								
Mass														
weight of sample	g	0.01	294			294								
Particulates														
Organic Fibre	--		0			0								
BTEX														
Naphthalene (VOC)	mg/kg	0.5	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0
Benzene	mg/kg	0.1	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
Toluene	mg/kg	0.1	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Ethylbenzene	mg/kg	0.1	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Xylene (m & p)	mg/kg	0.2	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Xylene (o)	mg/kg	0.1	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Xylene Total	mg/kg	0.3	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Total BTEX	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
TRH														
C6-C10 Fraction (F1)	mg/kg	10	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0
C6-C10 (F1 minus BTEX)	mg/kg	10	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0
>C10-C16 Fraction (F2)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
>C10-C16 Fraction (F2 minus Naphthalene)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
>C16-C34 Fraction (F3)	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
>C34-C40 Fraction (F4)	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
>C10-C40 Fraction (Sum)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
Biological														
Faecal Coliforms	orgs/100g	200	<200			<200			<200			<200		
E. Coli	orgs/g	2	<2			<2			<2			<2		
Inorganics														
Moisture Content	%	1	11.7	7.9	39	11.7	8.0	38	19.7	19.7	0	19.7	19.2	3
Moisture Content (dried @ 103°C)	%	1												
Metals														
Arsenic	mg/kg	2	<5	9	57	<5	10	67	6	6	0	6	5	18
Cadmium	mg/kg	0.4	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0
Chromium (III+VI)	mg/kg	2	8	16	67	8	11	32	19	19	0	19	19	0
Copper	mg/kg	5	19	28	38	19	19	0	38	38	0	38	37	3
Lead	mg/kg	5	19	13	38	19	11	53	15	17	12	15	15	0
Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Nickel	mg/kg	2	7	11	44	7	8	13	16	16	0	16	16	0
Zinc	mg/kg	5	41	40	2	41	34	19	51	50	2	51	49	4
PAH														
Acenaphthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(a) pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Chrysene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Naphthalene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Phenanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
PAHs (Sum of total)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
TPH														
C6-C9 Fraction	mg/kg	10	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0
C10-C14 Fraction	mg/kg	20	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
C15-C28 Fraction	mg/kg	50	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
C29-C36 Fraction	mg/kg	50	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
C10-C36 Fraction (Sum)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0

*RPDs have only been considered where a concentration is greater than 1 times
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs
***Interlab Duplicates are matched on a per compound basis as methods vary l

		Lab Report Number	ES2324984				ES2325381				ES2325498			
		Field ID	TRIP BLANK	TRIP SPIKE	TRIP SPIKE CONTROL	Recovery	TRIP BLANK	TRIP SPIKE	TSC	Recovery	TRIP BLANK	TRIP SPIKE	TSC	Recovery
		Date	26 Jul 2023	26 Jul 2023	26 Jul 2023		24 Jul 2023	24 Jul 2023	24 Jul 2023		27 Jul 2023	24 Jul 2023	24 Jul 2023	
		Matrix Type	Soil	Soil	Soil		Soil	Soil	Soil		Soil	Soil	Soil	
	Unit	EQL												
BTEX														
Naphthalene (VOC)	mg/kg	1	<1	<1	<1	-	<1	<1	<1	-	<1	<1	<1	-
Benzene	mg/kg	0.2	<0.2	<0.2	<0.2	-	<0.2	0.2	<0.2	-	<0.2	<0.2	<0.2	-
Toluene	mg/kg	0.5	<0.5	4.5	4.8	94%	<0.5	6.3	7.1	89%	<0.5	6.5	7.0	93%
Ethylbenzene	mg/kg	0.5	<0.5	5.2	5.4	96%	<0.5	6.5	7.1	92%	<0.5	6.7	6.9	97%
Xylene (m & p)	mg/kg	0.5	<0.5	5.6	6.0	93%	<0.5	6.9	7.6	91%	<0.5	7.2	7.4	97%
Xylene (o)	mg/kg	0.5	<0.5	2.3	2.5	92%	<0.5	2.7	3.0	90%	<0.5	2.9	3.0	97%
Xylene Total	mg/kg	0.5	<0.5	7.9	8.5	93%	<0.5	9.6	10.6	91%	<0.5	10.1	10.4	97%
Total BTEX	mg/kg	0.2	<0.2	17.6	18.7	94%	<0.2	22.6	24.8	91%	<0.2	23.3	24.3	96%
TRH														
C6-C10 Fraction (F1)	mg/kg	10	<10			-	<10			-	<10			-
C6-C10 (F1 minus BTEX)	mg/kg	10	<10			-	<10			-	<10			-
TPH														
C6-C9 Fraction	mg/kg	10	<10			-	<10			-	<10			-

		Lab Report Number	**ES2325381**	**ES2325498**	**ES2326971**
		Field ID	**AEC40_RS**	**AEC21_RB01**	**AEC16_RS01**
		Date	**28 Jul 2023**	**31 Jul 2023**	**09 Aug 2023**
		Matrix Type	**Water**	**Water**	**Water**
	Unit	EQL			
BTEX					
Naphthalene (VOC)	**mg/L**	0.005	<0.005	<0.005	<0.005
Benzene	**µg/L**	1	<1	<1	<1
Toluene	**µg/L**	2	<2	<2	<2
Ethylbenzene	**µg/L**	2	<2	<2	<2
Xylene (m & p)	**µg/L**	2	<2	<2	<2
Xylene (o)	**µg/L**	2	<2	<2	<2
Xylene Total	**µg/L**	2	<2	<2	<2
Total BTEX	**µg/L**	1	<1	<1	<1
TRH					
C6-C10 Fraction (F1)	**µg/L**	20	<20	<20	<20
C6-C10 (F1 minus BTEX)	**µg/L**	20	<20	<20	<20
>C10-C16 Fraction (F2)	**µg/L**	100	<100	<100	<100
>C10-C16 Fraction (F2 minus Naphthalene)	**µg/L**	100	<100	<100	<100
>C16-C34 Fraction (F3)	**µg/L**	100	<100	<100	<100
>C34-C40 Fraction (F4)	**µg/L**	100	<100	<100	<100
>C10-C40 Fraction (Sum)	**µg/L**	100	<100	<100	<100
Metals					
Arsenic	**mg/L**	0.001	<0.001	<0.001	<0.001
Cadmium	**mg/L**	0.0001	<0.0001	<0.0001	<0.0001
Chromium (III+VI)	**mg/L**	0.001	<0.001	<0.001	<0.001
Copper	**mg/L**	0.001	<0.001	<0.001	<0.001
Lead	**mg/L**	0.001	<0.001	<0.001	<0.001
Mercury	**mg/L**	0.0001	<0.0001	<0.0001	<0.0001
Nickel	**mg/L**	0.001	<0.001	<0.001	<0.001
Zinc	**mg/L**	0.005	<0.005	<0.005	<0.005
PAH					
Acenaphthene	**µg/L**	1	<1.0	<1.0	<1.0
Acenaphthylene	**µg/L**	1	<1.0	<1.0	<1.0
Anthracene	**µg/L**	1	<1.0	<1.0	<1.0
Benzo(a)anthracene	**µg/L**	1	<1.0	<1.0	<1.0
Benzo(a) pyrene	**µg/L**	0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	**mg/L**	0.001	<0.0010	<0.0010	<0.0010
Benzo(g,h,i)perylene	**µg/L**	1	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	**µg/L**	1	<1.0	<1.0	<1.0
Chrysene	**µg/L**	1	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	**µg/L**	1	<1.0	<1.0	<1.0
Fluoranthene	**µg/L**	1	<1.0	<1.0	<1.0
Fluorene	**µg/L**	1	<1.0	<1.0	<1.0
Indeno(1,2,3-c,d)pyrene	**µg/L**	1	<1.0	<1.0	<1.0
Naphthalene	**µg/L**	1	<1.0	<1.0	<1.0
Phenanthrene	**µg/L**	1	<1.0	<1.0	<1.0
Pyrene	**µg/L**	1	<1.0	<1.0	<1.0
PAHs (Sum of total)	**µg/L**	0.5	<0.5	<0.5	<0.5
TPH					
C6-C9 Fraction	**µg/L**	20	<20	<20	<20
C10-C14 Fraction	**µg/L**	50	<50	<50	<50
C15-C28 Fraction	**µg/L**	100	<100	<100	<100
C29-C36 Fraction	**µg/L**	50	<50	<50	<50
C10-C36 Fraction (Sum)	**µg/L**	50	<50	<50	<50

		Lab Report Number	**ES2326971**	**ES2327164**
		Field ID	**AEC16_RS02**	**AEC22_RS**
		Date	**09 Aug 2023**	**10 Aug 2023**
		Matrix Type	**Water**	**Water**
	Unit	EQL		
BTEX				
Naphthalene (VOC)	**mg/L**	0.005	<0.005	<0.005
Benzene	**µg/L**	1	<1	<1
Toluene	**µg/L**	2	<2	<2
Ethylbenzene	**µg/L**	2	<2	<2
Xylene (m & p)	**µg/L**	2	<2	<2
Xylene (o)	**µg/L**	2	<2	<2
Xylene Total	**µg/L**	2	<2	<2
Total BTEX	**µg/L**	1	<1	<1
TRH				
C6-C10 Fraction (F1)	**µg/L**	20	<20	<20
C6-C10 (F1 minus BTEX)	**µg/L**	20	<20	<20
>C10-C16 Fraction (F2)	**µg/L**	100	<100	<100
>C10-C16 Fraction (F2 minus Naphthalene)	**µg/L**	100	<100	<100
>C16-C34 Fraction (F3)	**µg/L**	100	<100	<100
>C34-C40 Fraction (F4)	**µg/L**	100	<100	<100
>C10-C40 Fraction (Sum)	**µg/L**	100	<100	<100
Metals				
Arsenic	**mg/L**	0.001	<0.001	<0.001
Cadmium	**mg/L**	0.0001	<0.0001	<0.0001
Chromium (III+VI)	**mg/L**	0.001	<0.001	<0.001
Copper	**mg/L**	0.001	<0.001	<0.001
Lead	**mg/L**	0.001	<0.001	<0.001
Mercury	**mg/L**	0.0001	<0.0001	<0.0001
Nickel	**mg/L**	0.001	<0.001	<0.001
Zinc	**mg/L**	0.005	<0.005	<0.005
PAH				
Acenaphthene	**µg/L**	1	<1.0	<1.0
Acenaphthylene	**µg/L**	1	<1.0	<1.0
Anthracene	**µg/L**	1	<1.0	<1.0
Benzo(a)anthracene	**µg/L**	1	<1.0	<1.0
Benzo(a) pyrene	**µg/L**	0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	**mg/L**	0.001	<0.0010	<0.0010
Benzo(g,h,i)perylene	**µg/L**	1	<1.0	<1.0
Benzo(k)fluoranthene	**µg/L**	1	<1.0	<1.0
Chrysene	**µg/L**	1	<1.0	<1.0
Dibenz(a,h)anthracene	**µg/L**	1	<1.0	<1.0
Fluoranthene	**µg/L**	1	<1.0	<1.0
Fluorene	**µg/L**	1	<1.0	<1.0
Indeno(1,2,3-c,d)pyrene	**µg/L**	1	<1.0	<1.0
Naphthalene	**µg/L**	1	<1.0	<1.0
Phenanthrene	**µg/L**	1	<1.0	<1.0
Pyrene	**µg/L**	1	<1.0	<1.0
PAHs (Sum of total)	**µg/L**	0.5	<0.5	<0.5
TPH				
C6-C9 Fraction	**µg/L**	20	<20	<20
C10-C14 Fraction	**µg/L**	50	<50	<50
C15-C28 Fraction	**µg/L**	100	<100	<100
C29-C36 Fraction	**µg/L**	50	<50	<50
C10-C36 Fraction (Sum)	**µg/L**	50	<50	<50

Appendix C

NATA ACCREDITED LABORATORY REPORTS

CERTIFICATE OF ANALYSIS

Work Order	: **ES2326971**	Page	: 1 of 32
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: JENNY SHAO	Contact	: Jason Dighton
Address	: LEVEL 13 Suite 1301, 80 Mount Street NORTH SYDNEY 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP3244	Date Samples Received	: 10-Aug-2023 15:50
Order number	: ----	Date Analysis Commenced	: 10-Aug-2023
C-O-C number	: ----	Issue Date	: 14-Aug-2023 18:15
Sampler	: Hayley Erskine, Naomi Madigan, Troy Chatman		
Site	: ----		
Quote number	: ES23EPRISK0002 - ES PRIMARY WORK ONLY		
No. of samples received	: 58		
No. of samples analysed	: 50		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Alex Rossi	Organic Chemist	Sydney Inorganics, Smithfield, NSW
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Somlok Chai	Microbiologist	Sydney Microbiology, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEXN only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC16_VAL_01_N1	AEC16_VAL_01_S1	AEC16_VAL_01_E1	AEC16_VAL_01_W1	AEC16_VAL_01_B1
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-001	ES2326971-002	ES2326971-003	ES2326971-004	ES2326971-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	12.5	7.2	10.2	8.6	8.3
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	26	6	15	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	19	14	18	15	15
Copper	7440-50-8	5	mg/kg	37	32	46	39	45
Lead	7439-92-1	5	mg/kg	14	15	16	14	20
Nickel	7440-02-0	2	mg/kg	19	17	25	20	24
Zinc	7440-66-6	5	mg/kg	71	62	80	55	92
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC16_VAL_01_N1	AEC16_VAL_01_S1	AEC16_VAL_01_E1	AEC16_VAL_01_W1	AEC16_VAL_01_B1
				Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit		ES2326971-001	ES2326971-002	ES2326971-003	ES2326971-004	ES2326971-005
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**92.8**	**91.2**	**89.0**	**70.0**	**85.5**
2-Chlorophenol-D4	93951-73-6	0.5	%		**87.7**	**84.0**	**83.8**	**70.8**	**77.8**
2.4.6-Tribromophenol	118-79-6	0.5	%		**71.3**	**68.8**	**68.9**	**52.6**	**63.8**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**95.9**	**93.0**	**91.9**	**71.9**	**88.3**
Anthracene-d10	1719-06-8	0.5	%		**97.0**	**97.7**	**93.3**	**75.3**	**92.4**
4-Terphenyl-d14	1718-51-0	0.5	%		**90.9**	**89.7**	**85.4**	**68.5**	**84.0**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**90.5**	**94.0**	**106**	**105**	**93.9**
Toluene-D8	2037-26-5	0.2	%		**98.3**	**83.5**	**92.9**	**94.0**	**97.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC16_VAL_01_N1	AEC16_VAL_01_S1	AEC16_VAL_01_E1	AEC16_VAL_01_W1	AEC16_VAL_01_B1
				Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit		ES2326971-001	ES2326971-002	ES2326971-003	ES2326971-004	ES2326971-005
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		**118**	**108**	**118**	**122**	**122**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16VAL01_01	16VAL01_02	16VAL01_03	16SEP01_01	16SEP01_02
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-006	ES2326971-007	ES2326971-008	ES2326971-009	ES2326971-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.4	13.7	12.1	15.7	13.0
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	-	-	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Synthetic Mineral Fibre	----	-	--	No	No	No	No	No
Organic Fibre	----	-	--	No	No	No	No	No
Sample weight (dry)	----	0.01	g	176	207	209	202	202
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	8	8	<5	7	8
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	17	19	14	14	16
Copper	7440-50-8	5	mg/kg	31	36	47	32	29
Lead	7439-92-1	5	mg/kg	16	23	13	11	15
Nickel	7440-02-0	2	mg/kg	21	19	16	13	17
Zinc	7440-66-6	5	mg/kg	68	65	83	54	61
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16VAL01_01	16VAL01_02	16VAL01_03	16SEP01_01	16SEP01_02
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-006	ES2326971-007	ES2326971-008	ES2326971-009	ES2326971-010
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16VAL01_01	16VAL01_02	16VAL01_03	16SEP01_01	16SEP01_02
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-006	ES2326971-007	ES2326971-008	ES2326971-009	ES2326971-010
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16VAL01_01	16VAL01_02	16VAL01_03	16SEP01_01	16SEP01_02
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-006	ES2326971-007	ES2326971-008	ES2326971-009	ES2326971-010
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**71.0**	**68.2**	**77.7**	**68.3**	**86.6**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**84.0**	**77.4**	**86.6**	**77.9**	**96.3**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**82.7**	**75.6**	**88.6**	**75.7**	**91.4**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**93.9**	**93.0**	**98.2**	**92.4**	**95.4**
2-Chlorophenol-D4	93951-73-6	0.5	%	**79.7**	**86.5**	**89.9**	**84.5**	**88.2**
2.4.6-Tribromophenol	118-79-6	0.5	%	**77.9**	**69.0**	**76.6**	**68.9**	**72.6**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**96.0**	**95.5**	**99.1**	**92.7**	**97.4**
Anthracene-d10	1719-06-8	0.5	%	**103**	**97.7**	**101**	**94.8**	**98.9**
4-Terphenyl-d14	1718-51-0	0.5	%	**94.7**	**91.2**	**92.9**	**87.4**	**91.0**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**109**	**104**	**107**	**108**	**103**
Toluene-D8	2037-26-5	0.2	%	**92.6**	**93.8**	**93.5**	**91.2**	**82.8**
4-Bromofluorobenzene	460-00-4	0.2	%	**94.6**	**109**	**110**	**102**	**97.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16SEP01_03	AEC16_VAL DUP01	AEC16_VAL TRP01	AEC16_VAL DUP02	AEC16_VAL TRP02
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-011	ES2326971-012	ES2326971-013	ES2326971-014	ES2326971-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**15.1**	**17.4**	**7.7**	**8.2**	**17.0**
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**----**	**----**	**----**	**----**
Asbestos (Trace)	1332-21-4	-	-	**No**	**----**	**----**	**----**	**----**
Asbestos Type	1332-21-4	-	--	**-**	**----**	**----**	**----**	**----**
Synthetic Mineral Fibre	----	-	--	**No**	**----**	**----**	**----**	**----**
Organic Fibre	----	-	--	**No**	**----**	**----**	**----**	**----**
Sample weight (dry)	----	0.01	g	**181**	**----**	**----**	**----**	**----**
APPROVED IDENTIFIER:	----	-	--	**A. SMYLIE**	**----**	**----**	**----**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**7**	**5**	**9**	**13**	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**17**	**20**	**13**	**17**	**18**
Copper	7440-50-8	5	mg/kg	**37**	**41**	**26**	**36**	**35**
Lead	7439-92-1	5	mg/kg	**14**	**14**	**9**	**16**	**13**
Nickel	7440-02-0	2	mg/kg	**19**	**20**	**14**	**20**	**20**
Zinc	7440-66-6	5	mg/kg	**70**	**70**	**55**	**71**	**61**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	**----**	**----**	**----**	**----**
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
beta-BHC	319-85-7	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
delta-BHC	319-86-8	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
Heptachlor	76-44-8	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
Aldrin	309-00-2	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16SEP01_03	AEC16_VAL DUP01	AEC16_VAL TRP01	AEC16_VAL DUP02	AEC16_VAL TRP02
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-011	ES2326971-012	ES2326971-013	ES2326971-014	ES2326971-015
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	16SEP01_03	AEC16_VAL DUP01	AEC16_VAL TRP01	AEC16_VAL DUP02	AEC16_VAL TRP02
				Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit		ES2326971-011	ES2326971-012	ES2326971-013	ES2326971-014	ES2326971-015
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16SEP01_03	AEC16_VAL DUP01	AEC16_VAL TRP01	AEC16_VAL DUP02	AEC16_VAL TRP02
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-011	ES2326971-012	ES2326971-013	ES2326971-014	ES2326971-015
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**75.8**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**86.8**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**85.5**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**94.7**	**94.9**	**90.8**	**95.0**	**85.4**
2-Chlorophenol-D4	93951-73-6	0.5	%	**87.4**	**82.0**	**80.8**	**85.4**	**73.1**
2.4.6-Tribromophenol	118-79-6	0.5	%	**74.2**	**78.4**	**68.1**	**76.5**	**71.5**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**95.4**	**94.0**	**88.1**	**96.1**	**86.3**
Anthracene-d10	1719-06-8	0.5	%	**98.6**	**102**	**92.4**	**99.8**	**96.3**
4-Terphenyl-d14	1718-51-0	0.5	%	**89.9**	**93.6**	**83.2**	**91.0**	**87.5**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**111**	**98.8**	**109**	**97.9**	**98.8**
Toluene-D8	2037-26-5	0.2	%	**94.1**	**95.4**	**98.8**	**97.2**	**98.3**
4-Bromofluorobenzene	460-00-4	0.2	%	**112**	**97.5**	**103**	**100.0**	**100**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC16_VAL_02_N1	AEC16_VAL_02_S1	AEC16_VAL_02_E1	AEC16_VAL_02_W1	AEC16_VAL_02_B1
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-020	ES2326971-021	ES2326971-022	ES2326971-023	ES2326971-024
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	7.0	12.1	10.3	17.0	13.9
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	11	8	7	6	10
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	17	20	18	18	18
Copper	7440-50-8	5	mg/kg	34	34	45	28	35
Lead	7439-92-1	5	mg/kg	13	11	11	10	14
Nickel	7440-02-0	2	mg/kg	22	22	19	19	22
Zinc	7440-66-6	5	mg/kg	76	67	73	59	70
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC16_VAL_02_N1	AEC16_VAL_02_S1	AEC16_VAL_02_E1	AEC16_VAL_02_W1	AEC16_VAL_02_B1
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-020	ES2326971-021	ES2326971-022	ES2326971-023	ES2326971-024
				Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**94.9**	**94.8**	**88.3**	**88.3**	**90.6**
2-Chlorophenol-D4	93951-73-6	0.5	%	**87.5**	**84.8**	**74.1**	**79.5**	**82.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**64.7**	**66.7**	**65.4**	**66.3**	**67.7**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**95.5**	**96.0**	**89.7**	**91.6**	**93.1**
Anthracene-d10	1719-06-8	0.5	%	**96.2**	**97.0**	**94.9**	**96.0**	**95.5**
4-Terphenyl-d14	1718-51-0	0.5	%	**91.1**	**91.0**	**87.7**	**88.6**	**87.5**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**102**	**96.8**	**100**	**77.8**	**78.5**
Toluene-D8	2037-26-5	0.2	%	**96.8**	**100**	**106**	**82.7**	**81.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC16_VAL_02_N1	AEC16_VAL_02_S1	AEC16_VAL_02_E1	AEC16_VAL_02_W1	AEC16_VAL_02_B1
				Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit		ES2326971-020	ES2326971-021	ES2326971-022	ES2326971-023	ES2326971-024
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		**103**	**105**	**103**	**85.1**	**82.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16VAL02_01	16VAL02_02	16VAL03_01	16SEP02_01	16SEP02_02
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-025	ES2326971-026	ES2326971-027	ES2326971-028	ES2326971-029
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.7	22.7	12.7	7.7	11.7
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos (Trace)	1332-21-4	-	-	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Synthetic Mineral Fibre	----	-	--	No	No	No	No	No
Organic Fibre	----	-	--	No	No	No	No	No
Sample weight (dry)	----	0.01	g	202	203	179	220	247
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	9	8	10	11	9
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	17	18	18	18	20
Copper	7440-50-8	5	mg/kg	39	36	34	36	31
Lead	7439-92-1	5	mg/kg	14	12	16	12	13
Nickel	7440-02-0	2	mg/kg	19	20	21	20	20
Zinc	7440-66-6	5	mg/kg	73	84	68	73	74
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16VAL02_01	16VAL02_02	16VAL03_01	16SEP02_01	16SEP02_02
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-025	ES2326971-026	ES2326971-027	ES2326971-028	ES2326971-029
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	16VAL02_01	16VAL02_02	16VAL03_01	16SEP02_01	16SEP02_02
				Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit		ES2326971-025	ES2326971-026	ES2326971-027	ES2326971-028	ES2326971-029
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16VAL02_01	16VAL02_02	16VAL03_01	16SEP02_01	16SEP02_02
			Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00	09-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-025	ES2326971-026	ES2326971-027	ES2326971-028	ES2326971-029
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**73.4**	**74.2**	**68.8**	**62.0**	**68.9**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**72.5**	**85.3**	**76.4**	**66.8**	**80.4**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**76.4**	**92.8**	**80.6**	**71.7**	**85.7**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**86.3**	**84.5**	**86.0**	**96.6**	**98.4**
2-Chlorophenol-D4	93951-73-6	0.5	%	**84.5**	**84.9**	**85.5**	**94.8**	**97.1**
2.4.6-Tribromophenol	118-79-6	0.5	%	**60.4**	**50.6**	**73.3**	**65.6**	**76.7**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**90.0**	**88.1**	**88.4**	**101**	**100**
Anthracene-d10	1719-06-8	0.5	%	**86.1**	**85.0**	**88.7**	**98.8**	**99.9**
4-Terphenyl-d14	1718-51-0	0.5	%	**98.8**	**99.6**	**96.9**	**110**	**111**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**82.7**	**87.9**	**88.4**	**88.5**	**81.3**
Toluene-D8	2037-26-5	0.2	%	**85.4**	**91.3**	**92.2**	**93.6**	**88.9**
4-Bromofluorobenzene	460-00-4	0.2	%	**85.0**	**88.6**	**91.1**	**88.1**	**87.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16SEP02_03	AEC16_VAL_01_N1	AEC16_VAL_01_S1	AEC16_VAL_01_E1	AEC16_VAL_01_W1
			Sampling date / time	09-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-030	ES2326971-031	ES2326971-032	ES2326971-033	ES2326971-034
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**----**	**13.3**	**11.9**	**10.4**	**13.4**
Moisture Content	----	1.0	%	**6.4**	**----**	**----**	**----**	**----**
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**----**	**----**	**----**	**----**
Asbestos (Trace)	1332-21-4	-	-	**No**	**----**	**----**	**----**	**----**
Asbestos Type	1332-21-4	-	--	**-**	**----**	**----**	**----**	**----**
Synthetic Mineral Fibre	----	-	--	**No**	**----**	**----**	**----**	**----**
Organic Fibre	----	-	--	**No**	**----**	**----**	**----**	**----**
Sample weight (dry)	----	0.01	g	**244**	**----**	**----**	**----**	**----**
APPROVED IDENTIFIER:	----	-	--	**A. SMYLIE**	**----**	**----**	**----**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	**----**	**----**	**----**	**----**
Cadmium	7440-43-9	1	mg/kg	<1	**----**	**----**	**----**	**----**
Chromium	7440-47-3	2	mg/kg	**11**	**----**	**----**	**----**	**----**
Copper	7440-50-8	5	mg/kg	**12**	**----**	**----**	**----**	**----**
Lead	7439-92-1	5	mg/kg	<5	**----**	**----**	**----**	**----**
Nickel	7440-02-0	2	mg/kg	**9**	**----**	**----**	**----**	**----**
Zinc	7440-66-6	5	mg/kg	**33**	**----**	**----**	**----**	**----**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	**----**	**----**	**----**	**----**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	**----**	**----**	**----**	**----**
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
beta-BHC	319-85-7	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
delta-BHC	319-86-8	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
Heptachlor	76-44-8	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
Aldrin	309-00-2	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16SEP02_03	AEC16_VAL_01_N1	AEC16_VAL_01_S1	AEC16_VAL_01_E1	AEC16_VAL_01_W1
			Sampling date / time	09-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-030	ES2326971-031	ES2326971-032	ES2326971-033	ES2326971-034
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	16SEP02_03	AEC16_VAL_01_N1	AEC16_VAL_01_S1	AEC16_VAL_01_E1	AEC16_VAL_01_W1
				Sampling date / time	09-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit		ES2326971-030	ES2326971-031	ES2326971-032	ES2326971-033	ES2326971-034
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued									
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	16SEP02_03	AEC16_VAL_01_N1	AEC16_VAL_01_S1	AEC16_VAL_01_E1	AEC16_VAL_01_W1
				Sampling date / time	09-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit		ES2326971-030	ES2326971-031	ES2326971-032	ES2326971-033	ES2326971-034
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
MM804: Faecal Coliforms & E.coli by MPN									
Faecal Coliforms	----	2	MPN/g		----	<2	<2	<2	<2
Escherichia coli	----	2	MPN/g		----	<2	<2	<2	<2
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		82.6	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		92.0	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		103	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		105	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		104	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		87.4	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		106	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		105	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		117	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		87.5	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		89.4	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		86.8	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC16_VAL_01_B1	16VAL01_01	16VAL01_02	16VAL01_03	16SEP01_01
			Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-035	ES2326971-036	ES2326971-037	ES2326971-038	ES2326971-039
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**11.9**	**12.0**	**10.6**	**11.3**	**10.1**
MM804: Faecal Coliforms & E.coli by MPN								
Faecal Coliforms	----	2	MPN/g	<2	<2	<2	<2	<2
Escherichia coli	----	2	MPN/g	<2	<2	<2	<2	<2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16SEP01_02	16SEP01_03	AEC16_VAL_02_N1	AEC16_VAL_02_S1	AEC16_VAL_02_E1
			Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-040	ES2326971-041	ES2326971-042	ES2326971-043	ES2326971-044
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**8.4**	**6.7**	**5.8**	**10.8**	**9.4**
MM804: Faecal Coliforms & E.coli by MPN								
Faecal Coliforms	----	2	MPN/g	<2	<2	<2	<2	<2
Escherichia coli	----	2	MPN/g	<2	<2	<2	<2	<2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC16_VAL_02_W1	AEC16_VAL_02_B1	16VAL02_01	16VAL02_02	16VAL03_01
			Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2326971-045	ES2326971-046	ES2326971-047	ES2326971-048	ES2326971-049
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**8.0**	**11.1**	**5.7**	**4.8**	**9.7**
MM804: Faecal Coliforms & E.coli by MPN								
Faecal Coliforms	----	2	MPN/g	<2	<2	<2	<2	<2
Escherichia coli	----	2	MPN/g	<2	<2	<2	<2	<2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	16SEP02_01	16SEP02_02	16SEP02_03	----	----
			Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2326971-050	ES2326971-051	ES2326971-052	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**7.6**	**6.3**	**10.3**	**----**	**----**
MM804: Faecal Coliforms & E.coli by MPN								
Faecal Coliforms	----	2	MPN/g	<2	<2	<2	**----**	**----**
Escherichia coli	----	2	MPN/g	<2	<2	<2	**----**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	AEC16_RS01	AEC16_RS02	----	----	----
				Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2326971-016	ES2326971-017	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	AEC16_RS01	AEC16_RS02	----	----	----
				Sampling date / time	09-Aug-2023 00:00	09-Aug-2023 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2326971-016	ES2326971-017	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	<2	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**24.9**	**27.6**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**45.5**	**58.4**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**35.1**	**52.6**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**55.4**	**68.4**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**65.0**	**65.4**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**81.0**	**80.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**88.1**	**119**	----	----	----
Toluene-D8	2037-26-5	2	%		**93.7**	**112**	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**87.4**	**109**	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	16VAL01_01 - 09-Aug-2023 00:00	Soil sample.
EA200: Description	16VAL01_02 - 09-Aug-2023 00:00	Soil sample.
EA200: Description	16VAL01_03 - 09-Aug-2023 00:00	Soil sample.
EA200: Description	16SEP01_01 - 09-Aug-2023 00:00	Soil sample.
EA200: Description	16SEP01_02 - 09-Aug-2023 00:00	Soil sample.
EA200: Description	16SEP01_03 - 09-Aug-2023 00:00	Soil sample.
EA200: Description	16VAL02_01 - 09-Aug-2023 00:00	Soil sample.
EA200: Description	16VAL02_02 - 09-Aug-2023 00:00	Soil sample.
EA200: Description	16VAL03_01 - 09-Aug-2023 00:00	Soil sample.
EA200: Description	16SEP02_01 - 09-Aug-2023 00:00	Soil sample.
EA200: Description	16SEP02_02 - 09-Aug-2023 00:00	Soil sample.
EA200: Description	16SEP02_03 - 09-Aug-2023 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	72	143
Toluene-D8	2037-26-5	75	131
4-Bromofluorobenzene	460-00-4	73	137

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2326971**		
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: JENNY SHAO	Contact	: Jason Dighton
Address	: LEVEL 13 Suite 1301, 80 Mount Street NORTH SYDNEY 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: jenny.shao@eprisk.com.au	E-mail	: jason.dighton@alsglobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: EP3244	Page	: 1 of 4
Order number	: ----	Quote number	: ES2023EPRISK0002 (ES23EPRISK0002 - ES PRIMARY WORK ONLY)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: Hayley Erskine, Naomi Madigan, Troy Chatman		

Dates

Date Samples Received	: 10-Aug-2023 15:50	Issue Date	: 14-Aug-2023
Client Requested Due Date	: 11-Aug-2023	Scheduled Reporting Date	: **11-Aug-2023**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Intact.
No. of coolers/boxes	: 3	Temperature	: 6.3'C, 6.9'C, 7.0'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 58 / 50

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **The sampling date listed on the COC is 09/08/23 & 10/08/23, however the jar was dated 24/7/23 for sample 18.**
- **The sampling date listed on the COC is 09/08/23 & 10/08/23, however the jar was dated 27/7/23 for sample 19.**
- **Samples 54-58 was received as extra.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - MM804 Thermotolerant Coliforms & E.coli by MPN	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES2326971-001	09-Aug-2023 00:00	AEC16_VAL_01_N1	✓				✓
ES2326971-002	09-Aug-2023 00:00	AEC16_VAL_01_S1	✓				✓
ES2326971-003	09-Aug-2023 00:00	AEC16_VAL_01_E1	✓				✓
ES2326971-004	09-Aug-2023 00:00	AEC16_VAL_01_W1	✓				✓
ES2326971-005	09-Aug-2023 00:00	AEC16_VAL_01_B1	✓				✓
ES2326971-006	09-Aug-2023 00:00	16VAL01_01	✓	✓		✓	
ES2326971-007	09-Aug-2023 00:00	16VAL01_02	✓	✓		✓	
ES2326971-008	09-Aug-2023 00:00	16VAL01_03	✓	✓		✓	
ES2326971-009	09-Aug-2023 00:00	16SEP01_01	✓	✓		✓	
ES2326971-010	09-Aug-2023 00:00	16SEP01_02	✓	✓		✓	
ES2326971-011	09-Aug-2023 00:00	16SEP01_03	✓	✓		✓	
ES2326971-012	09-Aug-2023 00:00	AEC16_VAL DUP01	✓				✓
ES2326971-013	09-Aug-2023 00:00	AEC16_VAL TRP01	✓				✓
ES2326971-014	09-Aug-2023 00:00	AEC16_VAL DUP02	✓				✓
ES2326971-015	09-Aug-2023 00:00	AEC16_VAL TRP02	✓				✓
ES2326971-020	09-Aug-2023 00:00	AEC16_VAL_02_N1	✓				✓
ES2326971-021	09-Aug-2023 00:00	AEC16_VAL_02_S1	✓				✓
ES2326971-022	09-Aug-2023 00:00	AEC16_VAL_02_E1	✓				✓
ES2326971-023	09-Aug-2023 00:00	AEC16_VAL_02_W1	✓				✓
ES2326971-024	09-Aug-2023 00:00	AEC16_VAL_02_B1	✓				✓
ES2326971-025	09-Aug-2023 00:00	16VAL02_01	✓	✓		✓	
ES2326971-026	09-Aug-2023 00:00	16VAL02_02	✓	✓		✓	
ES2326971-027	09-Aug-2023 00:00	16VAL03_01	✓	✓		✓	
ES2326971-028	09-Aug-2023 00:00	16SEP02_01	✓	✓		✓	
ES2326971-029	09-Aug-2023 00:00	16SEP02_02	✓	✓		✓	
ES2326971-030	09-Aug-2023 00:00	16SEP02_03	✓	✓		✓	
ES2326971-031	10-Aug-2023 00:00	AEC16_VAL_01_N1	✓		✓		
ES2326971-032	10-Aug-2023 00:00	AEC16_VAL_01_S1	✓		✓		
ES2326971-033	10-Aug-2023 00:00	AEC16_VAL_01_E1	✓		✓		
ES2326971-034	10-Aug-2023 00:00	AEC16_VAL_01_W1	✓		✓		
ES2326971-035	10-Aug-2023 00:00	AEC16_VAL_01_B1	✓		✓		
ES2326971-036	10-Aug-2023 00:00	16VAL01_01	✓		✓		
ES2326971-037	10-Aug-2023 00:00	16VAL01_02	✓		✓		
ES2326971-038	10-Aug-2023 00:00	16VAL01_03	✓		✓		
ES2326971-039	10-Aug-2023 00:00	16SEP01_01	✓		✓		

			SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - MM804 Thermotolerant Coliforms & E.coli by MPN	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES2326971-040	10-Aug-2023 00:00	16SEP01_02	✓		✓		
ES2326971-041	10-Aug-2023 00:00	16SEP01_03	✓		✓		
ES2326971-042	10-Aug-2023 00:00	AEC16_VAL_02_N1	✓		✓		
ES2326971-043	10-Aug-2023 00:00	AEC16_VAL_02_S1	✓		✓		
ES2326971-044	10-Aug-2023 00:00	AEC16_VAL_02_E1	✓		✓		
ES2326971-045	10-Aug-2023 00:00	AEC16_VAL_02_W1	✓		✓		
ES2326971-046	10-Aug-2023 00:00	AEC16_VAL_02_B1	✓		✓		
ES2326971-047	10-Aug-2023 00:00	16VAL02_01	✓		✓		
ES2326971-048	10-Aug-2023 00:00	16VAL02_02	✓		✓		
ES2326971-049	10-Aug-2023 00:00	16VAL03_01	✓		✓		
ES2326971-050	10-Aug-2023 00:00	16SEP02_01	✓		✓		
ES2326971-051	10-Aug-2023 00:00	16SEP02_02	✓		✓		
ES2326971-052	10-Aug-2023 00:00	16SEP02_03	✓		✓		

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) WATER No analysis requested	WATER - W-26T TRH/BTEXN/PAH/Total 8 Metals
ES2326971-016	09-Aug-2023 00:00	AEC16_RS01		✓
ES2326971-017	09-Aug-2023 00:00	AEC16_RS02		✓
ES2326971-054	09-Aug-2023 00:00	RB02	✓	
ES2326971-055	10-Aug-2023 00:00	AEC16_VAL DUP01	✓	
ES2326971-056	10-Aug-2023 00:00	AEC16_VAL TRP01	✓	
ES2326971-057	10-Aug-2023 00:00	AEC16_VAL DUP02	✓	
ES2326971-058	10-Aug-2023 00:00	AEC16_VAL TRP02	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accounts@eprisk.com.au

JENNY SHAO

- *AU Certificate of Analysis - NATA (COA)	Email	jenny.shao@eprisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jenny.shao@eprisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jenny.shao@eprisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jenny.shao@eprisk.com.au
- A4 - AU Tax Invoice (INV)	Email	jenny.shao@eprisk.com.au
- Chain of Custody (CoC) (COC)	Email	jenny.shao@eprisk.com.au
- EDI Format - ENMRG (ENMRG)	Email	jenny.shao@eprisk.com.au
- EDI Format - ESDAT (ESDAT)	Email	jenny.shao@eprisk.com.au

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

CHAIN OF CUSTODY

ALS Laboratory: please tick →

Sydney: 277 Woodpark Rd, Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com
Brisbane: 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
Melbourne: 24 Westall Rd, Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsenviro.com
Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com
Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsenviro.com
Adelaide: 21 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsenviro.com

CLIENT:	EP Risk Management Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date): 1 DAY
OFFICE:	Suite 13.01, 60 Mount Street, North Sydney		
PROJECT:	EP3244	ALS QUOTE NO.:	ES23EPRISK0002
ORDER NUMBER:		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	
PROJECT MANAGER:	Jenny Shao	CONTACT PH: 0433 006 111	
SAMPLER:	Hayley Erskine, Naomi Madigan, Troy Chatman	SAMPLER MOBILE: 0401855939	
COC emailed to ALS? (YES / NO)	Yes	EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au		

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Jenny Shao	[signature]		
DATE/TIME: 10/08/2023	DATE/TIME: 10/8/23 3:49	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).					Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-16: TRH, BTEX, PAH, OCP, OPP, PCB, metals	EA200G: Asbestos Presence/Absence (50g)	MM804 (E.Coli & thermo coliforms)	S-26: TRH (C6-C40) / BTEXN / PAH / 8 metals	HOLD	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc
1 31	AEC16_VAL_01_N1	9/08/2023 (S-26) 10/08/2023 (MM804 sample)	S	Glass jar & biological jar	2			X	X		
2 32	AEC16_VAL_01_S1	9/08/2023 (S-26) 10/08/2023 (MM804 sample)	S	Glass jar & biological jar	2			X	X		
3 33	AEC16_VAL_01_E1	9/08/2023 (S-26) 10/08/2023 (MM804 sample)	S	Glass jar & biological jar	2			X	X		
4 34	AEC16_VAL_01_W1	9/08/2023 (S-26) 10/08/2023 (MM804 sample)	S	Glass jar & biological jar	2			X	X		
5 35	AEC16_VAL_01_B1	9/08/2023 (S-26) 10/08/2023 (MM804 sample)	S	Glass jar & biological jar	2			X	X		
6 36	16VAL01_01	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
7 37	16VAL01_02	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
8 38	16VAL01_03	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
9 39	16SEP01_01	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
10 40	16SEP01_02	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
11 41	16SEP01_03	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
12	AEC16_VAL DUP01	9/08/2023	S	Glass jar	1				X		
13	AEC16_VAL TRP01	9/08/2023	S	Glass jar	1				X		
14	AEC16_VAL DUP02	9/08/2023	S	Glass jar	1				X		
15	AEC16_VAL TRP02	9/08/2023	S	Glass jar	1				X		
16	AEC16_RS01	9/08/2023	W	Bottles	4				X		
17	AEC16_RS02	10/08/2023	W	Bottles	4				X		
18	TRIP SPIKE	9/08/2023 & 10/08/2023	S	Glass jar	1				X		
19	TRIP BLANK	9/08/2023 & 10/08/2023	S	Glass jar	1				X		
20 42	AEC16_VAL_02_N1	9/08/2023 (S-26) 10/08/2023 (MM804 sample)	S	Glass jar & biological jar	2			X	X		
21 43	AEC16_VAL_02_S1	9/08/2023 (S-26) 10/08/2023 (MM804 sample)	S	Glass jar & biological jar	2			X	X		
22 44	AEC16_VAL_02_E1	9/08/2023 (S-26) 10/08/2023 (MM804 sample)	S	Glass jar & biological jar	2			X	X		
23 45	AEC16_VAL_02_W1	9/08/2023 (S-26) 10/08/2023 (MM804 sample)	S	Glass jar & biological jar	2		✓	X	X		
24 46	AEC16_VAL_02_B1	9/08/2023 (S-26) 10/08/2023 (MM804 sample)	S	Glass jar & biological jar	2			X	X		
25 47	16VAL02_01	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
26 48	16VAL02_02	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
27 49	16VAL03_01	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
28	16SEP02_01	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
29	16SEP02_02	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
30	16SEP02_03	9/08/2023 (S-16 & EA200G) 10/08/2023 (MM804 sample)	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
53	TSC										
54	RB02										
55	AEC16_VAL DUP01 10/8										
56	AEC16_VAL TRP01 10/8										
57	AEC16_VAL DUP02 10/8										
58	AEC16_VAL TRP02 10/8										
	TOTAL					12	8	8	8		

received as extra

TAT

Subcon / Forward Lab / Split WO

Lab / Analysis: Asbestos ALS Newcastle

Organised By / Date:

Relinquished By / Date:

Connote / Courier:

WO No: ES 232 6971

Attached By PO / Internal Sheet:

Environmental Division Sydney
Work Order Reference
ES2326971

Telephone : + 61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

CERTIFICATE OF ANALYSIS

Work Order	: **ES2325498**	Page	: 1 of 7
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: JENNY SHAO	Contact	: Jason Dighton
Address	: LEVEL 13 Suite 1301, 80 Mount Street NORTH SYDNEY 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP3244	Date Samples Received	: 31-Jul-2023 19:35
Order number	: ----	Date Analysis Commenced	: 01-Aug-2023
C-O-C number	: ----	Issue Date	: 04-Aug-2023 10:11
Sampler	: Zak Bursey		
Site	: ----		
Quote number	: ES23EPRISK0002 - ES PRIMARY WORK ONLY		
No. of samples received	: 10		
No. of samples analysed	: 10		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Somlok Chai	Microbiologist	Sydney Microbiology, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEXN only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC21_VAL_001	AEC21_VAL_002	AEC21_VAL_003	AEC21_VAL_004	AEC21_VAL_005
			Sampling date / time	31-Jul-2023 00:00	31-Jul-2023 00:00	31-Jul-2023 00:00	31-Jul-2023 00:00	31-Jul-2023 00:00
Compound	CAS Number	LOR	Unit	ES2325498-001	ES2325498-002	ES2325498-003	ES2325498-004	ES2325498-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**19.1**	**18.0**	**5.1**	**15.8**	**13.0**
MM804: Faecal Coliforms & E.coli by MPN								
Faecal Coliforms	----	2	MPN/g	**58**	<2	**6**	<2	<2
Escherichia coli	----	2	MPN/g	**27**	<2	**6**	<2	<2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC21_VAL_006	TRIP SPIKE	TRIP BLANK	TSC	----
			Sampling date / time	31-Jul-2023 00:00	24-Jul-2023 00:00	27-Jul-2023 00:00	24-Jul-2023 00:00	----
Compound	CAS Number	LOR	Unit	ES2325498-006	ES2325498-007	ES2325498-008	ES2325498-010	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**13.8**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	<10	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	<10	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	**6.5**	<0.5	**7.0**	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	**6.7**	<0.5	**6.9**	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	**7.2**	<0.5	**7.4**	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	**2.9**	<0.5	**3.0**	----
^ Total Xylenes	----	0.5	mg/kg	----	**10.1**	<0.5	**10.4**	----
^ Sum of BTEX	----	0.2	mg/kg	----	**23.3**	<0.2	**24.3**	----
Naphthalene	91-20-3	1	mg/kg	----	<1	<1	<1	----
MM804: Faecal Coliforms & E.coli by MPN								
Faecal Coliforms	----	2	MPN/g	<2	----	----	----	----
Escherichia coli	----	2	MPN/g	<2	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	**117**	**125**	**112**	----
Toluene-D8	2037-26-5	0.2	%	----	**94.9**	**96.7**	**98.7**	----
4-Bromofluorobenzene	460-00-4	0.2	%	----	**94.2**	**90.2**	**92.1**	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	AEC21_RB01	----	----	----	----
				Sampling date / time	31-Jul-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2325498-009	--------	--------	--------	--------
					Result	----	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	AEC21_RB01	----	----	----	----
				Sampling date / time	31-Jul-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2325498-009	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**23.3**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**44.2**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**46.9**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**60.4**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**71.8**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**68.2**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**101**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**102**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**110**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	72	143
Toluene-D8	2037-26-5	75	131
4-Bromofluorobenzene	460-00-4	73	137

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2325498**

Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: JENNY SHAO	Contact	: Jason Dighton
Address	: LEVEL 13 Suite 1301, 80 Mount Street NORTH SYDNEY 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: jenny.shao@eprisk.com.au	E-mail	: jason.dighton@alsglobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: EP3244	Page	: 1 of 3
Order number	: ----	Quote number	: ES2023EPRISK0002 (ES23EPRISK0002 - ES PRIMARY WORK ONLY)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: Zak Bursey		

Dates

Date Samples Received	: 31-Jul-2023 19:35	Issue Date	: 02-Aug-2023
Client Requested Due Date	: 07-Aug-2023	Scheduled Reporting Date	: **02-Aug-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 7.2'C, 8.3'C, 2.0'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 10 / 10

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **The final report will be completed by the scheduled reporting date listed in this SRN. A Preliminary report will be available on 02/08/23 with the exception of MW804 analysis**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP080 BTEXN	SOIL - MM804 Thermotolerant Coliforms & E.coli by MPN	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs
ES2325498-001	31-Jul-2023 00:00	AEC21_VAL_001	✓		✓	
ES2325498-002	31-Jul-2023 00:00	AEC21_VAL_002	✓		✓	
ES2325498-003	31-Jul-2023 00:00	AEC21_VAL_003	✓		✓	
ES2325498-004	31-Jul-2023 00:00	AEC21_VAL_004	✓		✓	
ES2325498-005	31-Jul-2023 00:00	AEC21_VAL_005	✓		✓	
ES2325498-006	31-Jul-2023 00:00	AEC21_VAL_006	✓		✓	
ES2325498-007	24-Jul-2023 00:00	TRIP SPIKE		✓		
ES2325498-008	27-Jul-2023 00:00	TRIP BLANK				✓
ES2325498-010	24-Jul-2023 00:00	TSC		✓		

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - W-26T TRH/BTEXN/PAH/Total 8 Metals
ES2325498-009	31-Jul-2023 00:00	AEC21_RB01	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accounts@eprisk.com.au

JENNY SHAO

- *AU Certificate of Analysis - NATA (COA)	Email	jenny.shao@eprisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jenny.shao@eprisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jenny.shao@eprisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jenny.shao@eprisk.com.au
- A4 - AU Tax Invoice (INV)	Email	jenny.shao@eprisk.com.au
- Chain of Custody (CoC) (COC)	Email	jenny.shao@eprisk.com.au
- EDI Format - ENMRG (ENMRG)	Email	jenny.shao@eprisk.com.au
- EDI Format - ESDAT (ESDAT)	Email	jenny.shao@eprisk.com.au

Zak Bursey

- *AU Certificate of Analysis - NATA (COA)	Email	zak.bursey@eprisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	zak.bursey@eprisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	zak.bursey@eprisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	zak.bursey@eprisk.com.au
- Chain of Custody (CoC) (COC)	Email	zak.bursey@eprisk.com.au
- EDI Format - ENMRG (ENMRG)	Email	zak.bursey@eprisk.com.au
- EDI Format - ESDAT (ESDAT)	Email	zak.bursey@eprisk.com.au

CHAIN OF CUSTODY

ALS Laboratory: please tick →

Sydney 277 Woodpark Rd, Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com

Brisbane 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com

Melbourne 2-4 Westall Rd, Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsenviro.com

Newcastle 5 Rosegum Rd, Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com

Townsville 14-15 Desma Ct, Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsenviro.com

Adelaide 21 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsenviro.com

CLIENT:	EP Risk Management Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): 5 day TAT	FOR LABORATORY USE ONLY (Circle)	
OFFICE:	Suite 13.01, 80 Mount Street, North Sydney		☐ Non Standard or urgent TAT (List due date): 1 DAY	Custody Seal Intact?	Yes / No / N/A
PROJECT:	EP3244	ALS QUOTE NO.: ES23EPRISK0002	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER:			COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER:	Jenny Shao	CONTACT PH: 0433 006 111	OF: 1 2 3 4 5 6 7	Other comment:	
SAMPLER:	Zak Bursey	SAMPLER MOBILE: 0426 735 535	RELINQUISHED BY: Zak Bursey	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	Yes	EDD FORMAT (or default):	DATE/TIME: 31.07.23	DATE/TIME: 1/8/23 9:30	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au & zak.bursey@eprisk.com.au				
Email Invoice to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au				

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS (MATRIX: Solid(S) Water(W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) (Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required))					Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-16: TRH, BTEX, PAH, OCP, OPP, PCB, metals	EA200G: Asbestos Presence/Absence (50g)	MM804 (E.Coli & thermo coliforms)	S- 26: TRH (C6-C40) / BTEXN / PAH / 8 metals	HOLD	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analyses etc.
1	AEC21_VAL_001	31/07/2023	S	biological jar	1			X			
2	AEC21_VAL_002	31/07/2023	S	biological jar	1			X			
3	AEC21_VAL_003	31/07/2023	S	biological jar	1			X			
4	AEC21_VAL_004	31/07/2023	S	biological jar	1			X			
5	AEC21_VAL_005	31/07/2023	S	biological jar	1			X			
6	AEC21_VAL_006	31/07/2023	S	biological jar	1			X			
7	TRIP SPIKE	31/07/2023	S	glass jar	1				X		
8	TRIP BLANK	31/07/2023	S	glass jar	1				X		
9	AEC21_RB01	31/07/2023	W	Bottles					X		Could we change lable to AEC21_RS for t
10	TSC										
					TOTAL	0	0	6	3		

Environmental Division
Sydney
Work Order Reference
ES2325498

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **ES2327164**	Page	: 1 of 15
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: JENNY SHAO	Contact	: Jason Dighton
Address	: LEVEL 13 Suite 1301, 80 Mount Street NORTH SYDNEY 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP3244	Date Samples Received	: 11-Aug-2023 16:41
Order number	: ----	Date Analysis Commenced	: 11-Aug-2023
C-O-C number	: ----	Issue Date	: 17-Aug-2023 18:34
Sampler	: Naomi Madigan, TROY CHATMAN		
Site	: ----		
Quote number	: ES23EPRISK0002 - ES PRIMARY WORK ONLY		
No. of samples received	: 17		
No. of samples analysed	: 15		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Alex Rossi	Organic Chemist	Sydney Inorganics, Smithfield, NSW
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Rassem Ayoubi	Senior Organic Chemist	Sydney Organics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW
Somlok Chai	Microbiologist	Sydney Microbiology, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- Microbiological comment: Sample #6 was received and analysis conducted outside holding times when it was received in the microbiology laboratory. It may be informative to record this fact
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC22_SEP01_01	AEC22_SEP01_02	AEC22_SEP01_03	AEC22_SEP02_01	AEC22_SEP02_02
			Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2327164-001	ES2327164-002	ES2327164-003	ES2327164-004	ES2327164-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.8	5.2	21.4	29.4	40.9
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	Yes
Asbestos (Trace)	1332-21-4	-	-	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	Ch
Synthetic Mineral Fibre	----	-	--	No	No	No	No	No
Organic Fibre	----	-	--	No	No	No	No	No
Sample weight (dry)	----	0.01	g	660	614	688	483	438
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	8	7	8	13	10
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	16	21	20	33	38
Copper	7440-50-8	5	mg/kg	38	84	54	219	200
Lead	7439-92-1	5	mg/kg	17	30	32	106	84
Nickel	7440-02-0	2	mg/kg	16	25	19	27	31
Zinc	7440-66-6	5	mg/kg	73	162	117	319	487
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC22_SEP01_01	AEC22_SEP01_02	AEC22_SEP01_03	AEC22_SEP02_01	AEC22_SEP02_02
			Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2327164-001	ES2327164-002	ES2327164-003	ES2327164-004	ES2327164-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	**180**	**1060**
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	**200**	**2720**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	**380**	**3780**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	**280**	**2550**
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	**140**	**1620**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	**420**	**4170**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
MM804: Faecal Coliforms & E.coli by MPN								
Faecal Coliforms	----	2	MPN/g	**2**	**2**	**2**	<2	<2
Escherichia coli	----	2	MPN/g	**2**	**2**	**2**	<2	<2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC22_SEP01_01	AEC22_SEP01_02	AEC22_SEP01_03	AEC22_SEP02_01	AEC22_SEP02_02
				Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit		ES2327164-001	ES2327164-002	ES2327164-003	ES2327164-004	ES2327164-005
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		83.6	84.1	85.0	87.8	91.0
2-Chlorophenol-D4	93951-73-6	0.5	%		87.5	88.5	89.7	89.6	91.2
2.4.6-Tribromophenol	118-79-6	0.5	%		83.6	68.2	82.0	94.8	98.8
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		90.1	88.5	90.2	94.0	95.1
Anthracene-d10	1719-06-8	0.5	%		95.7	95.3	96.2	97.6	95.2
4-Terphenyl-d14	1718-51-0	0.5	%		101	99.5	98.4	102	101
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		79.6	86.8	77.3	85.3	82.5
Toluene-D8	2037-26-5	0.2	%		94.6	104	90.1	99.0	103
4-Bromofluorobenzene	460-00-4	0.2	%		102	107	101	102	104

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC22_SEP02_03	AEC22_VAL01_01	AEC22_VAL01_02	AEC22_VAL01_03	AEC22_VAL_B1
			Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	ES2327164-006	ES2327164-007	ES2327164-008	ES2327164-009	ES2327164-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	21.2	9.8	10.0	9.4	14.0
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	----
Asbestos (Trace)	1332-21-4	-	-	No	No	No	No	----
Asbestos Type	1332-21-4	-	--	-	-	-	-	----
Synthetic Mineral Fibre	----	-	--	No	No	No	No	----
Organic Fibre	----	-	--	No	No	No	No	----
Sample weight (dry)	----	0.01	g	502	623	577	637	----
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	11	8	9	8	7
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	27	17	14	18	17
Copper	7440-50-8	5	mg/kg	208	42	39	38	36
Lead	7439-92-1	5	mg/kg	82	21	18	23	16
Nickel	7440-02-0	2	mg/kg	19	20	20	15	15
Zinc	7440-66-6	5	mg/kg	367	86	82	77	65
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC22_SEP02_03	AEC22_VAL01_01	AEC22_VAL01_02	AEC22_VAL01_03	AEC22_VAL_B1
				Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit		ES2327164-006	ES2327164-007	ES2327164-008	ES2327164-009	ES2327164-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**200**	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		**240**	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**440**	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		**310**	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		**180**	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**490**	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
MM804: Faecal Coliforms & E.coli by MPN									
Faecal Coliforms	----	2	MPN/g		<2	<2	<2	<2	<2
Escherichia coli	----	2	MPN/g		<2	<2	<2	<2	<2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC22_SEP02_03	AEC22_VAL01_01	AEC22_VAL01_02	AEC22_VAL01_03	AEC22_VAL_B1
				Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00
Compound	CAS Number	LOR	Unit		ES2327164-006	ES2327164-007	ES2327164-008	ES2327164-009	ES2327164-010
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**85.4**	**88.4**	**85.3**	**85.9**	**86.6**
2-Chlorophenol-D4	93951-73-6	0.5	%		**90.0**	**89.3**	**86.2**	**87.7**	**90.6**
2.4.6-Tribromophenol	118-79-6	0.5	%		**96.8**	**92.5**	**79.9**	**78.3**	**86.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**93.1**	**94.1**	**91.4**	**91.9**	**90.2**
Anthracene-d10	1719-06-8	0.5	%		**97.2**	**101**	**100**	**100**	**97.8**
4-Terphenyl-d14	1718-51-0	0.5	%		**102**	**105**	**102**	**102**	**100**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**80.0**	**86.7**	**80.4**	**83.7**	**79.8**
Toluene-D8	2037-26-5	0.2	%		**93.6**	**103**	**93.5**	**100**	**95.6**
4-Bromofluorobenzene	460-00-4	0.2	%		**95.9**	**106**	**102**	**105**	**102**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC22_VAL_N1	AEC22_VAL_S1	AEC22_VAL_E1	AEC22_VAL_W1	----
			Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	----
Compound	CAS Number	LOR	Unit	ES2327164-011	ES2327164-012	ES2327164-013	ES2327164-014	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**8.1**	**7.9**	**7.6**	**20.0**	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**10**	**6**	**7**	**7**	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	**15**	**15**	**14**	**16**	----
Copper	7440-50-8	5	mg/kg	**49**	**46**	**44**	**46**	----
Lead	7439-92-1	5	mg/kg	**16**	**19**	**19**	**22**	----
Nickel	7440-02-0	2	mg/kg	**29**	**30**	**22**	**22**	----
Zinc	7440-66-6	5	mg/kg	**90**	**80**	**75**	**80**	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC22_VAL_N1	AEC22_VAL_S1	AEC22_VAL_E1	AEC22_VAL_W1	----
			Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	----
Compound	CAS Number	LOR	Unit	ES2327164-011	ES2327164-012	ES2327164-013	ES2327164-014	--------
				Result	Result	Result	Result	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	----
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	----
MM804: Faecal Coliforms & E.coli by MPN								
Faecal Coliforms	----	2	MPN/g	<2	<2	<2	<2	----
Escherichia coli	----	2	MPN/g	<2	<2	<2	<2	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**87.6**	**88.1**	**84.1**	**85.3**	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**80.6**	**91.5**	**87.0**	**90.4**	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**83.0**	**80.1**	**78.4**	**85.2**	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**92.5**	**90.6**	**91.1**	**94.1**	----
Anthracene-d10	1719-06-8	0.5	%	**101**	**98.7**	**98.7**	**102**	----
4-Terphenyl-d14	1718-51-0	0.5	%	**102**	**99.3**	**99.2**	**102**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC22_VAL_N1	AEC22_VAL_S1	AEC22_VAL_E1	AEC22_VAL_W1	----
				Sampling date / time	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	10-Aug-2023 00:00	----
Compound	CAS Number	LOR	Unit		ES2327164-011	ES2327164-012	ES2327164-013	ES2327164-014	--------
					Result	Result	Result	Result	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**83.0**	**87.7**	**91.6**	**82.3**	**----**
Toluene-D8	2037-26-5	0.2	%		**97.3**	**103**	**104**	**98.0**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%		**103**	**110**	**111**	**103**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	AEC22_RS	----	----	----	----
				Sampling date / time	10-Aug-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2327164-017	--------	--------	--------	--------
					Result	----	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	AEC22_RS	----	----	----	----
				Sampling date / time	10-Aug-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2327164-017	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**30.3**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**64.7**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**64.8**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**75.0**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**86.2**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**84.5**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**97.9**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**81.7**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**74.7**	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	AEC22_SEP01_01 - 10-Aug-2023 00:00	Soil sample.
EA200: Description	AEC22_SEP01_02 - 10-Aug-2023 00:00	Soil sample.
EA200: Description	AEC22_SEP01_03 - 10-Aug-2023 00:00	Soil sample.
EA200: Description	AEC22_SEP02_01 - 10-Aug-2023 00:00	Soil sample.
EA200: Description	AEC22_SEP02_02 - 10-Aug-2023 00:00	Soil sample containing one piece of asbestos cement sheeting approximately 25x20x5mm, weighing 3.06g.
EA200: Description	AEC22_SEP02_03 - 10-Aug-2023 00:00	Soil sample.
EA200: Description	AEC22_VAL01_01 - 10-Aug-2023 00:00	Soil sample.
EA200: Description	AEC22_VAL01_02 - 10-Aug-2023 00:00	Soil sample.
EA200: Description	AEC22_VAL01_03 - 10-Aug-2023 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	72	143
Toluene-D8	2037-26-5	75	131
4-Bromofluorobenzene	460-00-4	73	137

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2327164**

Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: JENNY SHAO	Contact	: Jason Dighton
Address	: LEVEL 13 Suite 1301, 80 Mount Street NORTH SYDNEY 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: jenny.shao@eprisk.com.au	E-mail	: jason.dighton@alsglobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: EP3244	Page	: 1 of 3
Order number	: ----	Quote number	: ES2023EPRISK0002 (ES23EPRISK0002 - ES PRIMARY WORK ONLY)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: Naomi Madigan, TROY CHATMAN		

Dates

Date Samples Received	: 11-Aug-2023 16:41	Issue Date	: 11-Aug-2023
Client Requested Due Date	: 16-Aug-2023	Scheduled Reporting Date	: **14-Aug-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 1.2, 0.7, 1.3'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 17 / 15

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please note that the scheduled reporting date has not been confirmed with laboratory management due to the late arrival of the samples. If the scheduled reporting date is not achievable ALS will be in contact with you.
- **The final report will be completed by the scheduled reporting date listed in this SRN. A Preliminary report will be available on 14/08/2023 with the exception of MM804 analysis**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - MM804 Thermotolerant Coliforms & E.coli by MPN	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES2327164-001	10-Aug-2023 00:00	AEC22_SEP01_01		✓	✓	✓	✓
ES2327164-002	10-Aug-2023 00:00	AEC22_SEP01_02		✓	✓	✓	✓
ES2327164-003	10-Aug-2023 00:00	AEC22_SEP01_03		✓	✓	✓	✓
ES2327164-004	10-Aug-2023 00:00	AEC22_SEP02_01		✓	✓	✓	✓
ES2327164-005	10-Aug-2023 00:00	AEC22_SEP02_02		✓	✓	✓	✓
ES2327164-006	10-Aug-2023 00:00	AEC22_SEP02_03		✓	✓	✓	✓
ES2327164-007	10-Aug-2023 00:00	AEC22_VAL01_01		✓	✓	✓	✓
ES2327164-008	10-Aug-2023 00:00	AEC22_VAL01_02		✓	✓	✓	✓
ES2327164-009	10-Aug-2023 00:00	AEC22_VAL01_03		✓	✓	✓	✓
ES2327164-010	10-Aug-2023 00:00	AEC22_VAL_B1		✓		✓	✓
ES2327164-011	10-Aug-2023 00:00	AEC22_VAL_N1		✓		✓	✓
ES2327164-012	10-Aug-2023 00:00	AEC22_VAL_S1		✓		✓	✓
ES2327164-013	10-Aug-2023 00:00	AEC22_VAL_E1		✓		✓	✓
ES2327164-014	10-Aug-2023 00:00	AEC22_VAL_W1		✓		✓	✓
ES2327164-015	10-Aug-2023 00:00	AEC22_VAL_DUP01	✓				
ES2327164-016	10-Aug-2023 00:00	AEC22_VAL_TRP01	✓				

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - W-26T TRH/BTEXN/PAH/Total 8 Metals
ES2327164-017	10-Aug-2023 00:00	AEC22_RS	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accounts@eprisk.com.au

JENNY SHAO

- *AU Certificate of Analysis - NATA (COA)	Email	jenny.shao@eprisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jenny.shao@eprisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jenny.shao@eprisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jenny.shao@eprisk.com.au
- A4 - AU Tax Invoice (INV)	Email	jenny.shao@eprisk.com.au
- Chain of Custody (CoC) (COC)	Email	jenny.shao@eprisk.com.au
- EDI Format - ENMRG (ENMRG)	Email	jenny.shao@eprisk.com.au
- EDI Format - ESDAT (ESDAT)	Email	jenny.shao@eprisk.com.au

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

CHAIN OF CUSTODY

ALS Laboratory: please tick →

Sydney 277 Woodpark Rd, Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

Brisbane 32 Shand St, Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

Melbourne 2-4 Westall Rd, Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com

Newcastle 5 Rosegum Rd, Warabrook NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

Townsville 14-15 Desma Cl, Bohle QLD 4818 Ph: 07 4796 0600 E: samples.townsville@alsglobal.com

Adelaide 21 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E: samples.adelaide@alsglobal.com

CLIENT:	EP Risk Management Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE:	Suite 13.01, 80 Mount Street, North Sydney		☐ Non Standard or urgent TAT (List due date): 1 DAY	Custody Seal Intact?	Yes No N/A
PROJECT:	EP3244	ALS QUOTE NO.: ES23EPRISK0002	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER:			COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER:	Jenny Shao	CONTACT PH: 0433 006 111	OF: 1 2 3 4 5 6 7	Other comment:	
SAMPLER:	Neomi Madigan, Troy Chatman	SAMPLER MOBILE: 0401855939	RELINQUISHED BY: Jenny Shao	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	Yes	EDD FORMAT (or default):	DATE/TIME: 11/08/2023	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au				RECEIVED BY: DATE/TIME: 11/8/23 1641
Email Invoice to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au				

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB: Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required):						Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-16: TRH, BTEX, PAH, OCP, OPP, PCB, metals	EA200 (500g)	MM804 (E.Coli & thermo coliforms)	S-26: TRH (C6-C40) / BTEXN / PAH / 8 metals	HOLD	EA200C: Asbestos Presence/Absence (50g)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	AEC22_SEP01_01	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		X	X	X			
2	AEC22_SEP01_02	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		X	X	X			
3	AEC22_SEP01_03	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		X	X	X			
4	AEC22_SEP02_01	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		X	X	X			
5	AEC22_SEP02_02	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		X	X	X			
6	AEC22_SEP02_03	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		X	X	X			
7	AEC22_VAL01_01	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		X	X	X			
8	AEC22_VAL01_02	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		X	X	X			
9	AEC22_VAL01_03	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		X	X	X			
10	AEC22_VAL_B1	11/08/2023	S	Glass jar & biological jar	2			X	X			
11	AEC22_VAL_N1	11/08/2023	S	Glass jar & biological jar	2			X	X			
12	AEC22_VAL_S1	11/08/2023	S	Glass jar & biological jar	2			X	X			
13	AEC22_VAL_E1	11/08/2023	S	Glass jar & biological jar	2			X	X			
14	AEC22_VAL_W1	11/08/2023	S	Glass jar & biological jar	2			X	X			
15	AEC22_VAL_DUP01	11/08/2023	S	Glass jar & biological jar						X		
16	AEC22_VAL_TRP01	11/08/2023	S	Glass jar & biological jar						X		
17	AEC22_RS	11/08/2023	W		4				X			
				TOTAL		0	9	14	15			

TAT

URGENT

Environmental Division
Sydney
Work Order Reference
ES2327164

Telephone : +61-2-8784 8555

Subcon / Forward Lab / Split WO:
Lab / Analysis: Newcastle - Asbestos
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attached By PO / Internal Sheet:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

EP Risk Management (NSW)
80 Mount Street,
North Sydney
NSW 2060

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Jenny Shao**

Report **1018996-S**
Project name
Project ID EP3244
Received Date Aug 22, 2023

Client Sample ID			**AEC22_VAL_TRP01**
Sample Matrix			**Soil**
Eurofins Sample No.			**S23-Au0054220**
Date Sampled			**Aug 11, 2023**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	22
TRH C15-C28	50	mg/kg	67
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	89
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	INT
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5

Client Sample ID			AEC22_VAL_TRP01
Sample Matrix			**Soil**
Eurofins Sample No.			**S23-Au0054220**
Date Sampled			**Aug 11, 2023**
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Chrysene	0.5	mg/kg	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5
Pyrene	0.5	mg/kg	< 0.5
Total PAH*	0.5	mg/kg	< 0.5
2-Fluorobiphenyl (surr.)	1	%	96
p-Terphenyl-d14 (surr.)	1	%	101
Heavy Metals			
Arsenic	2	mg/kg	9.8
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	14
Copper	5	mg/kg	40
Lead	5	mg/kg	18
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	25
Zinc	5	mg/kg	81
Sample Properties			
% Moisture	1	%	8.8

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Aug 22, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Aug 22, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Aug 22, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Aug 22, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Sydney	Aug 22, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Aug 22, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Aug 22, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**µg/L:** micrograms per litre
ppm: parts per million	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	75			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	86			70-130	Pass	
TRH C6-C10	%	77			70-130	Pass	
TRH >C10-C16	%	85			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	100			70-130	Pass	
Toluene	%	91			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	89			70-130	Pass	
o-Xylene	%	90			70-130	Pass	
Xylenes - Total*	%	90			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	108			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	110			70-130	Pass	
Acenaphthylene	%	110			70-130	Pass	
Anthracene	%	114			70-130	Pass	
Benz(a)anthracene	%	115			70-130	Pass	
Benzo(a)pyrene	%	117			70-130	Pass	
Benzo(b&j)fluoranthene	%	113			70-130	Pass	
Benzo(g.h.i)perylene	%	120			70-130	Pass	
Benzo(k)fluoranthene	%	108			70-130	Pass	
Chrysene	%	112			70-130	Pass	
Dibenz(a.h)anthracene	%	118			70-130	Pass	
Fluoranthene	%	121			70-130	Pass	
Fluorene	%	115			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	121			70-130	Pass	
Naphthalene	%	111			70-130	Pass	
Phenanthrene	%	116			70-130	Pass	
Pyrene	%	124			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	102			80-120	Pass	
Cadmium	%	101			80-120	Pass	
Chromium	%	105			80-120	Pass	
Copper	%	106			80-120	Pass	
Lead	%	115			80-120	Pass	
Mercury	%	107			80-120	Pass	
Nickel	%	107			80-120	Pass	
Zinc	%	105			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	S23-Au0052396	NCP	%	89			70-130	Pass	
TRH >C10-C16	S23-Au0052396	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S23-Au0051505	NCP	%	93			70-130	Pass	
Acenaphthylene	S23-Au0051505	NCP	%	92			70-130	Pass	
Anthracene	S23-Au0051505	NCP	%	95			70-130	Pass	
Benz(a)anthracene	S23-Au0051505	NCP	%	95			70-130	Pass	
Benzo(a)pyrene	S23-Au0051505	NCP	%	96			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	S23-Au0051505	NCP	%	87			70-130	Pass	
Benzo(g.h.i)perylene	S23-Au0051505	NCP	%	84			70-130	Pass	
Benzo(k)fluoranthene	S23-Au0051505	NCP	%	98			70-130	Pass	
Chrysene	S23-Au0051505	NCP	%	94			70-130	Pass	
Dibenz(a.h)anthracene	S23-Au0051505	NCP	%	87			70-130	Pass	
Fluoranthene	S23-Au0051505	NCP	%	108			70-130	Pass	
Fluorene	S23-Au0051505	NCP	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S23-Au0051505	NCP	%	88			70-130	Pass	
Naphthalene	S23-Au0051505	NCP	%	97			70-130	Pass	
Phenanthrene	S23-Au0051505	NCP	%	94			70-130	Pass	
Pyrene	S23-Au0051505	NCP	%	111			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S23-Au0055174	NCP	%	96			75-125	Pass	
Cadmium	S23-Au0055174	NCP	%	95			75-125	Pass	
Chromium	S23-Au0055174	NCP	%	97			75-125	Pass	
Copper	S23-Au0055174	NCP	%	96			75-125	Pass	
Lead	S23-Au0055174	NCP	%	109			75-125	Pass	
Mercury	S23-Au0055174	NCP	%	99			75-125	Pass	
Nickel	S23-Au0055174	NCP	%	98			75-125	Pass	
Zinc	S23-Au0055174	NCP	%	83			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S23-Au0054553	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S23-Au0032169	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S23-Au0032169	NCP	mg/kg	76	77	1.7	30%	Pass	
TRH C29-C36	S23-Au0032169	NCP	mg/kg	100	110	2.9	30%	Pass	
TRH C6-C10	S23-Au0054553	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S23-Au0032169	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S23-Au0032169	NCP	mg/kg	160	170	2.6	30%	Pass	
TRH >C34-C40	S23-Au0032169	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S23-Au0054553	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S23-Au0054553	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S23-Au0054553	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S23-Au0054553	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S23-Au0054553	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S23-Au0054553	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S23-Au0054553	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Dibenz(a.h)anthracene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S23-Au0054475	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Au0055173	NCP	mg/kg	8.4	9.8	15	30%	Pass	
Cadmium	S23-Au0055173	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S23-Au0055173	NCP	mg/kg	13	14	11	30%	Pass	
Copper	S23-Au0055173	NCP	mg/kg	12	13	5.8	30%	Pass	
Lead	S23-Au0055173	NCP	mg/kg	18	19	2.6	30%	Pass	
Mercury	S23-Au0055173	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S23-Au0055173	NCP	mg/kg	< 5	5.4	32	30%	Fail	Q15
Zinc	S23-Au0055173	NCP	mg/kg	33	41	19	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-Au0054245	NCP	%	45	41	8.4	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Bonnie Pu	Analytical Services Manager
Mickael Ros	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY

ALS Laboratory: please tick →

Sydney / Melbourne

CLIENT:	EP Risk Management Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date). 1 DAY
OFFICE:	Suite 13.01, 80 Mount Street, North Sydney		
PROJECT:	EP3244	ALS QUOTE NO.:	
ORDER NUMBER:		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	
PROJECT MANAGER:	Jenny Shao	CONTACT PH: 0433 006 111	
SAMPLER:	Naomi Madigan, Troy Chatman	SAMPLER MOBILE: 0401855939	
COC emailed to ALS? (YES / NO)	Yes	EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au		

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	No	N/A
Free ice / frozen ice bricks present upon receipt?	No	N/A
Random Sample Temperature on Receipt	C	
Other comment:		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Jenny Shao	Forensure		
DATE/TIME:	DATE/TIME: 12/8 1:55	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).						Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-16: TRH, BTEX, PAH, OCP, OPP, PCB, metals	EA200 (500g)	MM80 (Specials) thermo coliforms)	S_26: TRH (C6-C40) / BTEXN / PAH / 8 metals	HOLD	EA200G: Asbestos Presence/Absence (50g)	
	AEC22_SEP01_01	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		x	x	x			
	AEC22_SEP01_02	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		x	x	x			
	AEC22_SEP01_03	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		x	x	x			
	AEC22_SEP02_01	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		x	x	x			
	AEC22_SEP02_02	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		x	x	x			
	AEC22_SEP02_03	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		x	x	x			
	AEC22_VAL01_01	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		x	x	x			
	AEC22_VAL01_02	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		x	x	x			
	AEC22_VAL01_03	10/08/2023	S	Glass jar, asbestos bag & biological jar	2		x	x	x			
	AEC22_VAL_B1	11/08/2023	S	Glass jar & biological jar	2			x	x			
	AEC22_VAL_N1	11/08/2023	S	Glass jar & biological jar	2			x	x			
	AEC22_VAL_S1	11/08/2023	S	Glass jar & biological jar	2			x	x			
	AEC22_VAL_E1	11/08/2023	S	Glass jar & biological jar	2			x	x			
	AEC22_VAL_W1	11/08/2023	S	Glass jar & biological jar	2			x	x			
	AEC22_VAL_DUP01	11/08/2023	S	Glass jar & biological jar					x			
	AEC22_VAL_TRP01	11/08/2023	S	Glass jar & biological jar					x			Please forward to Eurofins
	AEC22_RS	11/08/2023	W		4				x			
				TOTAL		0	9	14	15			

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass.
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Report # 1018996

Fadi Soro

From: Jason Dighton
Sent: Tuesday, 22 August 2023 11:00 AM
To: Samples Sydney
Cc: Jack Clifton
Subject: ES2327164 | Triplicate
Attachments: Copy of Copy of ALS CoC EP3244 (AEC22) v0.2 TC.xlsx

1136
S1108
#16
Soil SV
PFAS SV

Good Morning Team,

Would we be able to confirm sample 016 was forwarded to Eurofins?

Best regards,

Jason Dighton
Client Services Officer, Environmental
Sydney, NSW

O: +61 2 8784 8555
D: +61 2 8784 8509
Jason.Dighton@alsglobal.com
277-289 Woodpark Road
Smithfield NSW 2164 AUSTRALIA

alsglobal.com



From: Troy Chatman <troy.chatman@eprisk.com.au>
Sent: Tuesday, 22 August 2023 8:54 AM
To: Jason Dighton <jason.dighton@ALSGlobal.com>
Cc: Jenny Shao <jenny.shao@eprisk.com.au>
Subject: [EXTERNAL] - FW: COC update

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Good morning Jason,

Not sure if we received the results for the duplicate. And Just double checking this was forward to Eurofins?

Regards

Troy Chatman
Environmental Scientist
SafeWork NSW Licensed Asbestos Assessor
M 0402 226 226 | **E** troy.chatman@eprisk.com.au

EP Risk Management Pty Ltd | **ABN** 81147147591
Suite 13.01, 80 Mount Street | North Sydney NSW 2060
T +61 2 9922 5021 | W eprisk.com.au

EP RISK | NEWCASTLE SYDNEY MELBOURNE

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From: Troy Chatman
Sent: Monday, August 14, 2023 3:28 PM
To: Jason Dighton <jason.dighton@ALSGlobal.com>

Cc: ALSEnviro.Sydney@ALSGlobal.com; Jenny Shao <jenny.shao@eprisk.com.au>
Subject: COC update

Afternoon Jason,

I have updated the COC sent on Friday. Can you please analyse the Duplicate sample and forward the Triplicate sample to Eurofins.

Cheers

Troy Chatman
Environmental Scientist
SafeWork NSW Licensed Asbestos Assessor
M 0402 226 226 | **E** troy.chatman@eprisk.com.au

EP Risk Management Pty Ltd | **ABN** 81147147591
Suite 13.01, 80 Mount Street | North Sydney NSW 2060
T +61 2 9922 5021 | **W** eprisk.com.au

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eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West NSW 2304
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	Tel: +61 2 4968 8448
Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	NATA# 1261
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	Site# 25079 & 25289
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	

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Auckland 1061	Christchurch 7675	Tauranga 3112
Tel: +64 9 526 4551	Tel: +64 3 343 5201	Tel: +64 9 525 0568
IANZ# 1327	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name:	EP Risk Management (NSW)
Contact name:	Jenny Shao
Project name:	Not provided
Project ID:	EP3244
Turnaround time:	1 Day
Date/Time received	Aug 22, 2023 1:55 PM
Eurofins reference	1018996

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Bonnie Pu on phone : or by email: BonniePu@eurofins.com

Results will be delivered electronically via email to Jenny Shao - jenny.shao@eprisk.com.au.

Note: A copy of these results will also be delivered to the general EP Risk Management (NSW) email address.

CERTIFICATE OF ANALYSIS

Work Order	: **ES2324984**	Page	: 1 of 15
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: EMMA STRONG	Contact	: Jason Dighton
Address	: UNIT 22/1 RICKETTS ROAD MOUNT WAVERLEY VIC 3149	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP3244	Date Samples Received	: 26-Jul-2023 17:30
Order number	: ----	Date Analysis Commenced	: 27-Jul-2023
C-O-C number	: ----	Issue Date	: 31-Jul-2023 18:40
Sampler	: SALLY KENNEDY		
Site	: ----		
Quote number	: EM23EPRISK0002		
No. of samples received	: 16		
No. of samples analysed	: 13		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Somlok Chai	Microbiologist	Sydney Microbiology, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEXN only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC39_VAL_N1	AEC39_VAL_DUP01	AEC39_VAL_TRP01	AEC39_VAL_S1	AEC39_VAL_E1
			Sampling date / time	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00
Compound	CAS Number	LOR	Unit	ES2324984-001	ES2324984-002	ES2324984-003	ES2324984-004	ES2324984-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	11.7	8.0	7.9	10.1	11.8
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	No	No
Asbestos (Trace)	1332-21-4	-	-	No	----	----	No	No
Asbestos Type	1332-21-4	-	--	-	----	----	-	-
Synthetic Mineral Fibre	----	-	--	No	----	----	No	No
Organic Fibre	----	-	--	No	----	----	No	No
Sample weight (dry)	----	0.01	g	294	----	----	104	199
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	----	----	A. SMYLIE	A. SMYLIE
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	10	9	<5	7
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	8	11	16	7	22
Copper	7440-50-8	5	mg/kg	19	19	28	18	36
Lead	7439-92-1	5	mg/kg	19	11	13	12	16
Nickel	7440-02-0	2	mg/kg	7	8	11	6	26
Zinc	7440-66-6	5	mg/kg	41	34	40	48	92
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC39_VAL_N1	AEC39_VAL_DUP01	AEC39_VAL_TRP01	AEC39_VAL_S1	AEC39_VAL_E1
				Sampling date / time	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2324984-001	ES2324984-002	ES2324984-003	ES2324984-004	ES2324984-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	**170**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	**170**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	**170**	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	**170**	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
MM804: Faecal Coliforms & E.coli by MPN									
Faecal Coliforms	----	2	MPN/g		<2	----	----	<2	<2
Escherichia coli	----	2	MPN/g		<2	----	----	<2	<2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC39_VAL_N1	AEC39_VAL_DUP01	AEC39_VAL_TRP01	AEC39_VAL_S1	AEC39_VAL_E1
				Sampling date / time	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2324984-001	ES2324984-002	ES2324984-003	ES2324984-004	ES2324984-005
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**87.5**	**83.1**	**83.9**	**82.1**	**81.3**
2-Chlorophenol-D4	93951-73-6	0.5	%		**88.8**	**86.9**	**87.2**	**85.3**	**85.0**
2.4.6-Tribromophenol	118-79-6	0.5	%		**94.3**	**89.4**	**90.0**	**92.0**	**89.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**97.1**	**95.4**	**96.2**	**94.3**	**93.7**
Anthracene-d10	1719-06-8	0.5	%		**106**	**111**	**110**	**103**	**104**
4-Terphenyl-d14	1718-51-0	0.5	%		**100**	**97.8**	**97.8**	**96.8**	**95.2**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**90.4**	**97.6**	**93.4**	**95.1**	**92.3**
Toluene-D8	2037-26-5	0.2	%		**103**	**107**	**107**	**106**	**102**
4-Bromofluorobenzene	460-00-4	0.2	%		**103**	**111**	**112**	**112**	**107**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC39_VAL_W1	AEC39_VAL_B1	TRIP SPIKE	TRIP BLANK	39VAL01_01
			Sampling date / time	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00
Compound	CAS Number	LOR	Unit	ES2324984-006	ES2324984-007	ES2324984-011	ES2324984-012	ES2324984-013
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**13.0**	**4.4**	**----**	**----**	**15.2**
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	**----**	**----**	**No**
Asbestos (Trace)	1332-21-4	-	-	**No**	**No**	**----**	**----**	**No**
Asbestos Type	1332-21-4	-	--	**-**	**-**	**----**	**----**	**-**
Synthetic Mineral Fibre	----	-	--	**No**	**No**	**----**	**----**	**No**
Organic Fibre	----	-	--	**No**	**No**	**----**	**----**	**No**
Sample weight (dry)	----	0.01	g	**82.1**	**120**	**----**	**----**	**252**
APPROVED IDENTIFIER:	----	-	--	**A. SMYLIE**	**A. SMYLIE**	**----**	**----**	**A. SMYLIE**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**8**	**6**	**----**	**----**	**9**
Cadmium	7440-43-9	1	mg/kg	<1	<1	**----**	**----**	<1
Chromium	7440-47-3	2	mg/kg	**6**	**6**	**----**	**----**	**14**
Copper	7440-50-8	5	mg/kg	**22**	**17**	**----**	**----**	**25**
Lead	7439-92-1	5	mg/kg	**9**	**8**	**----**	**----**	**15**
Nickel	7440-02-0	2	mg/kg	**7**	**3**	**----**	**----**	**13**
Zinc	7440-66-6	5	mg/kg	**17**	**20**	**----**	**----**	**70**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	**----**	**----**	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	**----**	**----**	**----**	**----**	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05
beta-BHC	319-85-7	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05
delta-BHC	319-86-8	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05
Heptachlor	76-44-8	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05
Aldrin	309-00-2	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	**----**	**----**	**----**	**----**	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC39_VAL_W1	AEC39_VAL_B1	TRIP SPIKE	TRIP BLANK	39VAL01_01
				Sampling date / time	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2324984-006	ES2324984-007	ES2324984-011	ES2324984-012	ES2324984-013
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg		----	----	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	----	----	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	----	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	----	----	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	----	----	----	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		----	----	----	----	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	----	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	----	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		----	----	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg		----	----	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg		----	----	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	----	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		----	----	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg		----	----	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg		----	----	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	----	----	----	**0.06**
Parathion	56-38-2	0.2	mg/kg		----	----	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	----	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	----	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	----	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		----	----	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		----	----	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg		----	----	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		----	----	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		----	----	----	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC39_VAL_W1	AEC39_VAL_B1	TRIP SPIKE	TRIP BLANK	39VAL01_01
				Sampling date / time	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2324984-006	ES2324984-007	ES2324984-011	ES2324984-012	ES2324984-013
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	----	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	----	----	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	----	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	----	----	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	----	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	----	----	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	----	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	----	----	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC39_VAL_W1	AEC39_VAL_B1	TRIP SPIKE	TRIP BLANK	39VAL01_01
				Sampling date / time	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2324984-006	ES2324984-007	ES2324984-011	ES2324984-012	ES2324984-013
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	----	----	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	**4.5**	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	**5.2**	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	**5.6**	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	**2.3**	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	**17.6**	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	**7.9**	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
MM804: Faecal Coliforms & E.coli by MPN									
Faecal Coliforms	----	2	MPN/g		<2	<2	----	----	**2**
Escherichia coli	----	2	MPN/g		<2	<2	----	----	**2**
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	----	**104**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	----	**86.2**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	----	**119**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**83.1**	**84.4**	----	----	**84.0**
2-Chlorophenol-D4	93951-73-6	0.5	%		**84.7**	**86.6**	----	----	**85.6**
2.4.6-Tribromophenol	118-79-6	0.5	%		**86.8**	**83.5**	----	----	**87.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**94.8**	**95.8**	----	----	**95.8**
Anthracene-d10	1719-06-8	0.5	%		**111**	**114**	----	----	**106**
4-Terphenyl-d14	1718-51-0	0.5	%		**95.7**	**95.2**	----	----	**96.7**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**81.4**	**92.5**	**92.1**	**87.4**	**92.4**
Toluene-D8	2037-26-5	0.2	%		**89.0**	**101**	**98.7**	**92.6**	**104**
4-Bromofluorobenzene	460-00-4	0.2	%		**95.0**	**107**	**104**	**99.6**	**108**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	39VAL01_02	39VAL01_03	TRIP SPIKE CONTROL	----	----
			Sampling date / time	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2324984-014	ES2324984-015	ES2324984-016	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**25.5**	**24.8**	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	----	----	----
Asbestos (Trace)	1332-21-4	-	-	**No**	**No**	----	----	----
Asbestos Type	1332-21-4	-	--	**-**	**-**	----	----	----
Synthetic Mineral Fibre	----	-	--	**No**	**No**	----	----	----
Organic Fibre	----	-	--	**No**	**No**	----	----	----
Sample weight (dry)	----	0.01	g	**200**	**314**	----	----	----
APPROVED IDENTIFIER:	----	-	--	**A. SMYLIE**	**A. SMYLIE**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**10**	**11**	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	**16**	**15**	----	----	----
Copper	7440-50-8	5	mg/kg	**50**	**37**	----	----	----
Lead	7439-92-1	5	mg/kg	**20**	**18**	----	----	----
Nickel	7440-02-0	2	mg/kg	**15**	**14**	----	----	----
Zinc	7440-66-6	5	mg/kg	**112**	**90**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	39VAL01_02	39VAL01_03	TRIP SPIKE CONTROL	----	----
			Sampling date / time	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2324984-014	ES2324984-015	ES2324984-016	--------	--------
				Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg	<0.05	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	**0.83**	**0.34**	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	39VAL01_02	39VAL01_03	TRIP SPIKE CONTROL	----	----
				Sampling date / time	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2324984-014	ES2324984-015	ES2324984-016	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**140**	**140**	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**340**	**190**	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**480**	**330**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**330**	**240**	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**280**	**200**	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**610**	**440**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	39VAL01_02	39VAL01_03	TRIP SPIKE CONTROL	----	----
				Sampling date / time	26-Jul-2023 00:00	26-Jul-2023 00:00	26-Jul-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2324984-014	ES2324984-015	ES2324984-016	--------	--------
					Result	Result	Result	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	4.8	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	5.4	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	6.0	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	2.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	18.7	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	8.5	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	----	----
MM804: Faecal Coliforms & E.coli by MPN									
Faecal Coliforms	----	2	MPN/g		11	3	----	----	----
Escherichia coli	----	2	MPN/g		11	3	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		98.9	104	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		94.1	96.6	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		115	124	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		83.7	84.0	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		83.6	84.6	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		92.2	91.2	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		94.2	92.1	----	----	----
Anthracene-d10	1719-06-8	0.5	%		102	102	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		95.1	95.5	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		90.6	87.2	91.8	----	----
Toluene-D8	2037-26-5	0.2	%		107	99.1	100	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		112	107	106	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	AEC39_VAL_N1 - 26-Jul-2023 00:00	Soil sample.
EA200: Description	AEC39_VAL_S1 - 26-Jul-2023 00:00	Soil sample.
EA200: Description	AEC39_VAL_E1 - 26-Jul-2023 00:00	Soil sample.
EA200: Description	AEC39_VAL_W1 - 26-Jul-2023 00:00	Soil sample.
EA200: Description	AEC39_VAL_B1 - 26-Jul-2023 00:00	Soil sample.
EA200: Description	39VAL01_01 - 26-Jul-2023 00:00	Soil sample.
EA200: Description	39VAL01_02 - 26-Jul-2023 00:00	Soil sample.
EA200: Description	39VAL01_03 - 26-Jul-2023 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2324984**

Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: EMMA STRONG	Contact	: Jason Dighton
Address	: UNIT 22/1 RICKETTS ROAD MOUNT WAVERLEY VIC 3149	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: emma.strong@eprisk.com.au	E-mail	: jason.dighton@alsglobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: EP3244	Page	: 1 of 3
Order number	: ----	Quote number	: EM2023EPRISK0002 (EM23EPRISK0002)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: SALLY KENNEDY		

Dates

Date Samples Received	: 26-Jul-2023 17:30	Issue Date	: 27-Jul-2023
Client Requested Due Date	: 01-Aug-2023	Scheduled Reporting Date	: **28-Jul-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 8.4, 8.6, 5.4' c - Ice present
Receipt Detail	:	No. of samples received / analysed	: 16 / 13

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **The final report will be completed by the scheduled reporting date listed in this SRN. A Preliminary report will be available on 28/07/23 with the exception of Micro analysis**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

Method Sample ID	Sample Container Received	Preferred Sample Container for Analysis
Thermotolerant Coliforms & E.coli by MPN : MM804		
AEC39_VAL_N1	- Miscellaneous Plastic Container	- Sterile Plastic Jar
AEC39_VAL_S1	- Miscellaneous Plastic Container	- Sterile Plastic Jar
AEC39_VAL_E1	- Miscellaneous Plastic Container	- Sterile Plastic Jar
AEC39_VAL_W1	- Miscellaneous Plastic Container	- Sterile Plastic Jar
AEC39_VAL_B1	- Miscellaneous Plastic Container	- Sterile Plastic Jar
39VAL01_01	- Miscellaneous Plastic Container	- Sterile Plastic Jar
39VAL01_02	- Miscellaneous Plastic Container	- Sterile Plastic Jar
39VAL01_03	- Miscellaneous Plastic Container	- Sterile Plastic Jar

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - EP080 BTEXN	SOIL - MM804 Thermotolerant Coliforms & E.coli by MPN	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES2324984-001	26-Jul-2023 00:00	AEC39_VAL_N1		✓	✓		✓		✓
ES2324984-002	26-Jul-2023 00:00	AEC39_VAL_DUP01		✓					✓
ES2324984-003	26-Jul-2023 00:00	AEC39_VAL_TRP01		✓					✓
ES2324984-004	26-Jul-2023 00:00	AEC39_VAL_S1		✓	✓		✓		✓
ES2324984-005	26-Jul-2023 00:00	AEC39_VAL_E1		✓	✓		✓		✓
ES2324984-006	26-Jul-2023 00:00	AEC39_VAL_W1		✓	✓		✓		✓
ES2324984-007	26-Jul-2023 00:00	AEC39_VAL_B1		✓	✓		✓		✓
ES2324984-008	26-Jul-2023 00:00	AEC39_VAL_B2	✓						
ES2324984-009	26-Jul-2023 00:00	AEC39_VAL_B3	✓						
ES2324984-010	26-Jul-2023 00:00	AEC39_VAL_B4	✓						
ES2324984-011	26-Jul-2023 00:00	TRIP SPIKE				✓			
ES2324984-012	26-Jul-2023 00:00	TRIP BLANK						✓	
ES2324984-013	26-Jul-2023 00:00	39VAL01_01		✓	✓		✓		
ES2324984-014	26-Jul-2023 00:00	39VAL01_02		✓	✓		✓		
ES2324984-015	26-Jul-2023 00:00	39VAL01_03		✓	✓		✓		
ES2324984-016	26-Jul-2023 00:00	TRIP SPIKE CONTROL				✓			

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals
ES2324984-013	26-Jul-2023 00:00	39VAL01_01	✓
ES2324984-014	26-Jul-2023 00:00	39VAL01_02	✓
ES2324984-015	26-Jul-2023 00:00	39VAL01_03	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accounts@eprisk.com.au

EMMA STRONG

- *AU Certificate of Analysis - NATA (COA)	Email	emma.strong@eprisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	emma.strong@eprisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	emma.strong@eprisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	emma.strong@eprisk.com.au
- Chain of Custody (CoC) (COC)	Email	emma.strong@eprisk.com.au
- EDI Format - ENMRG (ENMRG)	Email	emma.strong@eprisk.com.au
- EDI Format - ESDAT (ESDAT)	Email	emma.strong@eprisk.com.au

JENNY SHAO

- *AU Certificate of Analysis - NATA (COA)	Email	jenny.shao@eprisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jenny.shao@eprisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jenny.shao@eprisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jenny.shao@eprisk.com.au
- A4 - AU Tax Invoice (INV)	Email	jenny.shao@eprisk.com.au
- Chain of Custody (CoC) (COC)	Email	jenny.shao@eprisk.com.au
- EDI Format - ENMRG (ENMRG)	Email	jenny.shao@eprisk.com.au
- EDI Format - ESDAT (ESDAT)	Email	jenny.shao@eprisk.com.au

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

UPDATED COC

~~UPDATED COC~~

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT:	EP Risk Management Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE:	Suite 13.01, 80 Mount Street, North Sydney	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date): 1 DAY	Custody Seal Intact? Yes No N/A
PROJECT:	EP3244	ALS QUOTE NO.: ES23EPRISK0002	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER:		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER:	Jenny Shao	CONTACT PH: 0433 906 111 OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER:	Sally Kennedy	SAMPLER MOBILE: 0484278111	RELINQUISHED BY: Sally Kennedy DATE/TIME: 25.07.23
COC emailed to ALS? (YES / NO)	Yes	EDD FORMAT (or default):	RECEIVED BY: DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au & sally.kennedy@eprisk.com.au		RELINQUISHED BY: DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au		RECEIVED BY: LRW DATE/TIME: 26/7/23 @1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Soil(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB: Suite Codes must be listed to attract suite price) (Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required))					Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-16: TRH, BTEX, PAH, OCP, OPP, PCB's, metals	EA200G: Asbestos Presence/Absence (60g)	MM304 (E.Coli & thermo coliforms)	S-26: TRH (C5-C10) / BTEXN / PAH / 8 metals	HOLD	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	AEC39_VAL_N1	26/07/2023	S	Glass jar, asbestos bag & biological jar	3		X	X	X		
2	AEC39_VAL_DUP01	26/07/2023	S	Glass jar, asbestos bag & biological jar	3				X		
3	AEC39_VAL_TRP01	26/07/2023	S	Glass jar, asbestos bag & biological jar	3				X		
4	AEC39_VAL_S1	26/07/2023	S	Glass jar, asbestos bag & biological jar	3		X	X	X		
5	AEC39_VAL_E1	26/07/2023	S	Glass jar, asbestos bag & biological jar	3		X	X	X		
6	AEC39_VAL_W1	26/07/2023	S	Glass jar, asbestos bag & biological jar	3		X	X	X		
7	AEC39_VAL_B1	26/07/2023		Glass jar, asbestos bag & biological jar	3		X	X	X		
8	AEC39_VAL_B2	26/07/2023		Glass jar, asbestos bag & biological jar	3					X	
9	AEC39_VAL_B3	26/07/2023		Glass jar, asbestos bag & biological jar	3					X	
10	AEC39_VAL_B4	26/07/2023		Glass jar, asbestos bag & biological jar	3					X	
11	TRIP SPIKE				1				X		
12	TRIP BLANK				1				X		
13	39VAL01_01			Glass jar, asbestos bag & biological jar	3	X	X	X			
14	39VAL01_02			Glass jar, asbestos bag & biological jar	3	X	X	X			
15	39VAL01_03			Glass jar, asbestos bag & biological jar	3	X	X	X			
				TOTAL	3	8	8	9			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VP = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

TAT

Environmental Division
Sydney
Work Order Reference
ES2324984

Telephone : + 61-2-8784 8555

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2324759**

Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: JENNY SHAO	Contact	: Jason Dighton
Address	: LEVEL 13 Suite 1301, 80 Mount Street NORTH SYDNEY 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: jenny.shao@eprisk.com.au	E-mail	: jason.dighton@alsglobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: EP3244	Page	: 1 of 2
Order number	: ----	Quote number	: EM2022EPRISK0004 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: SALLY KENNEDY		

Dates

Date Samples Received	: 25-Jul-2023 15:57	Issue Date	: 25-Jul-2023
Client Requested Due Date	: 26-Jul-2023	Scheduled Reporting Date	: **26-Jul-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 3.1, 1.7, 4.7'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 6 / 3
		No. of samples NOT collected	1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **3 unlabelled asbestos bags received as extra.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please note that the scheduled reporting date has not been confirmed with laboratory management. If the scheduled reporting date is not achievable ALS will be in contact with you.
- Sample AEC40_VAL_W1 was not received due to the following reason: Sample not received
- **Asbestos analysis will be conducted by ALS Newcastle.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - MM804 Thermotolerant Coliforms & E.coli by MPN	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals
ES2324759-001	25-Jul-2023 00:00	AEC40_SEP01		✓	✓	✓	✓
ES2324759-002	25-Jul-2023 00:00	AEC40_SEP02		✓	✓	✓	✓
ES2324759-003	25-Jul-2023 00:00	AEC40_SEP3		✓	✓	✓	✓
ES2324759-004	25-Jul-2023 00:00	AEC40_VAL_N1	✓				
ES2324759-005	25-Jul-2023 00:00	AEC40_VAL_E1	✓				
ES2324759-007	25-Jul-2023 00:00	Unlabelled sample	✓				

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accounts@eprisk.com.au

JENNY SHAO

- *AU Certificate of Analysis - NATA (COA)	Email	jenny.shao@eprisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jenny.shao@eprisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jenny.shao@eprisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jenny.shao@eprisk.com.au
- Chain of Custody (CoC) (COC)	Email	jenny.shao@eprisk.com.au
- EDI Format - ENMRG (ENMRG)	Email	jenny.shao@eprisk.com.au
- EDI Format - ESDAT (ESDAT)	Email	jenny.shao@eprisk.com.au
- EDI Format - XTab (XTAB)	Email	jenny.shao@eprisk.com.au

SALLY KENNEDY

- *AU Certificate of Analysis - NATA (COA)	Email	sally.kennedy@eprisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	sally.kennedy@eprisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	sally.kennedy@eprisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	sally.kennedy@eprisk.com.au
- Chain of Custody (CoC) (COC)	Email	sally.kennedy@eprisk.com.au
- EDI Format - ENMRG (ENMRG)	Email	sally.kennedy@eprisk.com.au
- EDI Format - ESDAT (ESDAT)	Email	sally.kennedy@eprisk.com.au
- EDI Format - XTab (XTAB)	Email	sally.kennedy@eprisk.com.au

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).
(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

CERTIFICATE OF ANALYSIS

Work Order	: **ES2324759**	Page	: 1 of 8
Amendment	: **1**		
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: JENNY SHAO	Contact	: Jason Dighton
Address	: LEVEL 13 Suite 1301, 80 Mount Street NORTH SYDNEY 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP3244	Date Samples Received	: 25-Jul-2023 15:57
Order number	: ----	Date Analysis Commenced	: 25-Jul-2023
C-O-C number	: ----	Issue Date	: 01-Aug-2023 13:32
Sampler	: SALLY KENNEDY		
Site	: ----		
Quote number	: ES23EPRISK0002 - ES PRIMARY WORK ONLY		
No. of samples received	: 7		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Somlok Chai	Microbiologist	Sydney Microbiology, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- Amendment (01/08/2023): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Jenny Shao on 01/08/2023, for samples 001-003. All analysis results are as per the previous report.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	40SEP01_01	40SEP01_02	40SEP01_03	----	----
			Sampling date / time	25-Jul-2023 00:00	25-Jul-2023 00:00	25-Jul-2023 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2324759-001	ES2324759-002	ES2324759-003	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**26.7**	**30.0**	**48.0**	**----**	**----**
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	**No**	**----**	**----**
Asbestos (Trace)	1332-21-4	-	-	**No**	**No**	**No**	**----**	**----**
Asbestos Type	1332-21-4	-	--	**-**	**-**	**-**	**----**	**----**
Synthetic Mineral Fibre	----	-	--	**No**	**No**	**No**	**----**	**----**
Organic Fibre	----	-	--	**Yes**	**Yes**	**Yes**	**----**	**----**
Sample weight (dry)	----	0.01	g	**566**	**407**	**415**	**----**	**----**
APPROVED IDENTIFIER:	----	-	--	**B.SCHRADER**	**B.SCHRADER**	**B.SCHRADER**	**----**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**7**	**7**	<5	**----**	**----**
Cadmium	7440-43-9	1	mg/kg	<1	**1**	**1**	**----**	**----**
Chromium	7440-47-3	2	mg/kg	**24**	**24**	**21**	**----**	**----**
Copper	7440-50-8	5	mg/kg	**68**	**137**	**190**	**----**	**----**
Lead	7439-92-1	5	mg/kg	**19**	**24**	**19**	**----**	**----**
Nickel	7440-02-0	2	mg/kg	**16**	**17**	**16**	**----**	**----**
Zinc	7440-66-6	5	mg/kg	**238**	**466**	**523**	**----**	**----**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	**0.3**	**0.2**	**----**	**----**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	**----**	**----**
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	40SEP01_01	40SEP01_02	40SEP01_03	----	----
				Sampling date / time	25-Jul-2023 00:00	25-Jul-2023 00:00	25-Jul-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2324759-001	ES2324759-002	ES2324759-003	--------	--------
					Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	40SEP01_01	40SEP01_02	40SEP01_03	----	----
				Sampling date / time	25-Jul-2023 00:00	25-Jul-2023 00:00	25-Jul-2023 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2324759-001	ES2324759-002	ES2324759-003	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	**380**	**690**	----	----
C29 - C36 Fraction	----	100	mg/kg		**140**	**1440**	**3490**	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**140**	**1820**	**4180**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg		**160**	**1380**	**3310**	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	**550**	**1550**	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**160**	**1930**	**4860**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	40SEP01_01	40SEP01_02	40SEP01_03	----	----
			Sampling date / time	25-Jul-2023 00:00	25-Jul-2023 00:00	25-Jul-2023 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2324759-001	ES2324759-002	ES2324759-003	--------	--------
				Result	Result	Result	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	----
MM804: Faecal Coliforms & E.coli by MPN								
Faecal Coliforms	----	2	MPN/g	**3**	<2	**>1600**	----	----
Escherichia coli	----	2	MPN/g	**3**	<2	<2	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**98.1**	**84.2**	**63.3**	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**80.2**	**70.6**	**62.6**	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**96.1**	**100**	**106**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**85.4**	**82.7**	**78.3**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**85.8**	**81.5**	**85.6**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**81.6**	**82.1**	**87.5**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**92.4**	**90.0**	**94.2**	----	----
Anthracene-d10	1719-06-8	0.5	%	**95.7**	**92.2**	**96.3**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	**92.8**	**88.3**	**91.4**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**83.3**	**93.8**	**90.2**	----	----
Toluene-D8	2037-26-5	0.2	%	**84.0**	**93.8**	**91.8**	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	**98.7**	**107**	**106**	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	40SEP01_01 - 25-Jul-2023 00:00	A soil sample.
EA200: Description	40SEP01_02 - 25-Jul-2023 00:00	A soil sample.
EA200: Description	40SEP01_03 - 25-Jul-2023 00:00	A soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney 277 Woodpark Rd, Smithfield NSW 2164 Ph 02 8784 8555 E samples.sydney@alsenviro.com

☐ Brisbane 32 Shand St, Stafford QLD 4053 Ph 07 3243 7222 E samples.brisbane@alsenviro.com

☐ Melbourne 2-4 Westall Rd, Springvale VIC 3171 Ph 03 8549 9600 E samples.melbourne@alsenviro.com

☐ Newcastle 5 Rosegum Rd, Warabrook NSW 2304 Ph 02 4958 0452 E samples.newcastle@alsenviro.com

☐ Townsville 14-15 Desma Cl, Bohle QLD 4818 Ph 07 4796 0600 E townsville.environmental@alsenviro.com

☐ Adelaide 21 Burma Rd, Pooraka SA 5095 Ph 08 8359 0890 E adelaide@alsenviro.com

CLIENT:	EP Risk	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): ☒ Non Standard or urgent TAT (List due date): 1 Day
OFFICE:	Suite 1301, Level 13, 80 Mount St North Sydney	ALS QUOTE NO.: SY - 497 - 20	
PROJECT:	EP3244		
ORDER NUMBER:			
PROJECT MANAGER:	~~Sally Kennedy~~ Jenny Shaw	CONTACT PH: 0484278111	
SAMPLER:	Sally Kennedy	SAMPLER MOBILE:	
COC emailed to ALS? (YES) NO		EDD FORMAT (or default): ESDAT	
Email Reports to (will default to PM if no other addresses are listed):	sally.kennedy@eprisk.com.au , ~~oscar.galpey@eprisk.com.au~~		
Email Invoice to (will default to PM if no other addresses are listed):	accounts@eprisk.com.au Jenny.Shaw@eprisk.com.au		

COC SEQUENCE NUMBER (Circle): COC: (1) 2 3 4 5 6 7; OF: (1) 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No (N/A); Free ice / frozen ice bricks present upon receipt? (Yes) No N/A; Random Sample Temperature on Receipt: 3.1 °C; Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sally Kennedy			Zen
DATE/TIME: 25-7-23	DATE/TIME:	DATE/TIME:	DATE/TIME: 25/7/23 @1557

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB: Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S -16	EA200G Asbestos ID (AS 4964)	REACH (HP Sonic-low temperature)	MM 804		Hold			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc
1	AEC40_SEP01	25-7-23	Soil		3	X	X		X					1 Jar +
2	AEC40_SEP02				3	X	X		X					1 Asbestos bag +
3	AEC40_SEP03				3	X	X		X					1 Bacteriological
4	AEC40_VAL_N1				3						X			
5	AEC40_VAL_E1				3						X			
6	AEC40_VAL_W1				3						X			
TOTAL						3	3			3				

URGENT TAT

Subcon / Forward, Lab / Split WO:

Lab / Analysis: Newcastle - Asbestos

Organised By / Date:

Relinquished By / Date:

Connote / Courier:

WO No:

Attached By PO / Internal Sheet:

Environmental Division
Sydney
Work Order Reference
ES2324759

Telephone : + 61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **ES2325381**	Page	: 1 of 24
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: EMMA STRONG	Contact	: Jason Dighton
Address	: UNIT 22/1 RICKETTS ROAD MOUNT WAVERLEY VIC 3149	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP3244	Date Samples Received	: 28-Jul-2023 16:30
Order number	: ----	Date Analysis Commenced	: 29-Jul-2023
C-O-C number	: ----	Issue Date	: 04-Aug-2023 10:11
Sampler	: SALLY KENNEDY		
Site	: ----		
Quote number	: EM23EPRISK0002		
No. of samples received	: 21		
No. of samples analysed	: 21		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Somlok Chai	Microbiologist	Sydney Microbiology, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T: Poor precision was obtained for Zinc on sample EW2303350 # 001. Confirmed by re-digestion and reanalysis.
- EP075(SIM): LOR for samples raised due to high amount of moisture contents.
- EP071: LOR of sample raised due to the high amount of moisture content present.
- EP068: LOR for sample raised due to the high amount of moisture present.
- **EA200 Legend**
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Analysis of asbestos from swabs and tapes is not covered under the current scope of NATA accreditation.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEXN only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- Microbiological comment: The samples 17, 18 and 19 were out of holding time. It may be informative to record this fact. At the time of the client informing ALS to perform the microbiological analysis, the sample was completely out of holding time.
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres

- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EA200: N/A - Not Applicable

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC40_VAL_N1	AEC40_VAL_DUP01	AEC40_VAL_TRIP01	AEC40_VAL_S1	AEC40_VAL_E1
			Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit	ES2325381-001	ES2325381-002	ES2325381-003	ES2325381-004	ES2325381-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**----**	**----**	**----**	**17.1**	**19.6**
Moisture Content	----	1.0	%	**19.7**	**19.2**	**19.7**	**----**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**6**	**5**	**6**	**8**	**6**
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**19**	**19**	**19**	**15**	**18**
Copper	7440-50-8	5	mg/kg	**38**	**37**	**38**	**32**	**30**
Lead	7439-92-1	5	mg/kg	**15**	**15**	**17**	**12**	**14**
Nickel	7440-02-0	2	mg/kg	**16**	**16**	**16**	**10**	**10**
Zinc	7440-66-6	5	mg/kg	**51**	**49**	**50**	**68**	**46**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC40_VAL_N1	AEC40_VAL_DUP01	AEC40_VAL_TRIP01	AEC40_VAL_S1	AEC40_VAL_E1
				Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2325381-001	ES2325381-002	ES2325381-003	ES2325381-004	ES2325381-005
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
MM804: Faecal Coliforms & E.coli by MPN									
Faecal Coliforms	----	2	MPN/g		<2	----	----	<2	<2
Escherichia coli	----	2	MPN/g		<2	----	----	<2	<2
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**78.9**	**79.3**	**79.7**	**77.9**	**77.5**
2-Chlorophenol-D4	93951-73-6	0.5	%		**78.7**	**79.3**	**79.7**	**78.7**	**78.3**
2.4.6-Tribromophenol	118-79-6	0.5	%		**62.6**	**65.4**	**61.3**	**61.1**	**61.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**95.1**	**94.7**	**96.5**	**92.4**	**94.9**
Anthracene-d10	1719-06-8	0.5	%		**93.8**	**92.4**	**93.0**	**93.2**	**93.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC40_VAL_N1	AEC40_VAL_DUP01	AEC40_VAL_TRIP01	AEC40_VAL_S1	AEC40_VAL_E1
				Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2325381-001	ES2325381-002	ES2325381-003	ES2325381-004	ES2325381-005
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.5	%		**97.1**	**97.6**	**96.1**	**96.3**	**95.4**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**113**	**111**	**113**	**108**	**125**
Toluene-D8	2037-26-5	0.2	%		**93.4**	**114**	**91.2**	**107**	**103**
4-Bromofluorobenzene	460-00-4	0.2	%		**106**	**129**	**111**	**120**	**119**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC40_VAL_W1	AEC40_VAL_B1	40VAL01_01	40VAL02_01	40VAL02_02
			Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit	ES2325381-006	ES2325381-007	ES2325381-010	ES2325381-011	ES2325381-012
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**17.5**	**5.8**	**----**	**22.2**	**20.0**
Moisture Content	----	1.0	%	**----**	**----**	**17.4**	**----**	**----**
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**----**	**----**	**No**	**No**	**No**
Asbestos (Trace)	1332-21-4	-	-	**----**	**----**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--	**----**	**----**	**-**	**-**	**-**
Sample weight (dry)	----	0.01	g	**----**	**----**	**71.7**	**88.5**	**80.8**
APPROVED IDENTIFIER:	----	-	--	**----**	**----**	**B.SCHRADER**	**B.SCHRADER**	**B.SCHRADER**
Synthetic Mineral Fibre	----	-	--	**----**	**----**	**No**	**No**	**No**
Organic Fibre	----	-	--	**----**	**----**	**No**	**No**	**No**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**24**	**6**	**6**	<5	**7**
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**16**	**12**	**17**	**20**	**16**
Copper	7440-50-8	5	mg/kg	**33**	**21**	**37**	**38**	**32**
Lead	7439-92-1	5	mg/kg	**18**	**14**	**17**	**18**	**16**
Nickel	7440-02-0	2	mg/kg	**15**	**15**	**14**	**15**	**13**
Zinc	7440-66-6	5	mg/kg	**79**	**64**	**112**	**51**	**58**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	**----**	**----**	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	**----**	**----**	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	**----**	**----**	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	**----**	**----**	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	**----**	**----**	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	**----**	**----**	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	**----**	**----**	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	**----**	**----**	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	**----**	**----**	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	**----**	**----**	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	**----**	**----**	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	**----**	**----**	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC40_VAL_W1	AEC40_VAL_B1	40VAL01_01	40VAL02_01	40VAL02_02
				Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2325381-006	ES2325381-007	ES2325381-010	ES2325381-011	ES2325381-012
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		----	----	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		----	----	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	AEC40_VAL_W1	AEC40_VAL_B1	40VAL01_01	40VAL02_01	40VAL02_02
			Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit	ES2325381-006	ES2325381-007	ES2325381-010	ES2325381-011	ES2325381-012
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	AEC40_VAL_W1	AEC40_VAL_B1	40VAL01_01	40VAL02_01	40VAL02_02
				Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2325381-006	ES2325381-007	ES2325381-010	ES2325381-011	ES2325381-012
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
MM804: Faecal Coliforms & E.coli by MPN									
Faecal Coliforms	----	2	MPN/g		<2	<2	<2	<2	<2
Escherichia coli	----	2	MPN/g		<2	<2	<2	<2	<2
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	83.5	76.4	77.9
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	80.4	84.0	79.3
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	70.4	73.2	63.3
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		77.2	77.2	78.2	75.8	79.2
2-Chlorophenol-D4	93951-73-6	0.5	%		76.7	79.0	79.1	76.1	81.6
2.4.6-Tribromophenol	118-79-6	0.5	%		58.1	56.2	59.0	64.1	59.7
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		92.3	95.6	95.4	95.7	93.4
Anthracene-d10	1719-06-8	0.5	%		90.9	92.0	90.0	91.6	90.0
4-Terphenyl-d14	1718-51-0	0.5	%		93.5	97.8	96.7	98.1	94.1
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		106	108	109	108	116
Toluene-D8	2037-26-5	0.2	%		87.4	108	86.9	100.0	95.8
4-Bromofluorobenzene	460-00-4	0.2	%		101	118	102	112	107

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	40VAL04_01	40VAL04_02	40VAL04_03	40SEP02_01 EXTRA	40SEP02_02 EXTRA
			Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit	ES2325381-013	ES2325381-014	ES2325381-015	ES2325381-017	ES2325381-018
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**18.8**	**17.5**	**17.3**	**----**	**----**
Moisture Content	----	1.0	%	**----**	**----**	**----**	**64.5**	**76.2**
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Asbestos (Trace)	1332-21-4	-	-	**No**	**No**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--	**-**	**-**	**-**	**-**	**-**
Sample weight (dry)	----	0.01	g	**72.4**	**94.1**	**75.5**	**21.8**	**17.4**
APPROVED IDENTIFIER:	----	-	--	**B.SCHRADER**	**B.SCHRADER**	**B.SCHRADER**	**B.SCHRADER**	**B.SCHRADER**
Synthetic Mineral Fibre	----	-	--	**No**	**No**	**No**	**No**	**No**
Organic Fibre	----	-	--	**No**	**No**	**No**	**Yes**	**Yes**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**7**	**41**	**6**	<5	**8**
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	**2**	**3**
Chromium	7440-47-3	2	mg/kg	**17**	**16**	**15**	**30**	**44**
Copper	7440-50-8	5	mg/kg	**30**	**34**	**28**	**354**	**537**
Lead	7439-92-1	5	mg/kg	**19**	**19**	**17**	**28**	**49**
Nickel	7440-02-0	2	mg/kg	**14**	**17**	**16**	**14**	**22**
Zinc	7440-66-6	5	mg/kg	**58**	**86**	**66**	**687**	**1190**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	**0.3**	**0.6**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.06
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.06
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.06
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.06
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.06
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.06
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.06
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.06
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.06

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	40VAL04_01	40VAL04_02	40VAL04_03	40SEP02_01 EXTRA	40SEP02_02 EXTRA
				Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2325381-013	ES2325381-014	ES2325381-015	ES2325381-017	ES2325381-018
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.3
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.3
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.3
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.3
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.3
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	40VAL04_01	40VAL04_02	40VAL04_03	40SEP02_01 EXTRA	40SEP02_02 EXTRA
				Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2325381-013	ES2325381-014	ES2325381-015	ES2325381-017	ES2325381-018
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued									
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.06
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.8	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**1.0**	**1.2**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.9**	**2.4**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<60
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	**3200**	**4670**
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	**10200**	**15900**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	**13400**	**20600**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	**23**	**23**
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	**22**	**21**
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<60

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	40VAL04_01	40VAL04_02	40VAL04_03	40SEP02_01 EXTRA	40SEP02_02 EXTRA
				Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2325381-013	ES2325381-014	ES2325381-015	ES2325381-017	ES2325381-018
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	**5840**	**15400**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	**9520**	**6540**
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	**15400**	**21900**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<60
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	**0.6**	**1.7**
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	**0.6**	**1.7**
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
MM804: Faecal Coliforms & E.coli by MPN									
Faecal Coliforms	----	2	MPN/g		<2	<2	<2	**11**	**42**
Escherichia coli	----	2	MPN/g		<2	<2	<2	**11**	**42**
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**86.7**	**92.4**	**72.5**	**92.3**	**87.2**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**90.2**	**100**	**78.9**	**77.4**	**89.3**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**70.8**	**81.5**	**64.7**	**87.8**	**95.1**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**75.6**	**74.8**	**80.1**	**101**	**101**
2-Chlorophenol-D4	93951-73-6	0.5	%		**75.2**	**76.3**	**80.9**	**90.4**	**90.7**
2.4.6-Tribromophenol	118-79-6	0.5	%		**56.0**	**57.6**	**59.8**	**99.1**	**101**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**93.3**	**92.0**	**95.2**	**97.6**	**96.7**
Anthracene-d10	1719-06-8	0.5	%		**89.9**	**88.9**	**92.1**	**97.0**	**97.0**
4-Terphenyl-d14	1718-51-0	0.5	%		**94.2**	**93.9**	**97.2**	**97.3**	**95.4**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**118**	**117**	**121**	**68.6**	**74.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	40VAL04_01	40VAL04_02	40VAL04_03	40SEP02_01 EXTRA	40SEP02_02 EXTRA
				Sampling date / time	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00	28-Jul-2023 00:00
Compound	CAS Number	LOR	Unit		ES2325381-013	ES2325381-014	ES2325381-015	ES2325381-017	ES2325381-018
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		**91.4**	**94.3**	**99.4**	**87.8**	**92.6**
4-Bromofluorobenzene	460-00-4	0.2	%		**109**	**107**	**116**	**105**	**110**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	40SEP02_03 EXTRA	TRIP SPIKE	TRIP BLANK	TSC	----
			Sampling date / time	28-Jul-2023 00:00	24-Jul-2023 00:00	24-Jul-2023 00:00	24-Jul-2023 00:00	----
Compound	CAS Number	LOR	Unit	ES2325381-019	ES2325381-020	ES2325381-021	ES2325381-023	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**59.1**	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	----	----	----	----
Asbestos (Trace)	1332-21-4	-	-	**No**	----	----	----	----
Asbestos Type	1332-21-4	-	--	**-**	----	----	----	----
Sample weight (dry)	----	0.01	g	**16.4**	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	**B.SCHRADER**	----	----	----	----
Synthetic Mineral Fibre	----	-	--	**No**	----	----	----	----
Organic Fibre	----	-	--	**Yes**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	**1**	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**26**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**304**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**25**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**11**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**570**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.3**	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	40SEP02_03 EXTRA	TRIP SPIKE	TRIP BLANK	TSC	----
				Sampling date / time	28-Jul-2023 00:00	24-Jul-2023 00:00	24-Jul-2023 00:00	24-Jul-2023 00:00	----
Compound	CAS Number	LOR	Unit		ES2325381-019	ES2325381-020	ES2325381-021	ES2325381-023	--------
					Result	Result	Result	Result	----
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		<0.05	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	40SEP02_03 EXTRA	TRIP SPIKE	TRIP BLANK	TSC	----
				Sampling date / time	28-Jul-2023 00:00	24-Jul-2023 00:00	24-Jul-2023 00:00	24-Jul-2023 00:00	----
Compound	CAS Number	LOR	Unit		ES2325381-019	ES2325381-020	ES2325381-021	ES2325381-023	--------
					Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.8	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.8	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.8	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.8	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.8	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.8	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.8	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.8	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.8	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.8	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.8	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.8	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.8	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.8	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.8	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.8	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**1.0**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.9**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**1860**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		**6880**	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**8740**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		**16**	----	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		**16**	----	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**6520**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		**2820**	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**9340**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	40SEP02_03 EXTRA	TRIP SPIKE	TRIP BLANK	TSC	----
				Sampling date / time	28-Jul-2023 00:00	24-Jul-2023 00:00	24-Jul-2023 00:00	24-Jul-2023 00:00	----
Compound	CAS Number	LOR	Unit		ES2325381-019	ES2325381-020	ES2325381-021	ES2325381-023	--------
					Result	Result	Result	Result	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	**0.2**	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	**6.3**	<0.5	**7.1**	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	**6.5**	<0.5	**7.1**	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	**6.9**	<0.5	**7.6**	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	**2.7**	<0.5	**3.0**	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	**22.6**	<0.2	**24.8**	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	**9.6**	<0.5	**10.6**	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	----
MM804: Faecal Coliforms & E.coli by MPN									
Faecal Coliforms	----	2	MPN/g		**20**	----	----	----	----
Escherichia coli	----	2	MPN/g		**20**	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**106**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**97.1**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**105**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**97.2**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**92.6**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**104**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**98.4**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**99.0**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**98.0**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**77.9**	**107**	**107**	**119**	----
Toluene-D8	2037-26-5	0.2	%		**96.9**	**92.8**	**87.8**	**99.1**	----
4-Bromofluorobenzene	460-00-4	0.2	%		**114**	**92.4**	**85.5**	**101**	----

Analytical Results

Sub-Matrix: SOLID (Matrix: SOLID)				Sample ID	AEC38_MS02	----	----	----	----
				Sampling date / time	31-Jul-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2325381-024	--------	--------	--------	--------
					Result	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos Detected	1332-21-4	0.1	g/kg		**No**	----	----	----	----
Asbestos Type	1332-21-4	-	--		**-**	----	----	----	----
Asbestos (Trace)	1332-21-4	-	-		**No**	----	----	----	----
Sample weight (dry)	----	0.01	g		**14.1**	----	----	----	----
Synthetic Mineral Fibre	----	-	-		**No**	----	----	----	----
Organic Fibre	----	-	-		**Yes**	----	----	----	----
APPROVED IDENTIFIER:	----	-	--		**B.SCHRADER**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	AEC40_RS	----	----	----	----
				Sampling date / time	28-Jul-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2325381-022	--------	--------	--------	--------
					Result	----	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	AEC40_RS	----	----	----	----
				Sampling date / time	28-Jul-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2325381-022	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**26.3**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**50.1**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**40.6**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**61.9**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**72.9**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**81.6**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**101**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**78.3**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**87.1**	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	40VAL01_01 - 28-Jul-2023 00:00	A soil sample.
EA200: Description	40VAL02_01 - 28-Jul-2023 00:00	A soil sample.
EA200: Description	40VAL02_02 - 28-Jul-2023 00:00	A soil sample.
EA200: Description	40VAL04_01 - 28-Jul-2023 00:00	A soil sample.
EA200: Description	40VAL04_02 - 28-Jul-2023 00:00	A soil sample.
EA200: Description	40VAL04_03 - 28-Jul-2023 00:00	A soil sample.
EA200: Description	40SEP02_01EXTRA - 28-Jul-2023 00:00	A soil sample.
EA200: Description	40SEP02_02EXTRA - 28-Jul-2023 00:00	A soil sample.
EA200: Description	40SEP02_03EXTRA - 28-Jul-2023 00:00	A soil sample.

Sub-Matrix: **SOLID**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	AEC38_MS02 - 31-Jul-2023 00:00	One piece of cement sheeting.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	72	143
Toluene-D8	2037-26-5	75	131
4-Bromofluorobenzene	460-00-4	73	137

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

(SOLID) EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2325381**

Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: JENNY SHAO	Contact	: Jason Dighton
Address	: LEVEL 13 Suite 1301, 80 Mount Street NORTH SYDNEY 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: jenny.shao@eprisk.com.au	E-mail	: jason.dighton@alsglobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: EP3244	Page	: 1 of 3
Order number	: ----	Quote number	: EM2022EPRISK0004 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: SALLY KENNEDY		

Dates

Date Samples Received	: 28-Jul-2023 16:30	Issue Date	: 28-Jul-2023
Client Requested Due Date	: 01-Aug-2023	Scheduled Reporting Date	: **01-Aug-2023**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 3.5'C, 6.0'C, 4.2'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 16 / 13
		No. of samples NOT collected	3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Sample 40SEP02_01 , 40SEP02_02 and 40SEP02_03 received extra have been placed on hold, please confirm**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Sample TRIP SPIKE was not received due to the following reason: Sample was not received
- Sample TRIP BLANK was not received due to the following reason: Sample was not received
- Sample AEC40_RS was not received due to the following reason: Sample was not received
- **Asbestos analysis will be conducted by ALS Newcastle.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200G Asbestos Identification in Soils -	SOIL - MM804 Thermotolerant Coliforms & E.coli by MPN	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES2325381-001	28-Jul-2023 00:00	AEC40_VAL_N1		✓		✓		✓
ES2325381-002	28-Jul-2023 00:00	AEC40_VAL_DUP01		✓				✓
ES2325381-003	28-Jul-2023 00:00	AEC40_VAL_TRIP01		✓				✓
ES2325381-004	28-Jul-2023 00:00	AEC40_VAL_S1		✓		✓		✓
ES2325381-005	28-Jul-2023 00:00	AEC40_VAL_E1		✓		✓		✓
ES2325381-006	28-Jul-2023 00:00	AEC40_VAL_W1		✓		✓		✓
ES2325381-007	28-Jul-2023 00:00	AEC40_VAL_B1		✓		✓		✓
ES2325381-010	28-Jul-2023 00:00	40VAL01_01		✓	✓	✓	✓	
ES2325381-011	28-Jul-2023 00:00	40VAL02_01		✓	✓	✓	✓	
ES2325381-012	28-Jul-2023 00:00	40VAL03_01		✓	✓	✓	✓	
ES2325381-013	28-Jul-2023 00:00	40VAL04_01		✓	✓	✓	✓	
ES2325381-014	28-Jul-2023 00:00	40VAL04_02		✓	✓	✓	✓	
ES2325381-015	28-Jul-2023 00:00	40VAL04_03		✓	✓	✓	✓	
ES2325381-017	28-Jul-2023 00:00	40SEP02_01 EXTRA	✓					
ES2325381-018	28-Jul-2023 00:00	40SEP02_02 EXTRA	✓					
ES2325381-019	28-Jul-2023 00:00	40SEP02_03 EXTRA	✓					

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accounts@eprisk.com.au

JENNY SHAO

- *AU Certificate of Analysis - NATA (COA)	Email	jenny.shao@eprisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jenny.shao@eprisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jenny.shao@eprisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jenny.shao@eprisk.com.au
- A4 - AU Tax Invoice (INV)	Email	jenny.shao@eprisk.com.au
- Chain of Custody (CoC) (COC)	Email	jenny.shao@eprisk.com.au
- EDI Format - ENMRG (ENMRG)	Email	jenny.shao@eprisk.com.au
- EDI Format - ESDAT (ESDAT)	Email	jenny.shao@eprisk.com.au
- EDI Format - XTab (XTAB)	Email	jenny.shao@eprisk.com.au

SALLY KENNEDY

- *AU Certificate of Analysis - NATA (COA)	Email	sally.kennedy@eprisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	sally.kennedy@eprisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	sally.kennedy@eprisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	sally.kennedy@eprisk.com.au
- Chain of Custody (CoC) (COC)	Email	sally.kennedy@eprisk.com.au
- EDI Format - ENMRG (ENMRG)	Email	sally.kennedy@eprisk.com.au
- EDI Format - ESDAT (ESDAT)	Email	sally.kennedy@eprisk.com.au
- EDI Format - XTab (XTAB)	Email	sally.kennedy@eprisk.com.au

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

UPDATED COC

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT:	EP Risk Management Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date): 5 day TAT	FOR LABORATORY USE ONLY (Circle)
OFFICE:	Suite 13.01, 80 Mount Street, North Sydney	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date): 1 DAY	Custody seal intact? Yes No N/A
PROJECT:	EP3244	ALS QUOTE NO.: ES23EPRISK0002	COC SEQUENCE NUMBER (Circle)
ORDER NUMBER:			COC: 1 2 3 4 5 6 7
PROJECT MANAGER:	Jenny Shao	CONTACT PH: 0433 006 111	OF: 1 2 3 4 5 6 7
SAMPLER:	Sally Kennedy	SAMPLER MOBILE: 0484278111	
COC emailed to ALS? (YES / NO)	Yes	EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au & sally.kennedy@eprisk.com.au		
Email Invoice to (will default to PM if no other addresses are listed):	jenny.shao@eprisk.com.au		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sally Kennedy			2RW
DATE/TIME: 280723	DATE/TIME:	DATE/TIME:	DATE/TIME: 28/7/23 @1918

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS (MATRIX: Solid(S) Water(W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) (Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required))					Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S-16: TRH, BTEX, PAH, OCP, OPP, PCB, metals	EA200/G: Asbestos Presence/Absence (60g)	MM604 (E.Coli & thermo coliforms)	S- 26: TRH (C6-C40) / BTEXN / PAH / 8 metals	HOLD	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	AEC40_VAL_N1	28/07/2023	S	Glass jar & biological jar	2			X	X		
2	AEC40_VAL_DUP01	28/07/2023	S	Glass jar & biological jar	1				X		
3	AEC40_VAL_TRP01	28/07/2023	S	Glass jar & biological jar	1				X		
4	AEC40_VAL_S1	28/07/2023	S	Glass jar & biological jar	2			X	X		
5	AEC40_VAL_E1	28/07/2023	S	Glass jar & biological jar	2			X	X		
6	AEC40_VAL_W1	28/07/2023	S	Glass jar & biological jar	2			X	X		
7	AEC40_VAL_B1	28/07/2023	S	Glass jar & biological jar	2			X	X		
20 8	TRIP SPIKE	28/07/2023	S	Glass Jar	1				X		
21 9	TRIP BLANK	28/07/2023	S	Glass Jar	1				X		
10	40VAL01_01	28/07/2023	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
11	40VAL02_01	28/07/2023	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
12	40VAL03_01	28/07/2023	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
13	40VAL04_01	28/07/2023	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
14	40VAL04_02	28/07/2023	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
15	40VAL04_03	28/07/2023	S	Glass jar, asbestos bag & biological jar	3	X	X	X			
22 16	AEC40_RS	28/07/2023	W	Bottles					X		
17	40SEP02-01	28/07/2023	S	Extra							
18	40SEP02-02										
19	40SEP02_03										
23	TSL										
24	AEC38_MS02	SOLID	extra.								
	TOTAL					6	6	8	9		

URGENT

TAT

Environmental Division
Sydney
Work Order Reference
ES2325381

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Bulk Identification Report V3

Job No: 754-SYDEN234000 Bulk ID Report EP3244.001 17072023 V3
Client: EP Risk Management Pty Ltd
Client Address: Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW
Contact: Jenny Shao
E-mail: jenny.shao@eprisk.com.au
Date Sampled: 14-07-23
Date Analysed: 17-07-23
Date Authorised: 18-07-23
Sampled By: As received by client (Zak Bursey)
Site: ESR

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No:2220
Corporate Site No:16909

Please note: Where you have provided the samples for analysis, Tetra Tech Coffey Pty Ltd does not take any responsibility for the quality of the such samples. This report relates exclusively to the samples analysed by Tetra Tech Coffey Pty Ltd and as such only the samples submitted or collected for analysis have been considered in presenting these results. The data and results contained in this report are not representative of the site, product or source material as a whole. Tetra Tech Coffey Pty Ltd does not make any warranty or representation in relation to the site, product or source material as a whole. If you suspect any material to contain asbestos, then you must immediately stop the works and activities at the site or in respect of the materials and engage Tetra Tech Coffey Pty Ltd or another suitably trained asbestos hygienist to sample, assess or re-assess (as the case may be) the material suspected to contain asbestos.

Test Method: **Asbestos in Bulk Samples and Non-homogenous Material**
Tetra Tech Coffey Pty Ltd analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Coffey SOP WILAB1, and Australian Standard (AS) 4964 – 2004, Method for the qualitative identification of asbestos in bulk samples (AS 4964). The detection limit for the test method as per AS 4964 is 0.1 g/kg. For non-homogenous samples a semi-quantitative aspect is adopted for the test method and is taken into account when reporting the results. As per Tetra Tech Coffey Pty Ltd's NATA approved SOP WILAB1 sample retention periods are set at 1 month for all samples from the date of analysis.
Please note; this report; ***754-SYDEN234000 Bulk ID Report EP3244.001 17072023 V3*** *supersedes the report;* ***754-SYDEN234000 Bulk ID Report EP3244.001 17072023 V2*** *issued on the 18/07/2023. This is due to a formatting error, the results remain the same.*

Analysed At: Tetra Tech Coffey Pty Ltd Laboratory, Level 20, Tower B, Citadel Towers 799 Pacific Highway Chatswood NSW 2067

Total Samples: 2

Approved Identifier
Panika Wongchanda

Approved Signatory
Matthew Tang

Sample No.	Location & Description	Sample Size (~)	Results
UF003_VAL_001	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 512 g > 2mm fraction ~ 269.7 g < 2mm fraction ~ 242.3 g < 2mm sub sample ~ 29.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
DW23-016	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 511.2 g > 2mm fraction ~ 192.4 g < 2mm fraction ~ 318.8 g < 2mm sub sample ~ 42.3 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

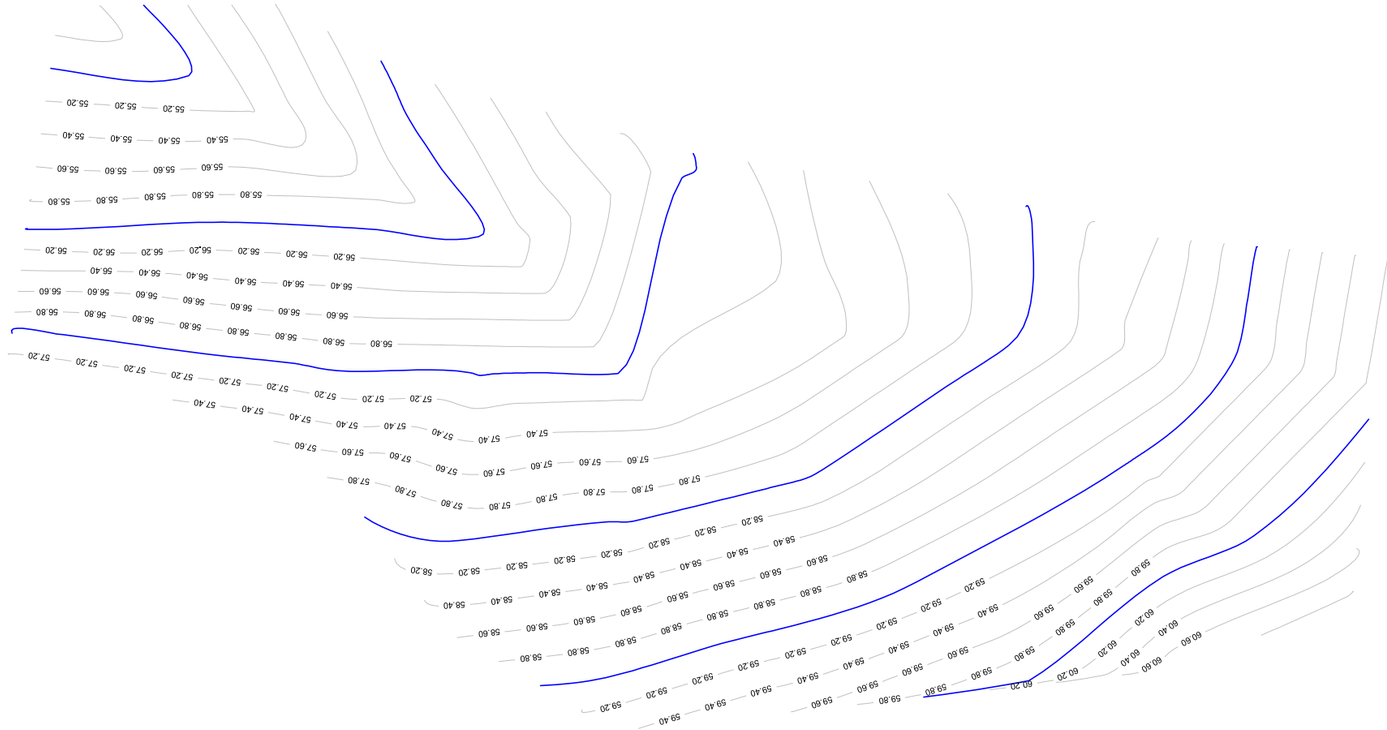
Notes

Subsampling is carried out as per Coffey SOP WILAB1 using the coning and quartering method, please note subsampling may reduce the accuracy of the analytical result.

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Appendix D

ASBESTOS PLACEMENT AREAS SURVEY PLANS



0 25 50

jkWilliams
39-53 Jack Willams Drive, Penrith, NSW 2750
Phone: 02 4725 3400 Email: jkw@jkw.com.au

Client:

Project:

Horizontal Datum: | Level Datum:

Surveyed: | Checked:

Drawn: | Ref No.:

Local Authority:

Description:

Lot 4

Underside contours of burial pit

Rev	Date	Revision Details
A		
B		
C		
D		
E		
F		

DATE OF SURVEY:

Contour Interval
Major:
Minor:

Scale:

Sheet Size: A3

Drawing Number:

Sheet No. of Rev. A



0 25 50

jkWilliams

39-53 Jack Williams Drive, Penrith, NSW 2750
Phone: 02 4725 3400 Email: jkw@jkw.com.au

Client:

Project:

Horizontal Datum: | Level Datum:

Surveyed: | Checked:
Drawn: | Ref No.:

Local Authority:

Description:

Lot 4

Top contours of burial pit

Rev	Date	Revision Details
A		
B		
C		
D		
E		
F		

DATE OF SURVEY:

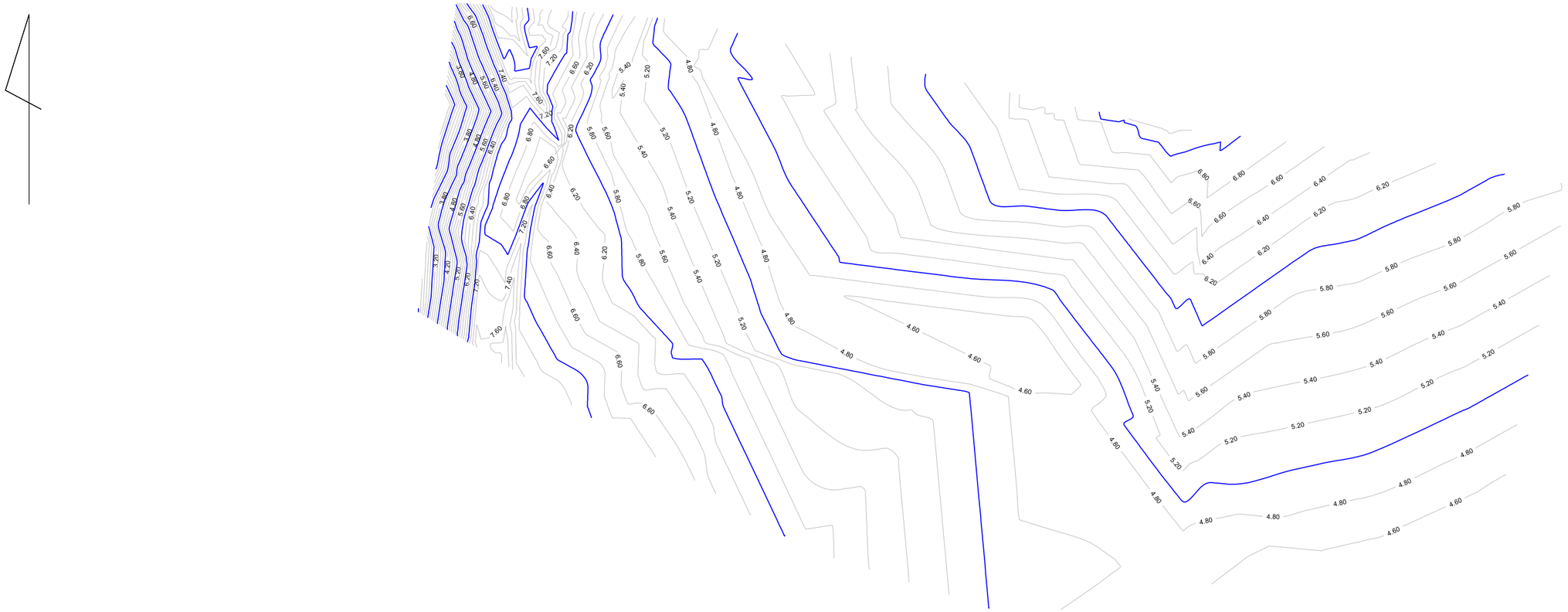
Contour Interval
Major:
Minor:

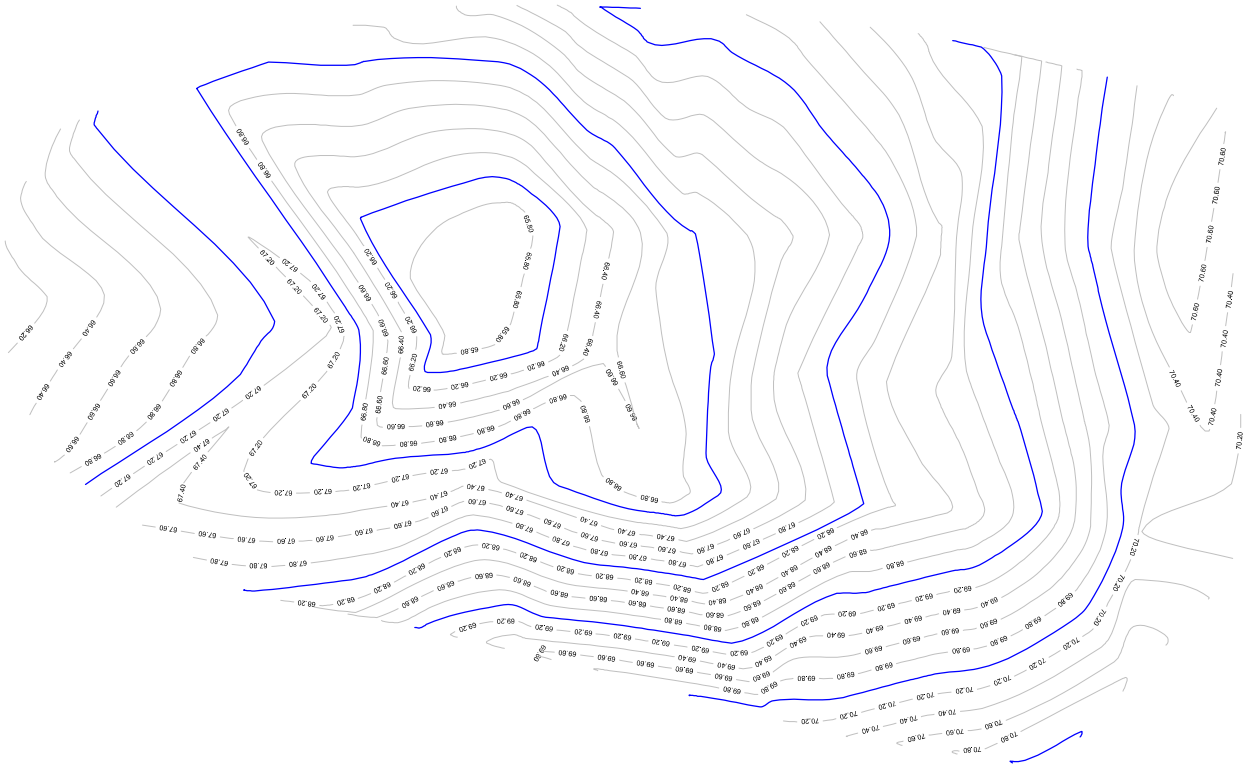
Scale:

Sheet Size: A3

Drawing Number:

Sheet No. of Rev. A


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7.00
7.40
7.60
7.20
6.80
6.20
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5.20
4.80
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5.80
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7.40
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6.40
6.20
6.60
6.80
7.20
7.40
7.60
6.60
6.80



0 25 50

jkWilliams
39-53 Jack Willams Drive, Penrith, NSW 2750
Phone: 02 4725 3400 Email: jkw@jkw.com.au

Client:

Project:

Horizontal Datum: | Level Datum:

Surveyed: | Checked:
Drawn: | Ref No.:

Local Authority:

Description:

Lot 5

Underside contours of burial pit

Rev	Date	Revision Details
A		
B		
C		
D		
E		
F		

DATE OF SURVEY:

Contour Interval
Major:
Minor:

Scale:

Sheet Size: A3

Drawing Number:

Sheet No. of Rev. A



0 25 50

jkWilliams
39-53 Jack Willams Drive, Penrith, NSW 2750
Phone: 02 4725 3400 Email: jkw@jkw.com.au

Client:

Project:

Horizontal Datum: Level Datum:

Surveyed: Checked:
Drawn: Ref No.:

Local Authority:

Description:

Lot 5

Top contours of burial pit

Rev	Date	Revision Details
A		
B		
C		
D		
E		
F		

DATE OF SURVEY:

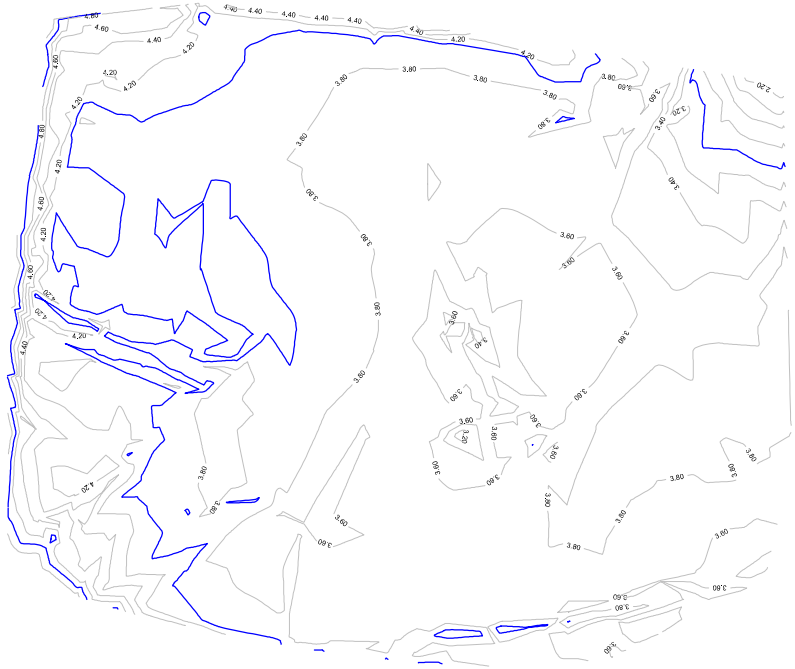
Contour Interval
Major:
Minor:

Scale:

Sheet Size: A3

Drawing Number:

Sheet No. of Rev. A



0 25 50

jkWilliams
39-53 Jack Willams Drive, Penrith, NSW 2750
Phone: 02 4725 3400 Email: jkw@jkw.com.au

Client:

Project:

Horizontal Datum: | Level Datum:

Surveyed: | Checked:
Drawn: | Ref No.:

Local Authority:

Description:

Lot 5

Depth contours FSL to top of burial pit

Rev	Date	Revision Details
A		
B		
C		
D		
E		
F		

DATE OF SURVEY:

Contour Interval
Major:
Minor:

Scale:

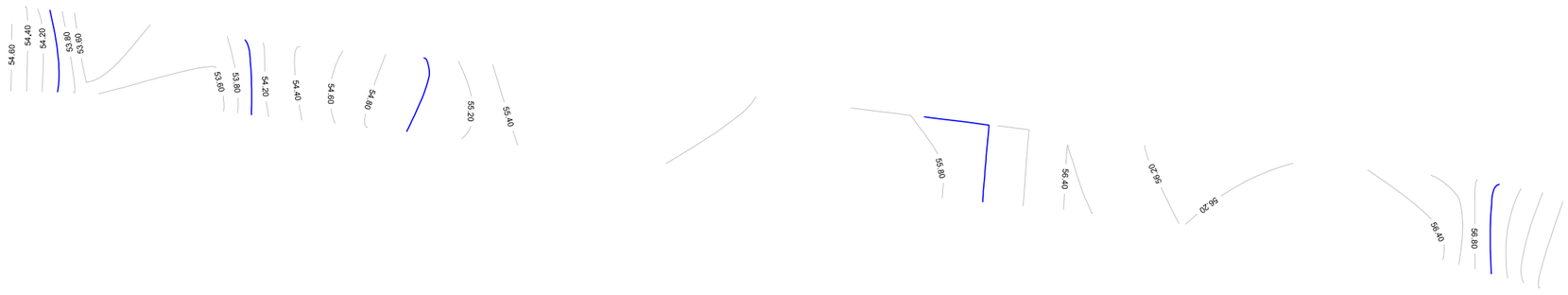
Sheet Size: A3

Drawing Number:

Sheet No. of Rev. A

Appendix E

CONTAINMENT CELL SURVEY PLANS



0 25 50

jkWilliams
39-53 Jack Willams Drive, Penrith, NSW 2750
Phone: 02 4725 3400 Email: jkw@jkw.com.au

Client:

Project:

Horizontal Datum: | Level Datum:

Surveyed: | Checked:
Drawn: | Ref No.:

Local Authority:

Description:

Trunk Drainage Channel

Underside contours of burial pit

Rev	Date	Revision Details
A		
B		
C		
D		
E		
F		

Contour Interval
Major:
Minor:

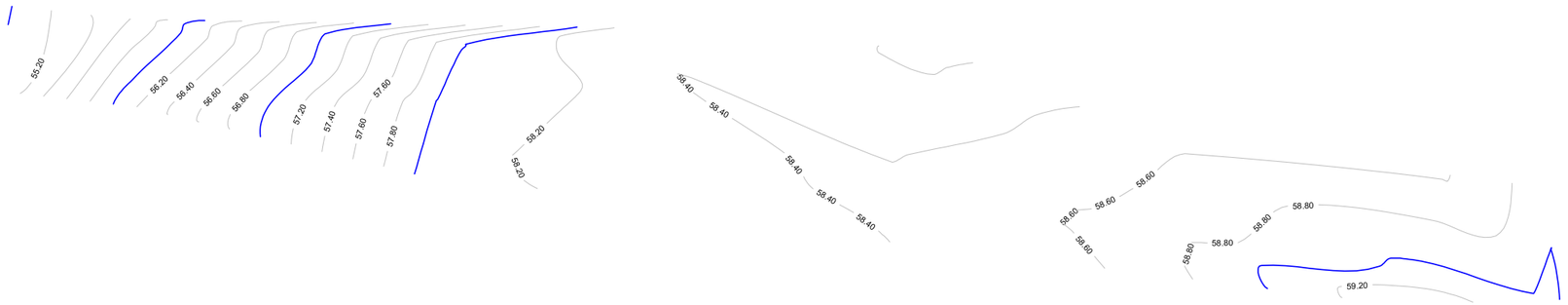
Scale:

Sheet Size: A3

Drawing Number:

DATE OF SURVEY:

Sheet No. of Rev. A



0 25 50

39-53 Jack Willams Drive, Penrith, NSW 2750
Phone: 02 4725 3400 Email: jkw@jkw.com.au

Client:

Project:

Horizontal Datum: | Level Datum:

Surveyed: | Checked:
Drawn: | Ref No.:

Local Authority:

Description:

Trunk Drainage Channel

Top contours of burial pit

Rev	Date	Revision Details
A		
B		
C		
D		
E		
F		

Contour Interval
Major:
Minor:

Scale:

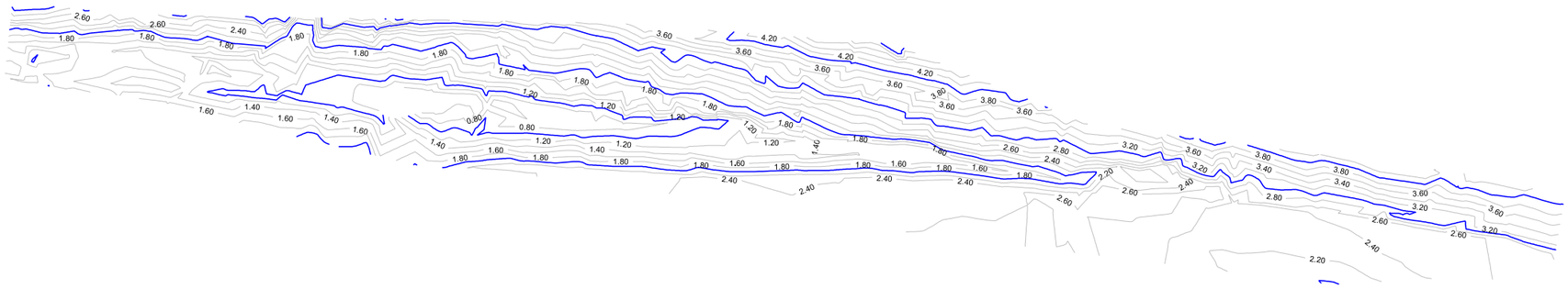
Sheet Size: A3

Drawing Number:

DATE OF SURVEY:

Sheet No. of Rev. A

0 25 50



jkWilliams

39-53 Jack Willams Drive, Penrith, NSW 2750
Phone: 02 4725 3400 Email: jkw@jkw.com.au

Client:

Project:

Horizontal Datum: | Level Datum:

Surveyed: | Checked:
Drawn: | Ref No.:

Local Authority:

Description:

Trunk Drainage Channel

Depth contours FSL to top of burial pit

Rev	Date	Revision Details
A		
B		
C		
D		
E		
F		

Contour Interval
Major:
Minor:

Scale:

Sheet Size: A3

Drawing Number:

DATE OF SURVEY:

Sheet No. of

Rev. A

Appendix F

PHASE 2 REMEDIATION CORRESPONDENCE

#	Comment	Response
	In relation to: FES (2023) Stockpiles – Asbestos Clearance Certificate, 290-308 Aldington Road and 59- 63 Abbotts Road, Kemps Creek, ref: E3116 Kemps Creek AC R1, dated 19 October 2023.	
1	An outdated Code of Practice for Safe Work Australia (2016) How to Safely Remove Asbestos has been referenced. Please revise the clearance, confirming works were conducted in accordance with the most recent Code of Practice?	Updated to 2020 Code of practice
2	Please confirm what this ACC is in reference to. Is it relevant to the treatment of all B3 bonded (non-friable) stockpiles at the central (southern) stockpiling area and a clearance of the B2 and B3 bonded stockpile footprint?	The E3116 Kemps Creek Asbestos Clearance is the final clearance and summary of works undertaken during the removal of the contaminated stockpiles located within the areas outlined in the figure 1 site plan.
3	Stockpile IDs have not been maintained. It appears the B3 stockpiling area has been divided into a grid system, with each area labelled AS1-AS39. Please confirm all bonded (non-friable) stockpiles as per original stockpile IDs and TCE's material tracking form have been treated?	The grid system was devised for the purpose of ensuring the post stockpile removal sampling covered the entire workzone including transit routes and footprints of the stockpiles. No stockpiles remained within each AS area during the validation sampling
a	Please elaborate on how this grid system was devised?	Grid system was devised based on site layout as areas for ease of sampling identification.
b	How many stockpiles are in each 'AS area'?	Usually between 1-2 piles
c	What stockpiles are in each 'AS area'?	refer to site plan
d	How much material does each 'AS area' contain?	roughly 10-20tonne
e	Please confirm treatment of stockpiles was done in 10 m3batches?	yes
4	Was on-site field screening within a 7 mm sieve undertaken on the B3 stockpiles following treatment? There is no discussion of on-site field screening results for bonded (non-friable) asbestos > 7mm within the report; only the results of the asbestos gravimetric 500 mL NEPM samples have been discussed.	Field Screening was undertaken on all NEPM % w/w samples during sample collection. It was recorded that no potential ACM was held on the 7mm sieve
5	Please confirm if the collection of asbestos gravimetric 500 mL NEPM samples were undertaken prior to or subsequent to the treatment of each 'AS' area? AS1-AS18 has a sample date of 28/09/2023 which corresponds to the first day of remediation works?	The validation sampling was undertaken on each AS area following the removal of the stockpiled soil. Each sampling batch was undertaken following the removal works for that day
6	Please elaborate on what the clearance of the bonded (non-friable) stockpile footprint involved? Did it cover both the B2 and B3 stockpile footprint? Was this limited to a visual clearance inspection? Was on-site field screening within a 7 mm sieve undertaken?	The E3116 Kemps Creek Asbestos Clearance is the final clearance and summary of works undertaken during the removal of the contaminated stockpiles located within the areas outlined in the figure 1 site plan. The validation sampling was taken to quantify any remaining ACM contamination and any impact the removal works had on the AS zone
7	Please provide more information on where the treated B3 material (now B2 material) has been buried? Please mark burial location on an appropriately labelled aerial photograph and give context in relation to Site location.	Figure 2 Material Burial location has been included in the revised report
8	Please confirm where the B2 material (not previously B3) has been buried. Please mark burial location on an appropriately labelled aerial photograph and give context in relation to Site location.	Figure 2 Material Burial location has been included in the revised report
9	Please confirm what the attached survey plan to the rear of the ACC is relevant to.	The attached survey plan was provided by J.K Williams when RLs were requested for the validation area
a	Is the plan describing the burial of treated B3 material and B3 material?	replaced
b	Do the RL measurements on the attached survey plan indicate burial at >0.1 m below finished ground level and in areas where no services are installed.	replaced
c	What does the purple RL value indicate in relation to capping? Were the red RL values measured immediately following placement of B2 material? Is this the finished ground level?	replaced
10	Please update the attached survey plan to provide additional context; legend, scale, title etc.	The attached survey plan was provided by J.K Williams when RLs were requested for the validation area
11	Please provide additional photos of the clearance / validation works.	Photos and site plan have been updated accordingly
12	Please re-orientate figures to have the north arrow pointing upwards.	Photos and site plan have been updated accordingly
	In relation to: FES (2023a) Asbestos Clearance Certificate, 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek, ref: E3116-2 Kemps Creek AC R1, dated 3 November 2023.	
1	An outdated Code of Practice for Safe Work Australia (2016) How to Safely Remove Asbestos has been referenced. Please revise the clearance, confirming works were conducted in accordance with the most recent Code of Practice?	Updated to 2020 Code of practice
2	It is not clear, what this ACC is relevant to? Please confirm what this ACC is in reference to? Is it relevant to the removal of friable (F2 & F3) stockpiles and a clearance and validation sampling of the friable stockpile footprint?	E3116-2 Kemps Creek Asbestos Clearance is the final clearance inspection of the three zones outlined in Figure 1 "site plan" after all removal works had been completed
3	Stockpile IDs have not been maintained. It appears the samples were collected of the friable stockpiling area and transit / waste routes and machinery cleaning zone as FS1-FS9 & FS11-FS16. Please confirm all friable stockpiles as per original stockpile IDs have been removed?	During the visual inspection and sampling of the E3116-2 asbestos clearance, no stockpiled materials remained within the inspection zones
a	Please confirm what type of sampling was undertaken?	wihtin report
b	Please confirm sampling density undertaken for stockpile footprint?	within report
c	Please provide a laboratory report for samples FS1-FS9 & FS11-FS16. Only a laboratory report has been provided for FS6a.	within report
4	Please provide more information on where the friable (F2 and F3 material) has been buried.	Field Screening was undertaken on all NEPM % w/w samples during sample collection. It was recorded that no potential ACM was withheld on the 7mm sieve
a	Was all F2 and F3 material placed in a containment cell or just F3 material with F2 material placed at depth as per requirements within the remediation hierarchy?	in JKW report
b	Please confirm where the F3 material has been buried. Please mark burial location on an appropriately labelled aerial photograph and give context in relation to Site location.	in JKW report
c	Please provide a survey of the burial location / containment cell.	in JKW report
5	Please provide full details on the construction and capping materials used for the containment cell, including additional photographic evidence.	This asbestos clearance report only pertains to the inspection and sampling of the removal zones & transit/ waste routes shown in Figure 1 "site plan"
6	Please provide additional photos of the clearance / validation works.	Additional photos of the clearance/ validation works have been added
7	Please re-orientate figures to have the north arrow pointing upwards.	The north arrow icon has been angled to show the approximate northerly direction on the site plan

Jenny Shao

From: Jacob Dickson <Jacob.Dickson@esr.com>
Sent: Monday, 26 August 2024 4:05 PM
To: Jenny Shao
Cc: Kellie Guenther
Subject: FW: 8686 Westlink Kemps Creek - AEC15 Stockpiles
Attachments: 8686 AEC15 Stockpiles.pdf

Hi Jenny,

See attached and below from JKW in relation to the "O" classified material stockpiles.

I will issue the ACM dockets separately from JKW.

Regards

Jacob Dickson | Project Manager - Infrastructure

ESR

ESR Australia & New Zealand
Level 12, 135 King Street, Sydney 2000 | au.esr.com
M +61 403 737 834 **D** +61 2 9506 1450 **E** Jacob.Dickson@esr.com
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Any views expressed in this e-mail are those of the individual sender, except where specifically stated to be the view of ESR or its subsidiaries.

From: Slavce Kirovski <SKirovski@jkw.com.au>
Sent: Monday, August 26, 2024 3:10 PM
To: Jacob Dickson <Jacob.Dickson@esr.com>
Subject: 8686 Westlink Kemps Creek - AEC15 Stockpiles

[EXTERNAL EMAIL**]**

Hi Jacob,

Confirming the following processing was undertaken for stockpiles from AEC15:

- Concrete from septic tank – washed onsite in place to ensure no dirt remained and then disposed at concrete recycling facility
- 40SEP01 – A (O2 material) – very small quantity buried in Lot 5 with B2 material
- 40SEP02 – D (O3 material) + AEC22-SEP02 – J (B3/O2 material) – consolidated together and stockpiled in Stage 2

Please see mark up attached for location of these stockpiles.

I'm still chasing up a tip docket for the minor quantities of asbestos material removed from site.

Regards,

Slavce Kirovski | Project Manager
JK Williams Group

D: 02 4725 3407 M: 0456 768 574
39-53 Jack Williams Drive, Penrith NSW 2750

Head to our Vimeo Channel to see what we've delivered!
Click here for JK Williams Vimeo




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Stockpile A to Lot 5 burial
Stockpiles D+J to Stage 2
Stockpiles D+J to Stage 2

Appendix G

ASBESTOS CLEARANCE CERTIFICATES

FOUNDATION EARTH SCIENCES

16th April, 2024

Ground King Civil Pty Ltd
1/15-17 Hallstrom Pl,
Wetherill Park NSW

Dear Elias,

Stockpiles - Asbestos Clearance Certificate

The following asbestos clearance is provided in accordance with Safe Work Australia (2020) *How to Safely Remove Asbestos: Code of Practice* and other regulatory guidance such as Work Health and Safety Act (2011) and the National Environmental Protection Measure (2013 updated).

1.0 Site Identification and Location

Site Identifier	Site Details
Site Location	290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW
Local Government Area (LGA)	Liverpool
Current Site Use/Status	Vacant under construction
Surrounding Land Uses	Rural Residential
Previous Land Use	Rural/Residential

The following table outlines a summary of the removal and inspection works undertaken on site:

2.0 Site Review

Removal Work	
Date Removal Work Undertaken	28/09/2023-5/10/2023
Asbestos Removal Contractor and License Number	Omega Hazmat Pty Ltd -Licence # AD214135
Contact Details	Asquith NSW- PH – 0448 888 503
Details of specific asbestos removal work areas.	The asbestos was removed from the following areas: - Stockpiles within the remediation zones labelled "Area A" and "Area B". No other areas were undertaken for asbestos removal however, asbestos may be present in these areas.
Notification and Plan Review	
Has the Asbestos Removal Control form been reviewed?	An Asbestos Removal Control form was supplied by the client.
Has the Asbestos Removal notification form been reviewed?	An Asbestos Removal Notification form was supplied by the client.
Is the removal work consistent with the control plan and notification form?	N/A
Have any notices been issued on the site (eg. Work Safe, EPA, Local Council)	Client advised no notices have been issued.
Visual Inspection Details	
Inspection Date and Time	Inspection 28/09/2023-5/10/2023
Inspected By	Ben Buckley #-LAA001012 Daniel Gibbs #CPCCBC5014A
Inspection Method	Visual and Sampling
Inspection Depth	Inspection of the above listed removal areas. Final inspection of the transit route and waste routes.
Air Monitoring Required? (if yes go to next sections)	No
Site Surface Area free from Visible Asbestos?	Areas described above have been removed.
Can the Area be reoccupied?	Yes
Air Monitoring Details	
Air Monitoring was carried out as part of the clearance inspection (the result was below 0.01 f/ml).	N/A
Has the air monitoring sample been analysed by a NATA accredited laboratory? (Attach report if available)	N/A
Can the Area be reoccupied?	N/A

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3.0 Previous Reports

Several Previous reports for were provided for a review for this project -

1. Alliance Geotechnical (2023) Remediation Action Plan, 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek 2 for ESR Investment Management 2 (Australia) Pty Ltd ATF KC Trust No.1 (report ref 13546-ER-2-2_Rev1).
2. Alliance Geotechnical (2023) Supplementary Contamination Assessment Report, 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek for ESR Investment Management 2 (Australia) Pty Ltd ATF KC Trust No.1 (report ref 13546-ER-2-3).
3. Alliance Geotechnical (2023) Supplementary Contamination Assessment Report 2, 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek for ESR Investment Management 2 (Australia) Pty Ltd ATF KC Trust No.1 (report ref 13546-ER-2-4).
4. EP Risk (2023) Alliance Remediation Action Plan, 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek for ESR Investment Management 2 (Australia) Pty Ltd ATF KC Trust No.1 report EP3244.004_Addendum 01_v1.

These reports were reviewed in detail and were utilised as part of remediation works during the assessment of the site.

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4.0 Field Observations

The following observations were made regarding the site:

- From the 28th of September to the 5th of October 2023, FES Group staff completed supervision of stockpile clearances and took forty-two (42) soil samples from the stockpiled soils labelled as AS1-AS39.
- FES Staff also undertook several inspections and inspection screening sampling across the stockpiles in order to assess the site.

5.0 Site Assessment Criteria

Health screening for asbestos in soil, which are based on scenario-specific likely exposure levels, are adopted from the WA DoH guidelines and are referred in Table 7 in Schedule B1 of the NEPM. The following health screening levels for asbestos can be seen below:

Table 3: Health Screening Levels for Asbestos

	Health Screening Levels (w/w)			
Form of Asbestos	**Residential A**	**Residential B**	**Recreational C**	**Commercial/Industrial D**
Bonded ACM	0.01%	0.04%	0.02%	0.05%
FA and AF (Friable Asbestos)	0.001%			
All forms of asbestos	No visible asbestos for surface soil			

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Further to this a letter in reference 4 described above outline site specific criteria for the project this letter is attached as an appendix to this letter (refer to Methodology Letter)

6.0 Aesthetic Considerations

Schedule B1 in NEPC (2013) requires the consideration of aesthetic issues arising from soils and groundwater within the site. The following assessment criteria were adopted when considering aesthetics:

- no persistently malodourous soils or extracted groundwater;
- no persistent hydrocarbon sheen on surface water;
- no staining or discolouration in soils, taking into consideration the natural state of the soil; and
- no large or frequently occurring anthropogenic materials present (to the extent practicable).

7.0 Remediation Strategy

The following outlines the remediation goals for the site:

- The remediation goal is to render the stockpile suitable for the proposed development upon completion of the stockpile validation works. This would be achieved by remediating the asbestos detected in the soil.

Proposed Plan / General Advice Prior Works

1. The Principal Contactor (Site Owner) and Contractor is responsible for implementing the following;

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2. Refer to the Work Health and Safety Regulations 2017 and NSW Safework Code of Practice: *How to Safely Remove Asbestos* which outlines the appropriate measures for the safe removal of asbestos.
3. In accordance with this guideline asbestos should not be damaged or impacted during construction works in order to prevent release of fibers. If in the event it is damaged, then it should be sealed with a PVA based glue or other appropriate sealing agent or be removed.
4. In the event of any previously unidentified asbestos contamination being detected notification to the On Site Environmental Engineer/Hygienist will be given immediately.
5. Where there is an immediate risk to workers health and safety all works will be ceased until appropriate safety measures can be implemented.
6. Preparation of Safety Data Sheets and Asbestos register will be undertaken in order to outline specific control and PPE required will be undertaken.
7. In the event of any asbestos contamination within a specified area with the boundaries of the work site, the creation of an exclusion zone with appropriate restriction and warnings signs (in accordance with AS1319) around the impacted area shall be created so that no unauthorised persons can enter the impacted area. The exclusion area zone should be at least 5 meters (if possible) on a non-windy day around the impacted area, and extended out 10 meters on windy days (if possible). Temporary fencing or other barriers are to be used to create this designated area.
8. If more than one area is positively identified as being impacted by asbestos contaminates then an exclusion zone shall be created around each area.
9. Use wet method (e.g. mist spray watering system or hand-held watering hose) to dampen down contaminated impacted soils. It is proposed that if the area is dry it will be sprayed using water to reduce any potential dust/odour/airborne asbestos fibres being released from the exclusion zone(s).

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Site Specific Works

10. Based on site observations on the 28th September 2023 the material identified within the impacted areas of the site have been assumed to be contaminated with **NON FRIABLE ASBESTOS**.
11. Due to the sensitive nature of the area and the potential for **NON FRIABLE ASBESTOS** to be identified it is advised that a contractor with suitable experience and expertise shall move/remove the asbestos cement sheeting pieces from the impacted area. As such it is recommended that a contractor with a Non Friable Asbestos License (Class B) be engaged to move/remove any asbestos containing materials from within the site.
12. The licensed contractor with suitable experience is to prepare an Asbestos Removal Control Plan (ARCP) and Safe Works Method Statement (SWMS). This should be in accordance with NSW Safe Work Code of Practice*: How to Safely Remove Asbestos- Appendix A* and should detail Notification and removal methods. The SWMS should detail measures to protect workers and be site specific.
13. Appropriate decontamination areas have been designated for workers (see site plan) prior to exit out of contaminated exclusion Zone(s), and disposable coveralls will be disposed of into double sealed bags within the decontamination area prior to leaving the exclusion zone(s).
14. All staff working within the exclusion zone will use personal protective equipment including disposable coveralls and a suitable respirator, gloves and eyewear in accordance with relevant Australian Standards. Coveralls with Velcro seals are not suitable for asbestos work (for further detail see PPE requirements section 5 below).
15. Excavator to spread 10m^3 stockpile in a 10 x 10 grid, at 100 mm thickness using an excavator with a tooth bucket.
16. Systematic inspection of the spread area and hand picking of visible ACM fragments.
17. Excavator to rake soils in one direction.

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18. Systematic inspection of raked surface and hand picking of visible ACM fragments.
19. Excavator to rake surface soils in a direction perpendicular to the first raking direction.
20. Systematic inspection of raked surface and hand picking of visible ACM fragments.
21. ACM fragments will be disposed to a suitably licensed waste receiving facility, with a waste classification.
22. Validation of the raked area / stockpile to be undertaken by the contractor's hygienist comprising of a visual clearance inspection and validation sampling (on-site field screening through 7 mm sieve).
23. Stockpiles that fail on-site field screening (> 0.05% w/w non-friable asbestos) will require re- treatment as per above.
24. For every 10 treated stockpiles, the Contractor's hygienist will collect a sample for Asbestos Gravimetric Analysis on 24-hour turnaround time. These stockpiles should be kept separate until laboratory results are received. If no asbestos is detected, the stockpile can be combined into the B2 stockpile. If AF/FA is detected, said stockpile is to be stockpiled in the friable stockpiling area.
25. Once validated and confirmed to achieve B2 classification, B2 stockpiles can be consolidated for future reuse.
26. Contractor is to track and is responsible for placing treated materials (B2) into fill areas onsite.
27. Licensed trucks under appropriate methods of dust avoidance and covered with polyurethane plastic will transport excavated spoil material from excavation areas within the exclusion zone to a licensed landfill.
28. Inspection from a suitably qualified environmental/occupational hygienist once removal work has been completed on the reaming building and exposed ground surfaces **prior to any further works** to confirm that all asbestos materials have been moved/removed competently from the works area.

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29. A clearance certificate will then be prepared by an independent and suitably qualified environmental/ occupational hygienist detailing the remediation procedures, landfill dockets, site photographs and laboratory sample results with the above qualifications.

8.0 Remediation Works

Remediation works were carried from the 28th of September to the 5th of October 2023. The clean-up program was undertaken with due regard to the environment and statutory requirements.

Environmental Management

FES Group has been advised by Ground King Civil Pty Ltd that the appointed remediation contractor they were aware of the contamination status of the soils and the remediation methodology to be adopted.

All remediation works will be carried out with due regard to the environment and to all statutory requirements. The works shall comply with the requirements of the following Acts:

- Protection of the Environment (Operations) Act
- Clean Air Act
- Clean Waters Act
- Noise Control Act
- Construction Safety Act
- Occupational Health and Safety Act
- Occupation Health & Safety Regulations

Specifically, all site works will comply with the provisions set out in the following:

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- *The Liverpool Council Development Control Plan;*
- *Waste Classification Guidelines, Part 1: Classifying Waste"* NSW EPA (2014);
- *NSW EPA Contaminated Sites: Guidelines for the NSW Site Auditor Scheme – 2017;*
- *The Australian and New Zealand Guidelines for Assessment and Management of Contaminated Sites – Australian and New Zealand Environment and Conservation Council (ANZECC) and National Health and Medical Research Council (NHMRC) 1999 (Amended 2013); and*
- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018, published by ANZECC and the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ).*

In addition to any statutory requirements, the contractors were responsible for carrying out the remediation works with all due care to ensure that the following conditions were specifically complied with:

- Minimal wind borne dust leaves the confines of the site.
- Water containing suspended matter or contaminants do not leave the confines of the site, as this might pollute watercourses, either directly or indirectly through the stormwater drainage system.
- Vehicles to be cleaned and secured, so that mud, soil or water, is not deposited on any public roadway or adjacent areas.
- Noise levels at the site boundaries comply with the noise quality objectives of the region, and/or legislative requirements.

The following details the environmental management practices adopted at the site during the remediation works.

- All remediation works were carried out within Council approved working hours.

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- The entire site was surrounded by wire mesh security fencing and a lockable gate. Adequate signage, containing a "no unauthorised entry" statement, as well as the contractor's name and contact details, both during and after working hours, was erected at the site entrance.
- A full time site superintendent, appointed by Ground King Civil Pty Ltd, attended for the duration of the works to ensure implementation of the day-to-day works and maintenance of the environmental safeguards.
- All earthworks machinery used on the site were fitted with warning lights and reversing signals.
- It is understood that all loaded trucks were fitted with secured covers over the entire load, thereby preventing any loss of the load on public roads.
- A water hose was provided and used to aid in dust suppression.
- Construction noise was confined to the Council approved working hours. No machinery / trucks accessed the site outside these hours of operation.
- Plant and equipment was properly and regularly maintained.
- The works area will be kept in a tidy condition so that waste materials generated by the earthworks or workers on-site will be contained.

The site access was restricted to authorised personnel during the time of the remediation works. No smoking was allowed on-site. Personal Protective Equipment (PPE) used at the site included safety boots, and gloves for people in contact with the fill. Protective level 'C' clothing was enforced for personnel working at the site.

Work Health & Safety

A site specific Work Health and Safety (WH&S) Plan was developed by Bradford Investments Pty Ltd and also a general WHS plan by FES Pty Ltd in order to ensure that the remediation works are conducted in a safe manner. Personnel working on the site are required to read and understand the WH&S Plan and must be inducted

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and sign the relevant authority form provided by the Environmental Consultant. Additionally, the requirements of the Work Health and Safety Act 2011 and Work Health and Safety Regulation 2011 will be complied with.

The following measures were implemented during the remediation works to ensure the health and safety of site workers, site visitors and the general public:

- All workers involved in the remediation works were inducted by Bradford Investments Pty Ltd WH&S Representative on the WH&S requirements and in particular, the personal protective equipment required during remedial works.
- All workers actively involved in handling soils were fitted with personal protective equipment (PPE) including disposable coveralls, disposable gloves, highly visible safety vests, waterproof safety boots, safety glasses with side shields and hardhat. The coveralls, gloves and respirator filters were disposed of daily.
- Smoking (banned on site), eating or drinking on-site was only carried out in a designated lunch room. Workers were instructed to wash hands thoroughly on completion of work and before eating, drinking or any other hand-to-mouth activity.
- A water hose was provided and used to aid in dust suppression. It is understood that no dust complaints were received from neighbours during the course of the remediation and bulk earthworks.

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9.0 Stockpile Validation Works

The excavation works within the site revolved around the spreading of 10m^3 stockpiles no more than 100mm thick. The soil was inspected for ACM then stock-piled for testing. The works were carried out by Ground King Civil Pty Ltd and Omega Hazmat Services Pty Ltd from the 28th of September to the 5th of October 2023 using a 20-tonne excavator.

Stage 1 – Sept/Oct 2023

- An Excavator to spread 10m^3 stockpile in a 10 x 10 grid, at 100 mm thickness using an excavator with a tooth bucket. Some of the grid lines prepared as part of the site plan are larger than 10x10, however this was due to varying amount of soil within some of these areas. In order to control the inspection area it was identified that the impacted piles were to be measured out in a 10 x 10 area within this grid system.
- Systematic inspection of the spread area and hand picking of visible ACM fragments.
- Excavator to rake soils in one direction.
- Systematic inspection of raked surface and hand picking of visible ACM fragments.
- An inspection for ACM was then completed. Any visible ACM was collected and disposed of according to the relevant guidelines.
- Validation of the raked area / stockpile to be undertaken by the contractor's hygienist comprising of a visual clearance inspection and validation sampling (on-site field screening through 7 mm sieve).
- The soil was then stockpiled, and a soil sample was collected to determine if the stockpile was free of asbestos.
- Any stockpiles found to contain **non-friable** ACM through the NEPM testing had the process repeated until it was found to be free of asbestos.
- It is to be noted AS26 was sampled twice due to overlap in days and stockpiling additions.

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Classification and Disposal of Soil

Prior to removal of any soils from the site, it is proposed that the all soils be classified in accordance with the NSW EPA Waste Classification Guidelines Part 1.

However, No Material is proposed to be removed offsite at this stage as it is to be buried as part of the remediation.

10.0 Stockpile Validation Results

The following summary is provided by FES Group to describe the stockpile validation works within the site.

Remediation and validation sampling of the site was carried out from 28th of September to the 5th of October 2023. Ground King Civil Pty Ltd performed the remediation works. The contractor ensured that all appropriate environmental management techniques were implemented, and all workers followed the occupational health and safety plan.

Based on the above all the results were below the relevant criteria with the exception of samples AS17 and AS5. Sample AS17 was respread and rescreened as part of the investigation. Retesting indicated that this pile was successfully remediated.

AS5 was considered friable and was removed to the friable asbestos section to be dealt in another stage.

Validation Sampling Information

Soil samples were collected from the exposed soils following the removal of the stockpiles. These samples were collected within the excavation works being undertaken in order to characterise contamination levels at the time of inspection.

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11.0 Clearance of Removal Area and Burial

An inspection was undertaken on the 13th October 2023 in order to visually inspect the surface after the remediated soils had ben removed from the area and buried an area designated by JK Williams. The burial location of the soils can be seen in the attached plan "Containment Plan".

Based on the above assessment, asbestos was removed from the asbestos removal work areas (as described above) and now has been found to be free of visible asbestos contamination. The site can therefore be reoccupied, and redevelopment of these areas may occur.

It is recommended that any excavation be undertaken carefully, and should the discovery of any contamination be identified, works should cease immediately for further assessment. An *unexpected finds protocol has been developed* as prudent planning in case of such an event.

We would be pleased to provide further information on any aspects of this report.

For and behalf of
Foundation Earth Sciences

Ben Buckley

Ben Buckley
Director

Environmental Forensic Scientist

Asbestos Assessor Licence #-LAA001012

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12.0 Limitations of Assessment

Whilst to the best of our knowledge, information contained in this report is accurate at the date of issue, although subsurface conditions, including groundwater levels and contaminant concentrations, can change in a limited time. This should be borne in mind if the report is used after a protracted delay.

There is always some disparity in subsurface conditions across a site that cannot be fully defined by investigation. Hence it is unlikely that measurements and values obtained from sampling and testing during environmental works carried out at a site will characterise the extremes of conditions that exist within the site.

There is no investigation that is thorough enough to preclude the presence of material that presently or in the future, may be considered hazardous at the site. Since regulatory criteria are constantly changing, concentrations of contaminants presently considered low may, in the future, fall under different regulatory standards that require remediation.

Opinions are judgements, which are based on our understanding and interpretation of current regulatory standards, and should not be construed as legal opinions.

Where relevant soils that are to be excavated below the identified investigation levels (0.01m) have not being visually assessed and while it is not likely contamination will be discovered based on the site history, excavations should proceed with care below this depth and further assessment should be undertaken immediately if indicators of contamination are identified. Where asbestos removal work requires a Class A licence, a licensed asbestos assessor must carry out the clearance inspection and complete an asbestos removal clearance certificate if satisfied that the area is safe to reoccupy.

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13.0 Site photos

Drone Photo of Area Prior to Removal Works Commencing 27/09/2023.



Photo of Removal Area 04/10/2023

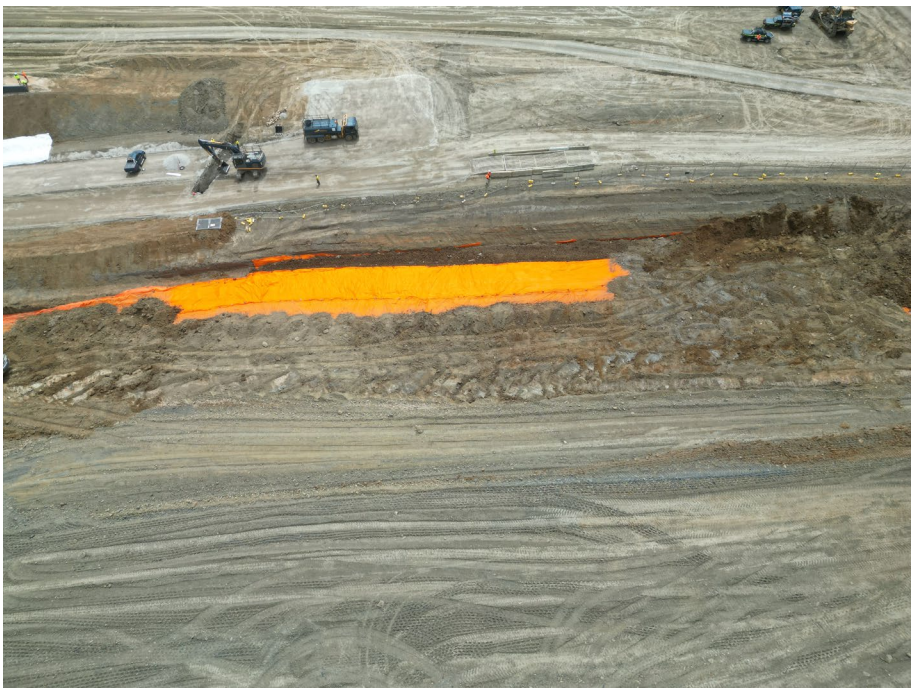


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Photo of Removal Area Following Removal Works 13/09/2023.



Drone Photo of Burial Area Following Removal Works 25/09/2023.



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*Approximate areas only (some locations may have changed due to stockpiling)

Key

Area A Site Location

Area B Site Location

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DRAWN: DG	**Site Features and Borehole Location Plan**
Figure: 1	Jk Williams/ Ground King Civil
Job #: E3116	Aldington Road, Kemps Creek

FOUNDATION EARTH SCIENCES

11th April 2024

Rev 2

Ground King Civil Pty Ltd

1/15-17 Hallstrom Pl,

Wetherill Park NSW 2164

Dear Sir/ Madam

Asbestos Clearance Certificate

The following asbestos clearance is provided in accordance with Safe Work Australia (2020) *How to Safely Remove Asbestos: Code of Practice* and other regulatory guidance such as Work Health and Safety Act (2011).

1.0 Site Identification and Location

Site Identifier	Site Details
Site Location	290-380 Aldington Rd & 59-63 Abbotts Rd, Kemps Creek NSW 2178
Local Government Area (LGA)	Penrith
Current Site Use/Status	Vacant/ Construction Zone
Surrounding Land Uses	Residential/ Rural Residential
Previous Land Use	Residential/ Rural Residential

The following table outlines the removal and inspection works undertaken on site:

2.0 Site Review

Removal Work	
Date Removal Work Undertaken	Prior to the 01/11/2023
Asbestos Removal Contractor and License Number	Penny Green Pty Ltd Licence # AD212030
Contact Details	Canley Vale, NSW 2166 Phone – 0449069330 Fax – N/A
Details of specific asbestos removal work areas.	Asbestos was removed from the following areas: - Stockpiled soils across the dedicated asbestos removal zone as per site plan. - Soil surface of the dedicated asbestos removal zone to a depth of 0.01m bgl. No other areas were undertaken for asbestos removal however, asbestos may be present in these areas.
Notification and Plan Review	
Has the Asbestos Removal Control form been reviewed?	Yes
Has the Asbestos Removal notification form been reviewed?	An Asbestos Removal Notification form was supplied by the client.
Is the removal work consistent with the control plan and notification form?	Yes
Have any notices been issued on the site (eg. Work Safe, EPA, Local Council)	Client advised no notices have been issued.
Visual Inspection Details	
Inspection Date and Time	24/10/2023, 25/10/2023, 26/10/2023, 27/10/2023, 30/10/2023, & 1/11/2023.
Inspected By	Ben Buckley #-LAA001012 Daniel Gibbs #CPCCBC5014A
Inspection Method	Visual + Sampling
Inspection Depth	Visual Inspection of the above listed removal areas and the transit route and waste routes.
Sampling	Sampling was undertaken on the soil surfaces of the asbestos removal zone, transit/ waste routes, and the machinery cleaning zone. 15 samples were collected and labelled FS1-FS9 & FS11-FS16. Sample Location FS6 failed the original testing and was further remediated.

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	Additional sampling of location FS6 was taken after FS6 soils were removed.
Air Monitoring Required? (if yes go to next sections)	Yes
Site Surface Area free from Visible Asbestos?	Areas described above have been removed.
Can the Area be reoccupied?	Yes
Air Monitoring Details	
Air Monitoring was carried out as part of the clearance inspection (the result was below 0.01 f/ml).	Yes
Has the air monitoring sample been analysed by a NATA accredited laboratory? (Attach report if available)	Yes, laboratory results attached.
Can the Area be reoccupied?	Yes

Based on the above assessment, asbestos was removed from the asbestos removal work areas (as described above) and now has been found to be free of visible asbestos contamination. The site can therefore be reoccupied, and redevelopment of these areas may occur. The asbestos soils (friable) were moved in accordance with the provided RAP and were buried in a prepared Burial cell.

It is recommended that any works be undertaken carefully, and should the discovery of any contamination be identified, works should cease immediately for further assessment. An *unexpected finds protocol has been developed* as prudent planning in case of such an event.

We would be pleased to provide further information on any aspects of this report.

For and behalf of
Foundation Earth Sciences

Ben Buckley

Ben Buckley
Director

Environmental Forensic Scientist

Asbestos Assessor Licence #-LAA001012

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3.0 Limitations of Assessment

Whilst to the best of our knowledge, information contained in this report is accurate at the date of issue, although subsurface conditions, including groundwater levels and contaminant concentrations, can change in a limited time. This should be borne in mind if the report is used after a protracted delay.

There is always some disparity in subsurface conditions across a site that cannot be fully defined by investigation. Hence it is unlikely that measurements and values obtained from sampling and testing during environmental works carried out at a site will characterise the extremes of conditions that exist within the site.

There is no investigation that is thorough enough to preclude the presence of material that presently or in the future, may be considered hazardous at the site. Since regulatory criteria are constantly changing, concentrations of contaminants presently considered low may, in the future, fall under different regulatory standards that require remediation.

Opinions are judgements, which are based on our understanding and interpretation of current regulatory standards, and should not be construed as legal opinions. This clearance does not include the interior/underlying soils of any stockpiles within the site.

Where relevant soils that are to be excavated below the identified investigation levels (0.01m) have not being visually assessed and while it is not likely contamination will be discovered based on the site history, excavations should proceed with care below this depth and further assessment should be undertaken immediately if indicators of contamination are identified. Where asbestos removal work requires a Class A licence, a licensed asbestos assessor must carry out the clearance inspection and complete an asbestos removal clearance certificate if satisfied that the area is safe to reoccupy.

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Site Photos

25/10/2023



27/10/2023



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30/10/2023



30/10/2023



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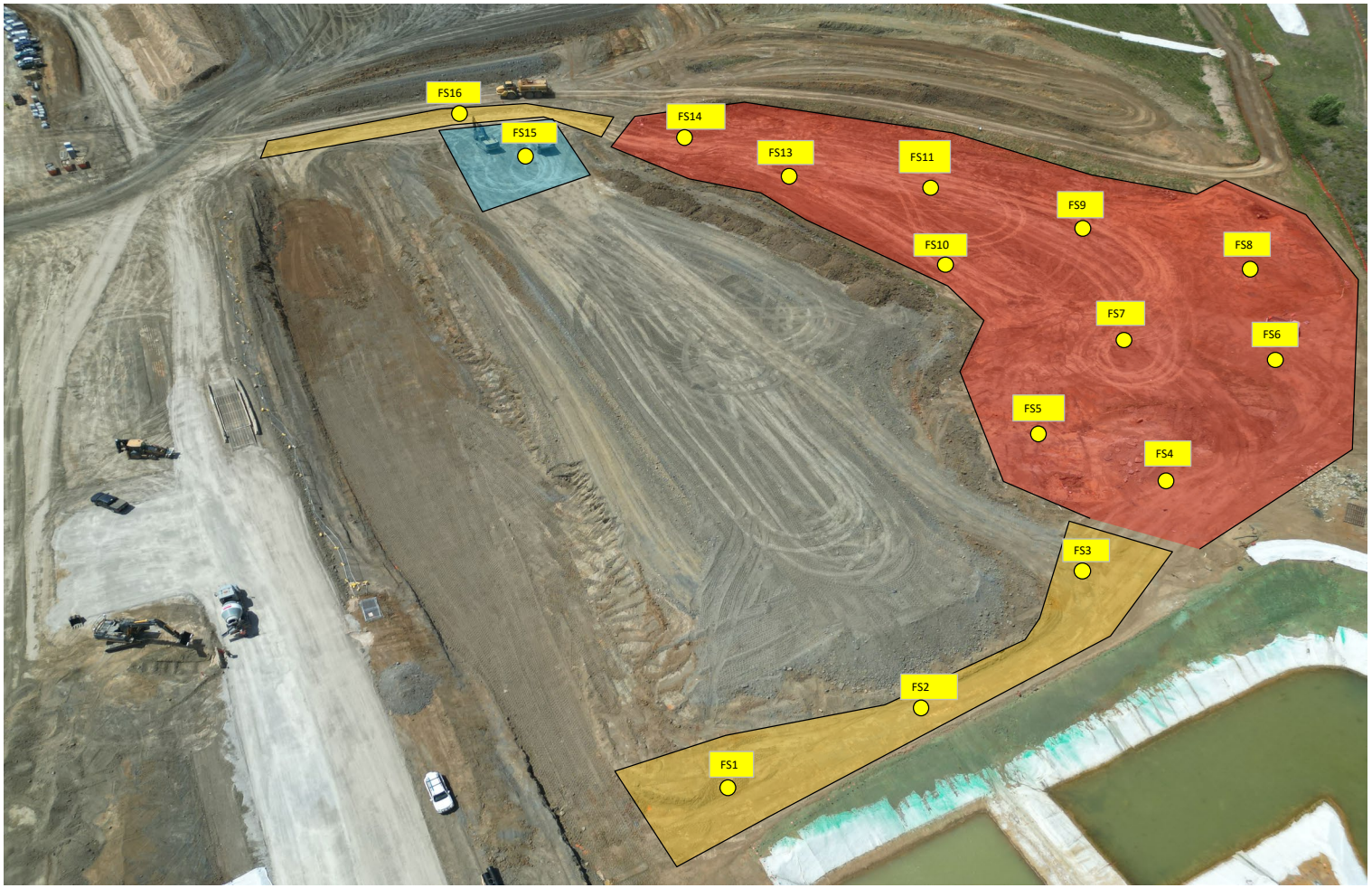
30/10/2023



01/11/2023



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Key		DRAWN	Site Plan
Site Boundary & Location	FOUNDATION EARTH SCIENCES	DG	
Testing Locations		**Figure** 1	Asbestos Clearance Certificate
Asbestos Removal Zone		**Job #** E3116-2	290-380 Aldington Rd & 59-63 Abbotts Rd, Kemps Creek NSW 2178
Waste and Transit Routes			
Machinery Cleaning Zone			

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

SAMPLE RECEIPT ADVICE

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley

Sample Login Details

Your reference	E3116-2, Kemps Creek
Envirolab Reference	336539
Date Sample Received	30/10/2023
Date Instructions Received	30/10/2023
Date Results Expected to be Reported	31/10/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	15 Soil
Turnaround Time Requested	1 day
Temperature on Receipt (°C)	20
Cooling Method	None
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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

Sample ID	Asbestos ID - soils NEPM - ASB-001
FS1	✓
FS2	✓
FS3	✓
FS4	✓
FS5	✓
FS6	✓
FS7	✓
FS8	✓
FS9	✓
FS11	✓
FS12	✓
FS13	✓
FS14	✓
FS15	✓
FS16	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

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

CERTIFICATE OF ANALYSIS 336539

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley
Address	PO Box 4405, East Gosford, NSW, 2250

Sample Details

Your Reference	**E3116-2, Kemps Creek**
Number of Samples	15 Soil
Date samples received	30/10/2023
Date completed instructions received	30/10/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	31/10/2023
Date of Issue	31/10/2023

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Asbestos Approved Analyst: Nyovan Moonean
Authorised by Asbestos Approved Signatory: Matt Mansfield

Results Approved By
Matt Mansfield, QHSE manager

Authorised By
Nancy Zhang, Laboratory Manager

Asbestos ID - soils NEPM - ASB-001						
Our Reference		336539-1	336539-2	336539-3	336539-4	336539-5
Your Reference	UNITS	FS1	FS2	FS3	FS4	FS5
Date Sampled		30/10/2023	30/10/2023	30/10/2023	30/10/2023	30/10/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	31/10/2023	31/10/2023	31/10/2023	31/10/2023	31/10/2023
Sample mass tested	g	522.33	727.46	605.88	564.89	647.3
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		336539-6	336539-7	336539-8	336539-9	336539-10
Your Reference	UNITS	FS6	FS7	FS8	FS9	FS11
Date Sampled		30/10/2023	30/10/2023	30/10/2023	30/10/2023	30/10/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	31/10/2023	31/10/2023	31/10/2023	31/10/2023	31/10/2023
Sample mass tested	g	571.93	619.84	823.26	843.6	827.93
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	Chrysotile Amosite Crocidolite	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	0.0242	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	0.0042	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		336539-11	336539-12	336539-13	336539-14	336539-15
Your Reference	UNITS	FS12	FS13	FS14	FS15	FS16
Date Sampled		30/10/2023	30/10/2023	30/10/2023	30/10/2023	30/10/2023
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	31/10/2023	31/10/2023	31/10/2023	31/10/2023	31/10/2023
Sample mass tested	g	592.98	632.52	608.12	988.18	507.04
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Report Comments

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Factual description of asbestos identified in the soil samples: NEPM
Sample 336539-6; Chrysotile, Amosite & Crocidolite asbestos identified in 0.0302g of fibrous matted material

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 336589

Date Received: 30/10/23
Time Received: 1700
Received By: AZ
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

FOUNDATION EARTH SCIENCES

Chain of Custody Record

Client Details:	Foundation Earth Sciences PO Box 4405, East Gosford NSW 2250 email: ben@foundationes.com.au michael@foundationes.com.au; d.gibbs@foundationes.com.au ph: +61466 385 221	**Project Manager:**	Ben Buckley	**Project #:** E3116-2
		Sampled By:	DG	**Project Name:** Kemps Creek
Delivery Details:	Envirolab Pty Ltd - Sydney Office 12 Ashley Street, Chatswood NSW 2067 email: ahle@envirolab.com.au ph: +612 9910 6200	**Purchase Order #:**	N/A	**Quote #:**
		Page #:	1	**Turnaround:** 31/10/23

#	Sample ID	Depth	Date Sampled	Matrix	Analytes														Sample Comments
					ph	CEC	%CLAY	Heavy Metals	TRH	BTEXN	PAH	OCP	PCB	Asbestos I.D	Asbestos %w/w (NEPM /WA)	Asbestos Air Monitor Fibre Count	OPP	Suites	
1	FS1	-	30/10/23	Soil											X				Keep
2	FS2	-	30/10/23	Soil											X				Keep
3	FS3	-	30/10/23	Soil											X				Keep
4	FS4	-	30/10/23	Soil											X				Keep
5	FS5	-	30/10/23	Soil											X				
6	FS6	-	30/10/23	Soil											X				
7	FS7	-	30/10/23	Soil											X				
8	FS8	-	30/10/23	Soil											X				
9	FS9	-	30/10/23	Soil											X				
10	FS11	-	30/10/23	Soil											X				
11	FS12	-	30/10/23	Soil											X				
12	FS13	-	30/10/23	Soil											X				
13	FS14	-	30/10/23	Soil											X				
14	FS15	-	30/10/23	Soil											X				
15	FS16	-	30/10/23	Soil											X				

Special Directions and Coments:

Relinquished by	Daniel Gibbs	Received By	ELS 840
Signature		Signature	AZ
Date	30/10/23	Date	30/10/23

Reference	Description	Sample Description	Sample No.	Replicate	Type of sample	Date analysed	Sample mass tested	Sample Description
Units						-	g	-
PQL								
Method								ASB-001
336977	E3116-2 Key	FS6a	1	0	Soil	06/11/2023	518.09	Brown clay

soil(AS496	race Analysis	al Asbestos ID in soil <.7mm	Estimd AF Estima	.7mm Estim	AF Estimation*#2		
-	-	g/kg	-	g	g	%(w/w)	%(w/w)
		<0.1	N/A	--	--	<0.01	<0.001
ASB-001	ASB-001	ASB-001	ASB-001	ASB-001	ASB-001	ASB-001	ASB-001
No asbesto	No asbesto	<0.1	No visible a	–	–	<0.01	<0.001

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

CERTIFICATE OF ANALYSIS 336977

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley
Address	PO Box 4405, East Gosford, NSW, 2250

Sample Details

Your Reference	**E3116-2 Kemps Creek**
Number of Samples	1 Soil
Date samples received	03/11/2023
Date completed instructions received	03/11/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	06/11/2023
Date of Issue	06/11/2023

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Asbestos Approved Analyst: Nyovan Moonean
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Lucy Zhu, Asbestos Supervisor

Authorised By
Nancy Zhang, Laboratory Manager

Asbestos ID - soils NEPM - ASB-001		
Our Reference		336977-1
Your Reference	UNITS	FS6a
Type of sample		Soil
Date analysed	-	06/11/2023
Sample mass tested	g	518.09
Sample Description	-	Brown clayey soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected
ACM >7mm Estimation*	g	–
FA and AF Estimation*	g	–
ACM >7mm Estimation*	%(w/w)	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.

Result Definitions

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NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Report Comments

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Anna Bui

From: Ben Buckley <ben@foundationes.com.au>
Sent: Friday, 3 November 2023 5:18 PM
To: Customer Service
Subject: COC for sample delivered today

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

Hi COuld i request the following -

SAMPLE FS6a - Test for NEPM Asbestos %w/w
Site - Kemps Creek
JOb NUmber E3116-2
need 1 day TAT

cheers
Ben Buckley
Foundation Earth Sciences Pty Ltd
Principal Environmental Forensic Scientist

ben@foundationes.com.au
#0466385221

FOUNDATION EARTH SCIENCES

ENVIROLAB GROUP

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 336977

Date Received: 03/11/23
Time Received: 1700
Received By: SP
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

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Please consider the environment before printing this email.



Asbestos Clearance Certificate (ACC001)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC001_ESR_Westlink Stage 1_AEC18_v1 | 18 July 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Asbestos Clearance Certificate – ACC001

Westlink Stage 1 – AEC18

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldginton Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao
Job Title:	Occupational Hygienist
Licenced Asbestos Assessor (LAA) / Competent Person:	LAA
LAA Number:	LAA001462

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	10.07.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to AEC18 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. AEC18 covers an approximate surface area of 30 m^2 and includes soils up to a depth of 0.1 m below ground level (mBGL).
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], the contaminant of potential concern (CoPC) identified within AEC18 was: Bonded asbestos in surface soils <0.1m below surface. The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Works will be undertaken in a manner that avoids further damage or burial of the asbestos-containing material (ACM) by the process. • Systematic inspection of surface and hand picking of visible ACM fragments. • Rake surface soils in one direction, to a depth of 0.1m below ground level, using an excavator fitted with a tooth bucket. • Systematic inspection of raked surface and hand picking of visible ACM fragments. • Rake surface soils in a direction 90° perpendicular to the first raking direction, to a depth of 0.1 mBGL using an excavator fitted with a tooth bucket. • Systematic inspection of raked surface and hand picking of visible ACM fragments. • ACM fragments disposed to a suitably licensed waste receiving facility, with a waste classification. Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos. • Field screening for bonded (non-friable) ACM (>7mm).

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☐ Other: N/A
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☒ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☐ N/A. ☐ PVA / Adhesive. ☐ Other. ☒ Imported 'clean' fill.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	10.07.2023
Time of clearance inspection:	14:00
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken across the base the excavation footprint and along the northern, southern, eastern and western perimeter excavation walls.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. No bonded (non-friable) ACM was detected during the sieve tests. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
AEC18-VAL-001	Base of excavation footprint	0.1 mBGL	No Asbestos Detected
AEC18-VAL-002	Base of excavation footprint	0.1 mBGL	No Asbestos Detected
AEC18-VAL-003	Base of excavation footprint	0.1 mBGL	No Asbestos Detected
AEC18-VAL-004	Base of excavation footprint	0.1 mBGL	No Asbestos Detected
AEC18-VAL-005	Base of excavation footprint	0.1 mBGL	No Asbestos Detected
AEC18-VAL-006	Base of excavation footprint	0.1 mBGL	No Asbestos Detected
AEC18-VAL-007	Northern wall of excavation footprint	0.1 mBGL	No Asbestos Detected
AEC18-VAL-008	Southern wall of excavation footprint	0.1 mBGL	No Asbestos Detected
AEC18-VAL-009	Eastern wall of excavation footprint	0.1 mBGL	No Asbestos Detected
AEC18-VAL-010	Western wall of excavation footprint	0.1 mBGL	No Asbestos Detected

5. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic.

	This ACC was true at the time of the inspection only.

6. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

7. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

8. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection and sieve tests. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

9. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☐ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	18.07.2023	K. Guenther	18.07.2023	S. Kelly	18.07.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*18.07.2023*	*EP3244.003_ACC001_ESR_Westlink Stage 1_AEC18_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Inaccessible areas are omitted from the assessment including beneath concrete slabs, beneath the subsurface, within the soil or fill, beneath floorboards, in the crawlspace of the building inside the walls of the structures and inside the roof cavity not in immediate.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figure



EP RISK

www.eprrisk.com.au

Asbestos Clearance Certificate (ACC001)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area and Sampling Locations

Job No: EP3244
Date: 18/07/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 2 4 6 8 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 QMS Certification Services
APPROVED COMPANY AS/NZS 4801 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 10/07/2023

AEC18 prior to remediation works.



Plate 2 – 10/07/2023

Surficial soils within AEC18 subsequent to in-situ mechanical raking and emu picking of bonded (non-friable) ACM fragments.



Plate 3 – 10/07/2023

Surficial soils within AEC18 subsequent to in-situ mechanical raking and emu picking of bonded (non-friable) ACM fragments.



Plate 4 – 10/07/2023

Surficial soils within AEC18 subsequent to in-situ mechanical raking and emu picking of bonded (non-friable) ACM fragments.



Asbestos Clearance Certificate (ACC002)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC002_ESR_Westlink Stage 1_AEC01a_v1 | 2 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

2 August 2023
Ref: EP3244.003_ACC002_ESR_Westlink Stage 1_AEC01a_v1

Asbestos Clearance Certificate – ACC002

Westlink Stage 1 – AEC01a

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462) Sean Kelly – Senior Occupational Hygienist (LAA001369) Sally Kennedy – Environmental Scientist Zak Bursey – Graduate Environmental Scientist

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	11.07.2023 - 12.07.2023 & 24.07.2023 - 25.07.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to AEC01a within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. AEC01a covers an approximate surface area of 80 m^2 and includes soils up to a depth of 0.1 m below ground level (mBGL).
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], the contaminant of potential concern (CoPC) identified within AEC01a was: Bonded asbestos in surface soils <0.1m below surface. The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Works will be undertaken in a manner that avoids further damage or burial of the asbestos-containing material (ACM) by the process. • Systematic inspection of surface and hand picking of visible ACM fragments. • Rake surface soils in one direction, to a depth of 0.1m below ground level, using an excavator fitted with a tooth bucket. • Systematic inspection of raked surface and hand picking of visible ACM fragments. • Rake surface soils in a direction 90° perpendicular to the first raking direction, to a depth of 0.1 mBGL using an excavator fitted with a tooth bucket. • Systematic inspection of raked surface and hand picking of visible ACM fragments. • ACM fragments disposed to a suitably licensed waste receiving facility, with a waste classification. During remediation works, an unexpected find (UF) in the form of an asbestos cement (AC) conduit was identified within the western portion of AEC01a. This UF was raised by TCE as UF003, subsequently removed and a separate Asbestos Clearance Certificate has been issued pertaining to the removal of the conduit (EP Risk 2023)[2].

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

[2] EP Risk Management (EP Risk), *Asbestos Clearance Certificate (ACC003), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: EP3244.003_ACC003_v1, dated 02 August 2023 (EP Risk 2023).

	Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils and residual in-situ rake footprint for visible asbestos. • Field screening for bonded (non-friable) ACM (>7mm).
Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☐ Other: N/A
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☐ N/A. ☐ PVA / Adhesive. ☐ Other. ☒ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	11.07.2023 - 12.07.2023 & 24.07.2023 - 25.07.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken across the 'base' the in-situ rake footprint and along the northern, southern, eastern and western perimeter in-situ rake footprint 'walls'.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. Where bonded (non-friable) ACM was detected within the sieve, the area was retreated as per the approved RAP methodology and a visual and field screening undertaken again. No bonded (non-friable) ACM was detected during the final sieve tests. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
AEC01a-VAL-001	Southern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-002	Southern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-003	Southern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-004	Southern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-005	Eastern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-006	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-007	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-008	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-009	Western wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-010	Eastern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-011	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-012	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-013	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-014	Western wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-015	Eastern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-016	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected

Sample ID	Location	Sample Depth	Result
AEC01a-VAL-017	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-018	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-019	Western wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-020	Eastern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-021	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-022	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-023	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-024	Western wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-025	Eastern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-026	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-027	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-028	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-029	Western wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-030	Western wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-031	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-032	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-033	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-034	Eastern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-035	Northern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-036	Northern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-037	Northern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
AEC01a-VAL-038	Northern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected

5. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. The visual inspection was limited to surficial soils only and does not include soil beneath trees remaining in the Clearance Area. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos*

	(2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

6. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

7. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

8. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection and sieve tests. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

9. ATTACHMENTS

1. Figure(s)	Yes ☒	No ☐	N/A ☐
2. Photolog	Yes ☒	No ☐	N/A ☐
3. Clearance Air Monitoring Report	Yes ☐	No ☐	N/A ☒
4. Certificate of Analysis	Yes ☐	No ☐	N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	Z. Bursey	02.08.2023	K. Guenther	02.08.2023	J. Shao	02.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*02.08.2023*	*EP3244.003_ACC002_ESR_Westlink Stage 1_AEC01a_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC002)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area and Sampling Locations

Job No: EP3244
Date: 02/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 5 10 15 20 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 24/07/2023

Surficial soils within AEC01a subsequent to in-situ mechanical raking and emu picking of bonded (non-friable) ACM fragments.



Plate 2 – 24/07/2023

Surficial soils within AEC01a subsequent to in-situ mechanical raking and emu picking of bonded (non-friable) ACM fragments.



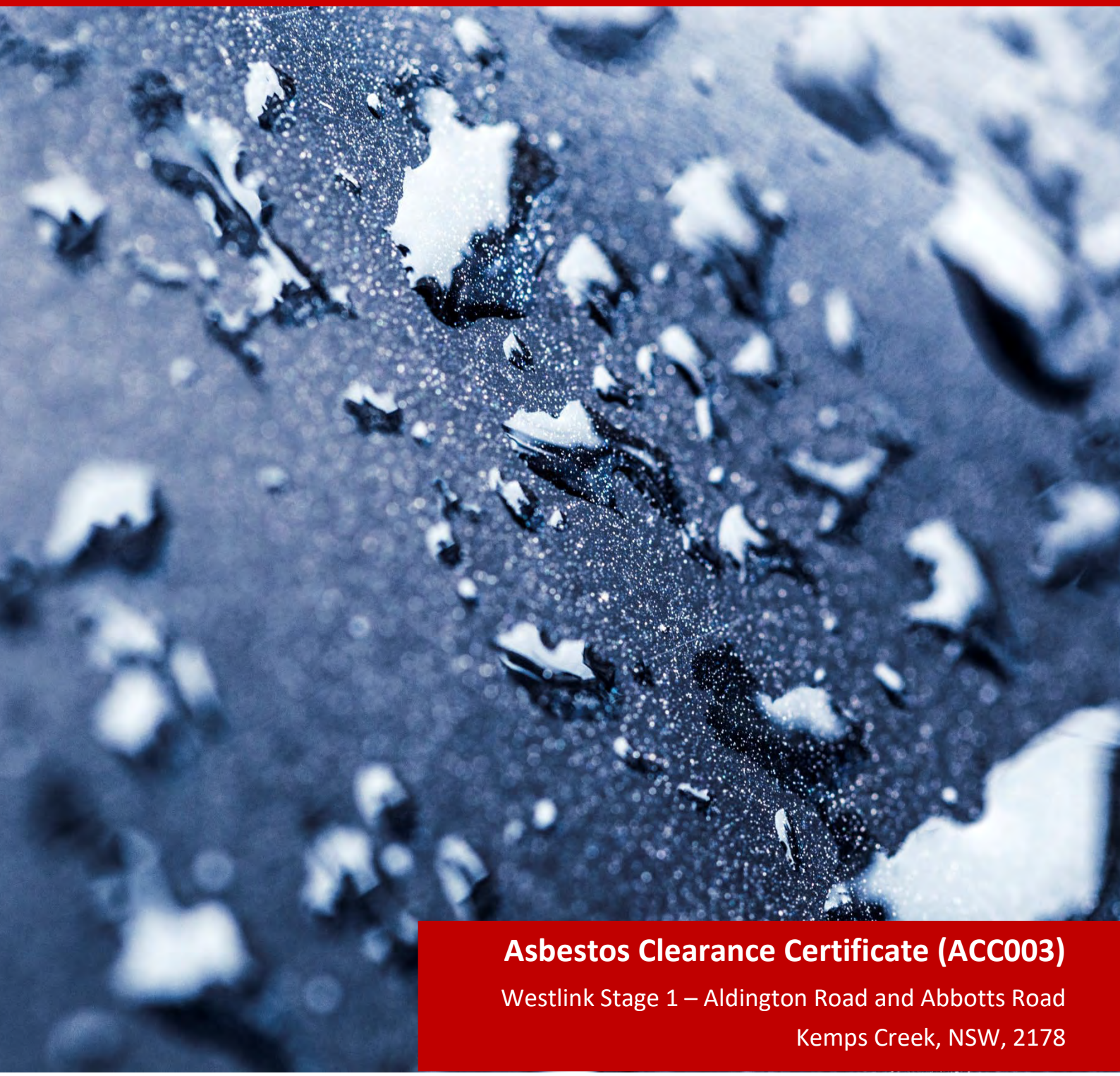
Plate 3 – 24/07/2023

Surficial soils within AEC01a subsequent to in-situ mechanical raking and emu picking of bonded (non-friable) ACM fragments.



Plate 4 – 24/07/2023

Validation sieving within AEC01a subsequent to in-situ mechanical raking and emu picking of bonded (non-friable) ACM fragments.



Asbestos Clearance Certificate (ACC003)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC003_ESR_Westlink Stage 1_UF003_v1 | 2 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

2 August 2023
Ref: EP3244.003_ACC003_ESR_Westlink Stage 1_UF003_v1

Asbestos Clearance Certificate – ACC003

Westlink Stage 1 – UF003

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Sean Kelly – Senior Occupational Hygienist (LAA001369) Zak Bursey – Graduate Environmental Scientist

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	14.07.2023 & 24.07.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to Unexpected Find (UF) - UF003 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. UF003 comprised of: • Bonded (non-friable) asbestos cement (AC) conduit, approximately 4 m in length, running in a north-south direction adjacent to TP09. • Friable asbestos in soils (ASBINS) within a 1 m x 1 m box out within the break point of the conduit, up to a depth of 0.3 metres below ground surface (mBGS).
Scope of work (as advised by client/contractor):	The remediation methodology as undertaken by TCE to manage and remove the UF was as follows: • Works will be undertaken in a manner that avoids further damage or burial of the asbestos-containing material (ACM) by the process. • Soil within the 1 m x 1 m box out, up to a depth of 0.3m BGS around the breakpoint of the asbestos cement conduit was carefully excavated and stockpiled for load out as friable (F3) material to the on-site stockpiling pad. • Following the initial excavation, a 1 m trench on either side of the AC conduit was carefully excavated to expose the remaining length of the conduit. • Once the entire length of the conduit was identified, the conduit was carefully removed from the trench and wrapped in black plastic sheeting for disposal in the asbestos skip bin. Following the remediation works, EP Risk adopted a validation strategy encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos. • Collection of validation samples of the residual in-situ material beneath the conduit break point.
Type of asbestos containing material (ACM) removed:	☒ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS).

	☒ Other: AC Conduit
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☐ N/A. ☐ PVA / Adhesive. ☐ Other. ☒ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	14.07.2023 & 24.07.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. ASBESTOS GRAVIMETRIC (AF/FA) RESULTS

Following the visual clearance inspection of the Clearance Area, EP Risk collected one (1) 500 mL sample of the residual in-situ material beneath the conduit break point. The sample was submitted to a National Association of Testing Authorities (NATA) accredited laboratory for Asbestos Gravimetric Analysis (non-NATA) for the detection of Asbestos Fines (AF)/Fibrous Asbestos (FA).

No asbestos was detected above the reporting limit of 0.1 g/kg. Moreover, no trace (respirable) asbestos fibres were detected. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
UF003-VAL-001	Base of excavation footprint	0.3 mBGL	No Asbestos Detected

5. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

6. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

7. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

8. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection and within gravimetric asbestos samples. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

9. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	H. Erskine	02.08.2023	K. Guenther	02.08.2023	J. Shao	02.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*02.08.2023*	*EP3244.003_ACC003_ESR_Westlink Stage 1_UF003_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

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Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC003)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area and Sampling Locations

Job No: EP3244
Date: 02/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 5 10 15 20 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 14/07/2023

UF003 – Asbestos cement conduit identified within AEC01a during remediation in-situ treatment works.



Plate 2 – 14/07/2023

UF003 – Breakpoint of asbestos cement conduit.



Plate 3 – 14/07/2023

UF003 – Breakpoint of asbestos cement conduit.



Plate 3 – 14/07/2023

Post remedial works: Excavated trench and 1 m x 1 m box out at the breakpoint of asbestos cement conduit.

Attachment 3 – Certificate of Analysis

Bulk Identification Report V3

Job No:	754-SYDEN234000 Bulk ID Report EP3244.001 17072023 V3
Client:	EP Risk Management Pty Ltd
Client Address:	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW
Contact:	Jenny Shao
E-mail:	jenny.shao@eprisk.com.au
Date Sampled:	14-07-23
Date Analysed:	17-07-23
Date Authorised:	18-07-23
Sampled By:	As received by client (Zak Bursey)
Site:	ESR

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No:2220
Corporate Site No:16909

Please note: Where you have provided the samples for analysis, Tetra Tech Coffey Pty Ltd does not take any responsibility for the quality of the such samples. This report relates exclusively to the samples analysed by Tetra Tech Coffey Pty Ltd and as such only the samples submitted or collected for analysis have been considered in presenting these results. The data and results contained in this report are not representative of the site, product or source material as a whole. Tetra Tech Coffey Pty Ltd does not make any warranty or representation in relation to the site, product or source material as a whole. If you suspect any material to contain asbestos, then you must immediately stop the works and activities at the site or in respect of the materials and engage Tetra Tech Coffey Pty Ltd or another suitably trained asbestos hygienist to sample, assess or re-assess (as the case may be) the material suspected to contain asbestos.

Test Method: **Asbestos in Bulk Samples and Non-homogenous Material**
Tetra Tech Coffey Pty Ltd analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Coffey SOP WILAB1, and Australian Standard (AS) 4964 – 2004, Method for the qualitative identification of asbestos in bulk samples (AS 4964). The detection limit for the test method as per AS 4964 is 0.1 g/kg. For non-homogenous samples a semi-quantitative aspect is adopted for the test method and is taken into account when reporting the results. As per Tetra Tech Coffey Pty Ltd's NATA approved SOP WILAB1 sample retention periods are set at 1 month for all samples from the date of analysis.
Please note; this report; ***754-SYDEN234000 Bulk ID Report EP3244.001 17072023 V3*** *supersedes the report;* ***754-SYDEN234000 Bulk ID Report EP3244.001 17072023 V2*** *issued on the 18/07/2023. This is due to a formatting error, the results remain the same.*

Analysed At: Tetra Tech Coffey Pty Ltd Laboratory, Level 20, Tower B, Citadel Towers 799 Pacific Highway Chatswood NSW 2067

Total Samples: 2

Approved Identifier
Panika Wongchanda

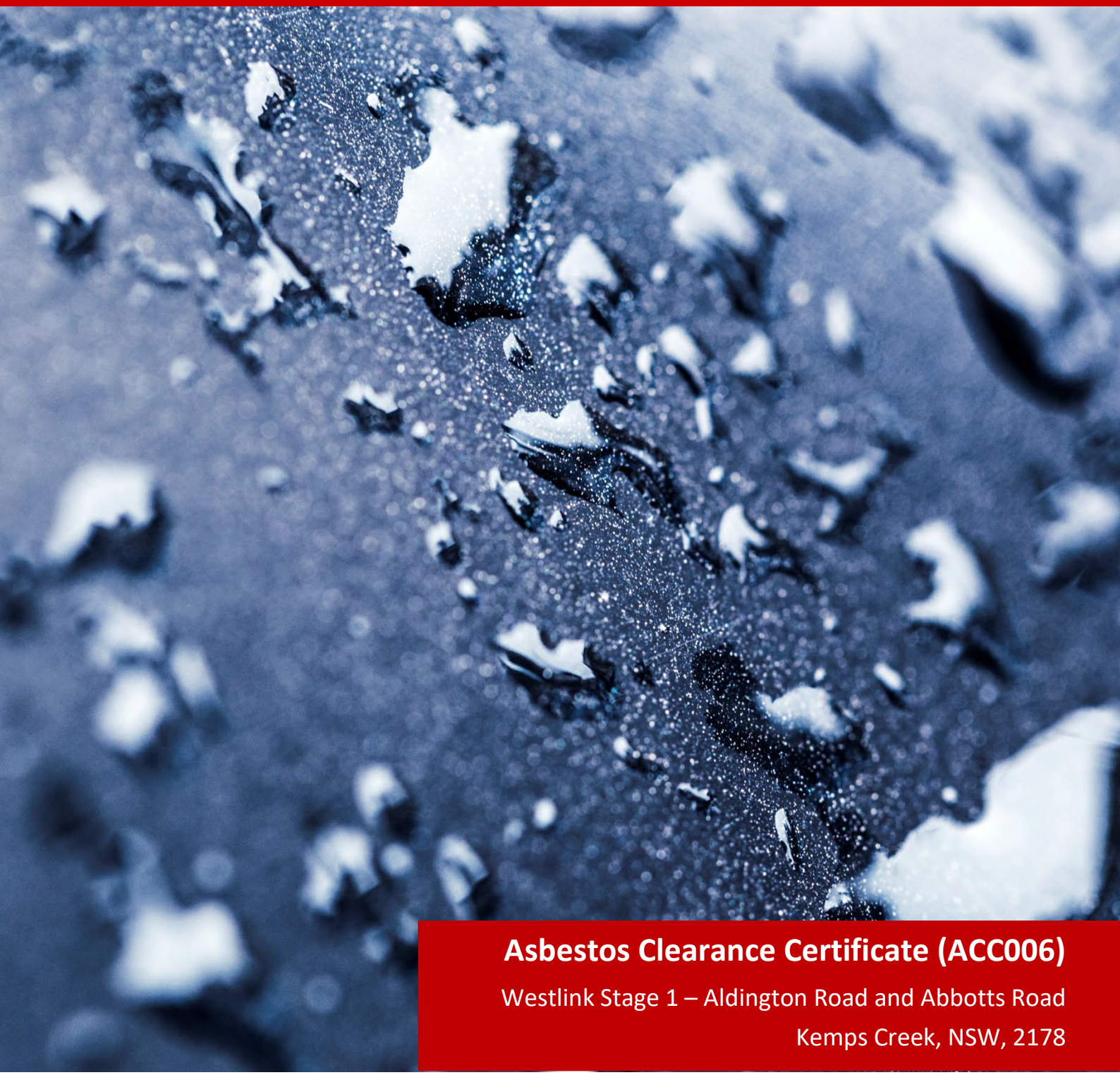
Approved Signatory
Matthew Tang

Sample No.	Location & Description	Sample Size (~)	Results
UF003_VAL_001	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 512 g > 2mm fraction ~ 269.7 g < 2mm fraction ~ 242.3 g < 2mm sub sample ~ 29.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
DW23-016	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 511.2 g > 2mm fraction ~ 192.4 g < 2mm fraction ~ 318.8 g < 2mm sub sample ~ 42.3 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Notes

Subsampling is carried out as per Coffey SOP WILAB1 using the coning and quartering method, please note subsampling may reduce the accuracy of the analytical result.

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Asbestos Clearance Certificate (ACC006)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC006_ESR_Westlink Stage 1_UF019_v1 | 7 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

7 August 2023
Ref: EP3244.003_ACC006_ESR_Westlink Stage 1_UF019_v1

Asbestos Clearance Certificate – ACC006

Westlink Stage 1 – UF019

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462)

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	01.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to Unexpected Find (UF) - UF019 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. UF019 comprised of: • Concrete stockpile contaminated with bonded (non-friable) asbestos containing material (ACM) fragments identified directly northeast of AEC01a.
Scope of work (as advised by client/contractor):	The remediation methodology as undertaken by TCE to manage and remove the UF was as follows: • Works will be undertaken in a manner that avoids further damage or burial of the asbestos-containing material (ACM) by the process. • The concrete stockpile was carefully excavated and loaded out to the on-site stockpiling pad, located outside of Lot 13. Following the remediation works, EP Risk adopted a validation strategy encompassing the following: • A visual assessment of surface soils for visible asbestos.
Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☐ Asbestos in Soil (ASBINS). ☐ Other: N/A
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.

Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	03.08.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☒ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic.

	This ACC was true at the time of the inspection only.

5. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

6. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

7. CLEARANCE DECLARATION

Visible ACM was not identified to surficial soils beneath the footprint of the concrete stockpile during the asbestos visual clearance inspection. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

8. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	N. Madigan	07.08.2023	K. Guenther	07.08.2023	J. Shao	07.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*07.08.2023*	*EP3244.003_ACC006_ESR_Westlink Stage 1_UF019_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC006)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 07/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 7 14 21 28 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: NM
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems

QMS Certification Services QMS Certification Services QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 12/07/2023

UF019 - Concrete stockpile contaminated with ACM fragments.



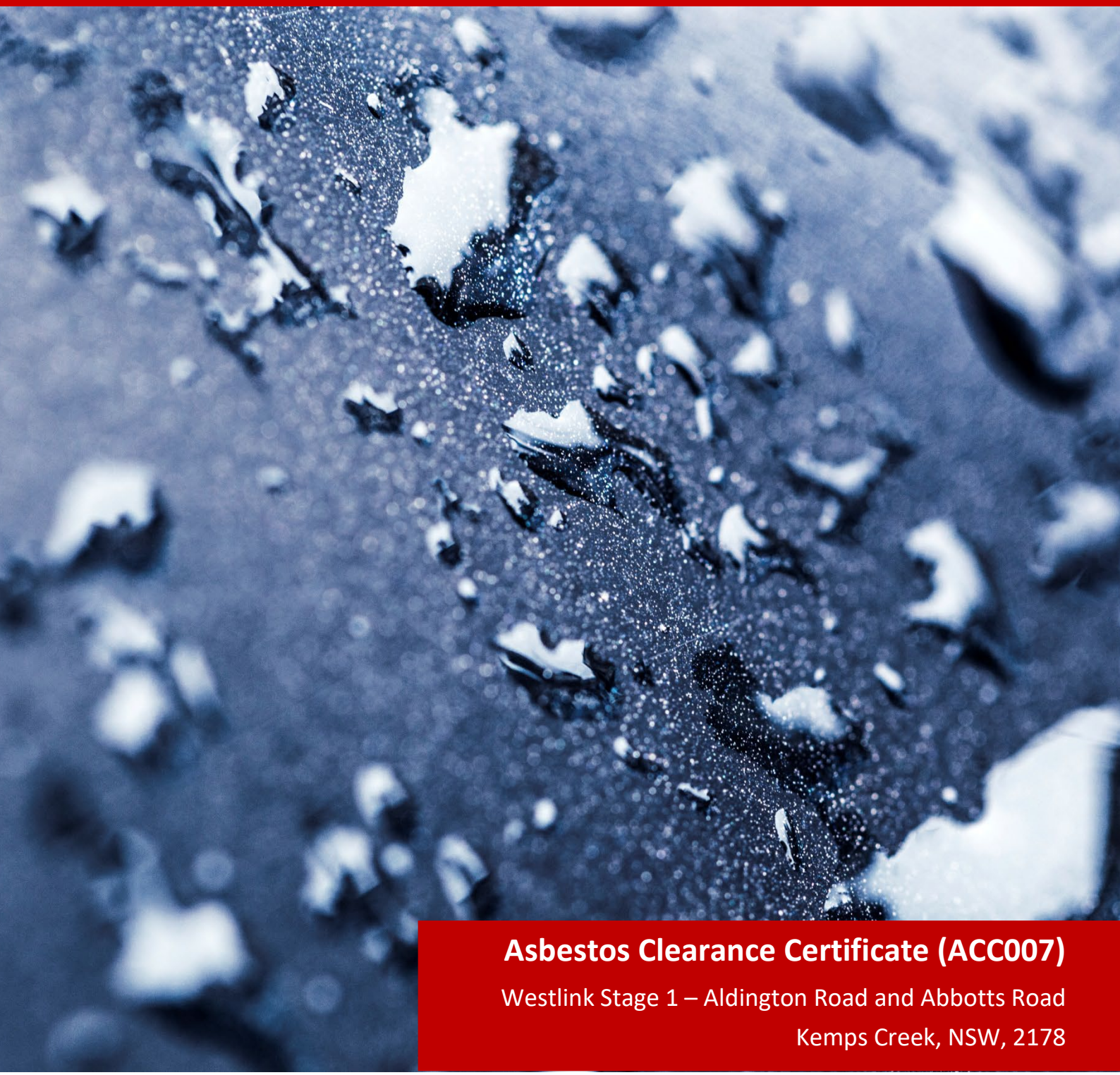
Plate 2 – 12/07/2023

UF019 - Concrete stockpile contaminated with ACM fragments.



Plate 3 – 03/08/2023

Ground surface following removal of UF019 - concrete stockpile contaminated with ACM fragments.



Asbestos Clearance Certificate (ACC007)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC007_ESR_Westlink Stage 1_AEC38_v1 | 8 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

8 August 2023
Ref: EP3244.003_ACC007_ESR_Westlink Stage 1_AEC38_v1

Asbestos Clearance Certificate – ACC007

Westlink Stage 1 – AEC38

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462) Sean Kelly – Senior Occupational Hygienist (LAA001369) Naomi Madigan – Graduate Environmental Scientist

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	11.07.2023, 14.07.2023, 26.07.2023 – 27.07.2023, 28.07.2023 & 01.08.2023 – 04.08.2023 & 07.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to AEC38 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. AEC38 covers an approximate surface area of 8,200 m^2 and includes surface soils only. AEC38 is divided into an 'upper' and 'lower' area.
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], the contaminant of potential concern (CoPC) identified within AEC38 was: Visible asbestos in surface soils. The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Works will be undertaken in a manner that avoids further damage or burial of the asbestos-containing material (ACM) by the process. • Vegetation will be removed (i.e. stripped, tilled or grubbed), in order to facilitate clear and unobstructed visual assessment of surface soils. • A grid-based walkover assessing the presence of visible asbestos in surface soils. The walkover will be undertaken on transects spaced 5 m apart, with at least one pass in north/south direction and one in an east/west direction. • The walkover will be undertaken by a person with suitable experience in the identification of potential asbestos containing materials. • ACM fragments disposed to a suitably licensed waste receiving facility, with a waste classification. During the walkover of the 'lower' portion of AEC38, multiple bonded (non-friable) ACM fragments <7mm were identified along the southern and southwestern end. Based on the small size of these fragments, two (2) areas were considered impracticable for emu picking. As such, soils within these two (2) marked areas were scraped to a maximum depth of 0.1 mBGL, with soils transported and stockpiled at the stockpiling pad as F3 material. This was raised as UF022.

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

	Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils and residual remediation cleared of vegetation for visible asbestos. • Field screening for bonded (non-friable) ACM (>7mm) in areas where a surface scrape was undertaken.
Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☐ Other: N/A
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	28.07.2023 & 01.08.2023 – 04.08.2023 & 07.08.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐

Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken across the base and walls of the two (2) areas excavated to 0.1 mBGL as they were deemed unsuitable for emu-picking. Sieving tests were undertaken across the base and walls of each footprint, where practicable.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. No bonded (non-friable) ACM was detected during the sieve tests. Results have been summarised below.

Area	Sample ID	Location	Sample Depth	Result
Area 1	AEC38-VAL-001	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-002	Base of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-003	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-004	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-005	Base of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-006	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-007	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-008	Base of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-009	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-010	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-011	Base of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-012	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-013	Wall of trench	0.1 mBGL	No Asbestos Detected

	AEC38-VAL-014	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-015	Base of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-016	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-017	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-018	Base of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-019	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-020	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-021	Base of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-022	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-023	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-024	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-025	Base of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-026	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-033	Wall of trench	0.1 mBGL	No Asbestos Detected
Area 2	AEC38-VAL-027	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-028	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-029	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-030	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-031	Wall of trench	0.1 mBGL	No Asbestos Detected
	AEC38-VAL-032	Wall of trench	0.1 mBGL	No Asbestos Detected

5. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. The visual inspection was limited to surficial soils only and does not include soil beneath trees remaining in the Clearance Area. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

6. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

7. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.

Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

8. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the Clearance Area during the asbestos visual clearance inspection. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

9. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☐ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	N. Madigan	08.08.2023	K. Guenther	08.08.2023	J. Shao	08.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*08.08.2023*	*EP3244.003_ACC007_ESR_Westlink Stage 1_AEC38_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

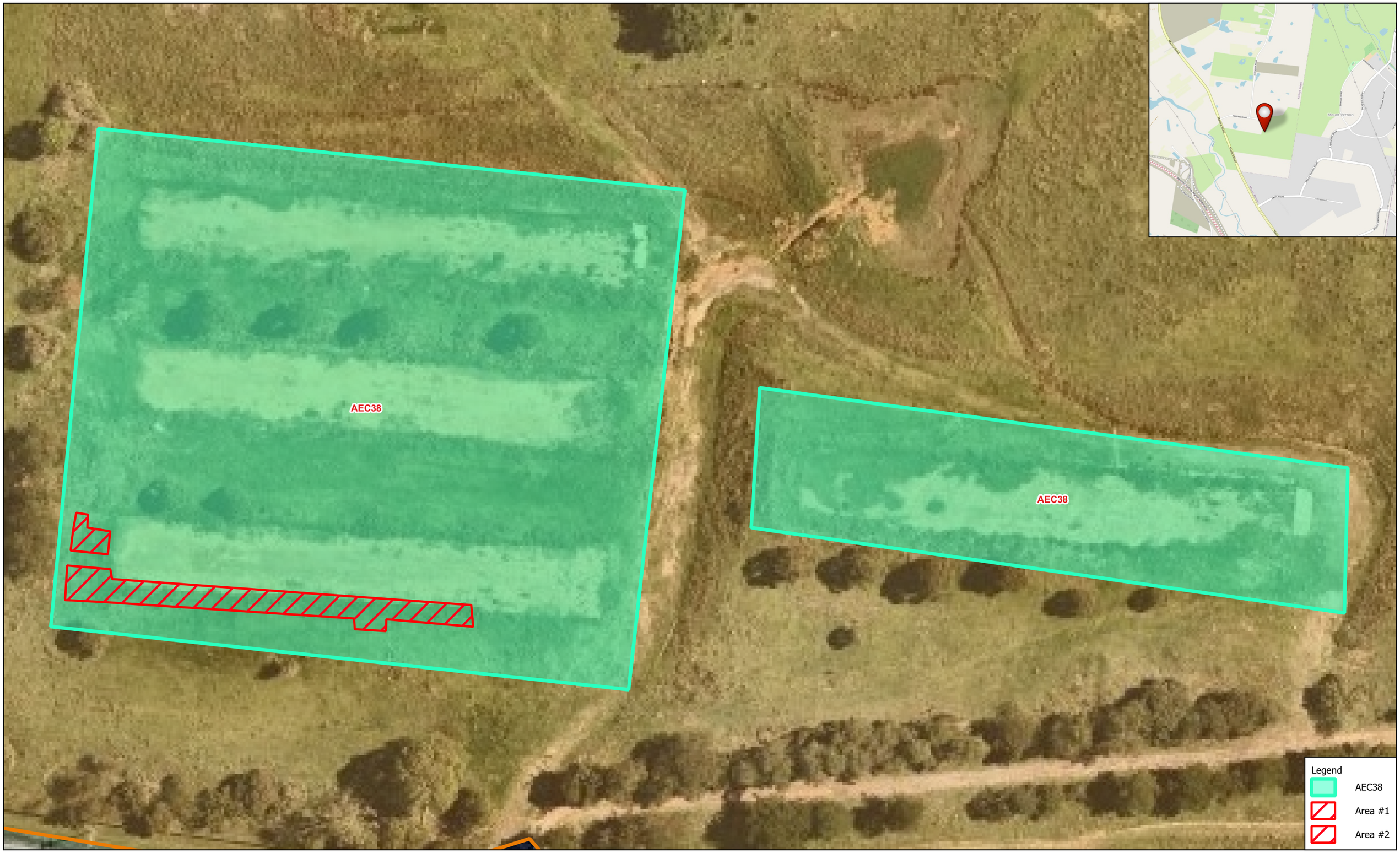
It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

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Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC007)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 07/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

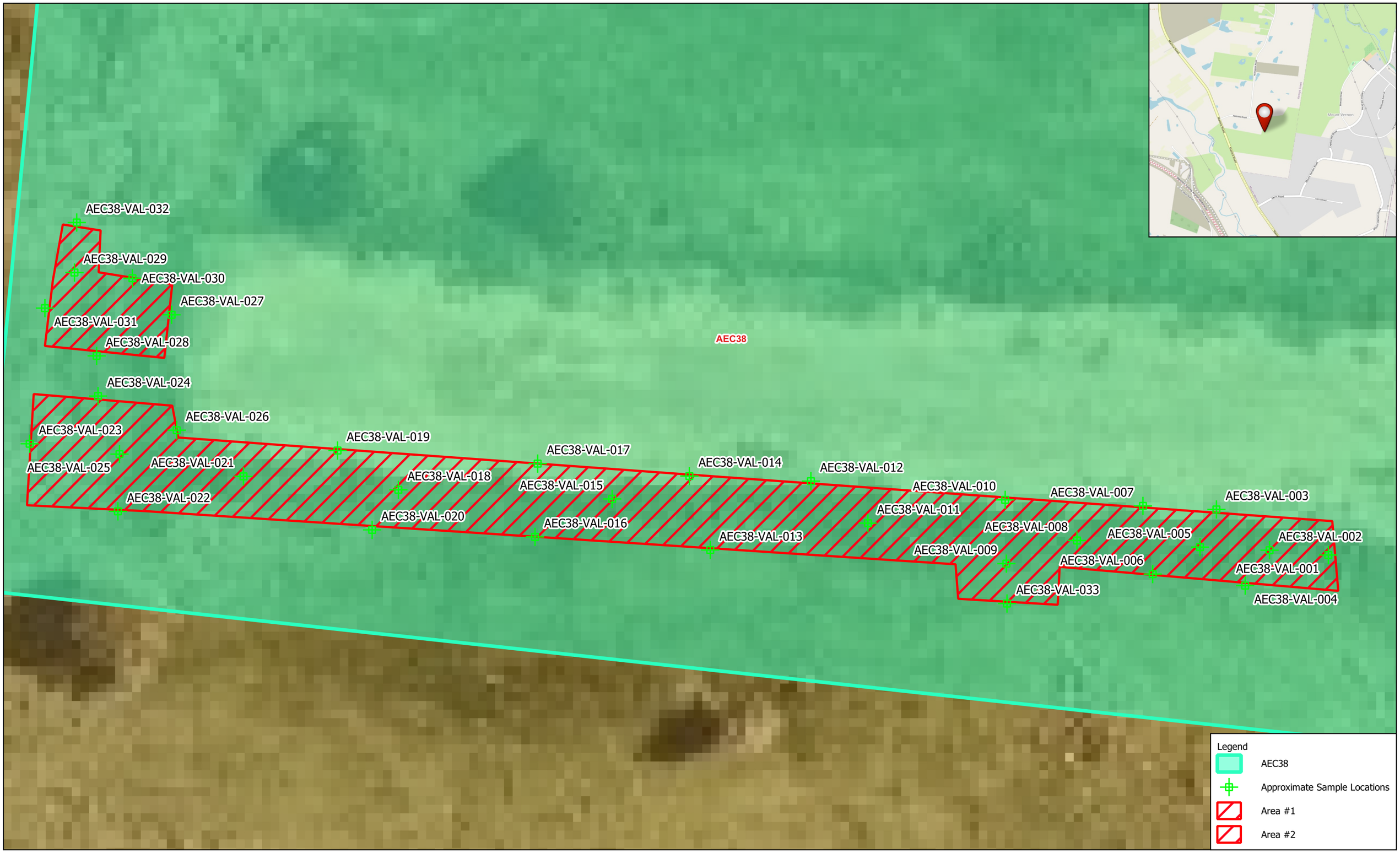
N

0 7 14 21 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: NM
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services



EP RISK

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Asbestos Clearance Certificate (ACC007)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 2 - Clearance Area

Job No: EP3244
Date: 07/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 7 14 21 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: NM
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 28/07/2023

AEC38 (Upper) following vegetation scrape + emu pick of surficial soils.



Plate 2 – 28/07/2023

AEC38 (Upper) following vegetation scrape + emu pick of surficial soils.



Plate 3 –28/07/2023
AEC38 (Upper) following vegetation scrape + emu pick of surficial soils.



Plate 4 – 28/07/2023
AEC38 (Upper) following vegetation scrape + emu pick of surficial soils.



Plate 5 – 02/08/2023

AEC38 (Lower) following vegetation scrape + emu pick of surficial soils.



Plate 6 – 02/08/2023

AEC38 (Lower) following vegetation scrape + emu pick of surficial soils.



Plate 7 – 02/08/2023

AEC38 (Lower) following vegetation scrape + emu pick of surficial soils.



Plate 8 – 02/08/2023

AEC38 (Lower) following vegetation scrape + emu pick of surficial soils.



Plate 9 – 02/08/2023

AEC38 (Lower) following vegetation scrape + emu pick of surficial soils.



Plate 10 – 07/08/2023

AEC38 (Lower) following vegetation scrape + emu pick of surficial soils.



Plate 11 – 07/08/2023

AEC38 (Lower) following vegetation scrape + emu pick of surficial soils.



Plate 12 – 07/08/2023

AEC38 (Lower) following vegetation scrape + emu pick of surficial soils.



Asbestos Clearance Certificate (ACC008)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC008_ESR_Westlink Stage 1_8 Tonne Excavator_v1 | 14 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Asbestos Clearance Certificate – ACC008

Westlink Stage 1 – 8 Tonne Excavator

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – Jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW, 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
License Number:	AD213189
Class A / Class B:	Class A (Friable) and Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462)

2. DECONTAMINATION WORK DETAILS

Work Details	
Date of decontamination works:	08.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to the 8 Tonne Excavator (M570 / EX1375 – Rego 31179E), subject to final decontamination works prior to demobilisation off-site. It should be noted the tracks and buckets of the excavator were decontaminated several times over the course of the remediation project. These visual clearance inspections were undertaken and documented by EP Risk in the form of a photographic record.
Scope of work (as advised by client/contractor):	Asbestos remediation works were undertaken at the Site by TCE in accordance with the Alliance (2023) Remediation Action Plan (RAP)[1]. This involved the use of an excavator to excavate and treat asbestos in soils (ASBINS) at the Site. Following completion of remediation works and prior to demobilisation off-site, the interior and exterior surfaces of the excavator was washed down with water and cleaned with isopropyl alcohol as far as reasonably practicable by TCE. Subsequently, EP Risk was engaged to undertake a clearance inspection of the decontamination unit and issue a clearance inspection verifying the excavator had been cleaned to a satisfactory standard and no visible asbestos containing material (ACM) was present on accessible surfaces.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	08.08.2023
Time of clearance inspection:	09:00
Interior and exterior surfaces of the excavator are free from all dust and debris:	Yes ☒ No ☐ N/A ☐

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Specific details of limitations and/or exclusions:	This clearance certificate covers the accessible surfaces of the equipment detailed above at the time of inspection only. It is not feasible in a clearance inspection to inspect all internal components of an excavator, such as within the engine bay or voids within the structure of the mobile plant. This clearance certificate applies only to the equipment described. above and does not apply to any other Site equipment, soil or building components. The inspection does not apply to the Site in general or any other equipment not referenced in this clearance. The visual clearance was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. This Asbestos Clearance Certificate was true at the time of the inspection only.
Comments	
This Asbestos Clearance Certificate relates only to the visible and accessible surfaces of the equipment as described previously and was true at the time of the inspection.	

5. CLEARANCE DECLARATION

Visible asbestos was not identified on the internal and external accessible surfaces of the excavator and the equipment is suitable for removal off-site.

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

6. ATTACHMENTS

1. Figure(s)	Yes ☐ No ☐ N/A ☒
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Certificate of Analysis	Yes ☐ No ☐ N/A ☒
4. Air Monitoring Report (Friable)	Yes ☐ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	14.08.2023	K. Guenther	14.08.2023	K. Guenther	14.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*14.08.2023*	*EP3244.003_ACC008_ESR_8 Tonne Excavator_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Photolog



Plate 1 – 08/08/2023

Exterior rear view of the 8 Tonne Excavator subsequent to final decontamination works.



Plate 2 – 08/08/2023

Exterior tracks of the 8 Tonne Excavator subsequent to final decontamination works.



Plate 3 – 08/08/2023

Exterior tracks of the 8 Tonne Excavator subsequent to final decontamination works.



Plate 4 – 08/08/2023

Exterior tracks of the 8 Tonne Excavator subsequent to final decontamination works.



Plate 5 – 08/08/2023

Exterior tracks of the 8 Tonne Excavator subsequent to final decontamination works.



Plate 6 – 08/08/2023

Exterior tracks of the 8 Tonne Excavator subsequent to final decontamination works.



Plate 7 – 09/08/2023

Interior surfaces of the 8 Tonne Excavator subsequent to final decontamination works.



Plate 8 – 08/08/2023

Interior surfaces of the 8 Tonne Excavator subsequent to final decontamination works.



Asbestos Clearance Certificate (ACC009)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC009_ESR_Westlink Stage 1_UF015_v1 | 3 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

3 August 2023
Ref: EP3244.003_ACC009_ESR_Westlink Stage 1_UF015_v1

Asbestos Clearance Certificate – ACC009

Westlink Stage 1 – UF015

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462)

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	27.07.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to Unexpected Find (UF) - UF015 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. UF015 comprised of: • Bonded (non-friable) asbestos cement (AC) conduit, approximately 3 m in length, running in a north-south direction adjacent to TP07. • Friable asbestos in soils (ASBINS) within a 1 m x 1 m box out within the break point of the conduit, up to a depth of 0.3 metres below ground surface (mBGS).
Scope of work (as advised by client/contractor):	The remediation methodology as undertaken by TCE to manage and remove the UF was as follows: • Works will be undertaken in a manner that avoids further damage or burial of the asbestos-containing material (ACM) by the process. • Soil within the 1 m x 1 m box out, up to a depth of 0.3m BGS around the breakpoint of the asbestos cement conduit was carefully excavated and stockpiled for load out as friable (F3) material to the on-site stockpiling pad. • Following the initial excavation, a 1 m trench on either side of the AC conduit was carefully excavated to expose the remaining length of the conduit. • Once the entire length of the conduit was identified, the conduit was carefully removed from the trench and wrapped in black plastic sheeting for disposal in the asbestos skip bin. Following the remediation works, EP Risk adopted a validation strategy encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos. • Collection of validation samples of the residual in-situ material beneath the conduit break point.
Type of asbestos containing material (ACM) removed:	☒ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS).

	☐ Other: AC Conduit
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☐ N/A. ☐ PVA / Adhesive. ☐ Other. ☒ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	27.07.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. ASBESTOS GRAVIMETRIC (AF/FA) RESULTS

Following the visual clearance inspection of the Clearance Area, EP Risk collected one (1) 500 mL sample of the residual in-situ material beneath the conduit break point. The sample was submitted to a National Association of Testing Authorities (NATA) accredited laboratory for Asbestos Gravimetric Analysis (non-NATA) for the detection of Asbestos Fines (AF)/Fibrous Asbestos (FA).

No asbestos was detected above the reporting limit of 0.1 g/kg. Moreover, no trace (respirable) asbestos fibres were detected. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
UF015-VAL-001	Base of excavation footprint	0.3 mBGL	No Asbestos Detected

5. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

6. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

7. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

8. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection and within gravimetric asbestos samples. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

9. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	H. Erskine	03.08.2023	K. Guenther	03.08.2023	J. Shao	03.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*03.08.2023*	*EP3244.003_ACC009_ESR_Westlink Stage 1_UF015_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

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Attachment 1 – Figure



EP RISK

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Asbestos Clearance Certificate (ACC009)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 02/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 10 20 30 40 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: KG
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 27/07/2023

UF015 – Asbestos cement conduit identified within AEC01a during remediation in-situ treatment works.



Plate 2 – 14/07/2023

UF015 – Excavated 1m wide trench in direction of conduit.



Plate 3 – 27/07/2023

UF015 – Trench following removal of conduit.

Attachment 3 – Certificate of Analysis

Bulk Identification Report

Job No: 754-SYDEN234000 Bulk ID Report EP3244 28072023
Client: EP Risk Management Pty Ltd
Client Address: Suite 13.01, Level 13, 80 Mount Street,
North Sydney, NSW

Contact: Jenny Shao
E-mail: jenny.shao@eprisk.com.au
Date Sampled: 27/07/2023
Date Analysed: 31/07/2023
Date Authorised: 31/07/2023
Sampled By: As received by client (Jenny Shao)
Site: ESR

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No:2220
Corporate Site No:16909

Please note: Where you have provided the samples for analysis, Tetra Tech Coffey Pty Ltd does not take any responsibility for the quality of the such samples. This report relates exclusively to the samples analysed by Tetra Tech Coffey Pty Ltd and as such only the samples submitted or collected for analysis have been considered in presenting these results. The data and results contained in this report are not representative of the site, product or source material as a whole. Tetra Tech Coffey Pty Ltd does not make any warranty or representation in relation to the site, product or source material as a whole. If you suspect any material to contain asbestos, then you must immediately stop the works and activities at the site or in respect of the materials and engage Tetra Tech Coffey Pty Ltd or another suitably trained asbestos hygienist to sample, assess or re-assess (as the case may be) the material suspected to contain asbestos.

Asbestos in Bulk Samples and Non-homogenous Material

Test Method: Tetra Tech Coffey Pty Ltd analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Coffey SOP WILAB1, and Australian Standard (AS) 4964 – 2004, Method for the qualitative identification of asbestos in bulk samples (AS 4964). The detection limit for the test method as per AS 4964 is 0.1 g/kg. For non-homogenous samples a semi-quantitative aspect is adopted for the test method and is taken into account when reporting the results. As per Tetra Tech Coffey Pty Ltd's NATA approved SOP WILAB1 sample retention periods are set at 1 month for all samples from the date of analysis.

Analysed At: Tetra Tech Coffey Pty Ltd Laboratory, Level 20, Tower B, Citadel Towers 799 Pacific Highway Chatswood NSW 2067

Total Samples: 2

Approved Identifier
Panika Wongchanda

Approved Signatory
Matthew Tang

Sample No.	Location & Description	Sample Size (~)	Results
UF015-VAL-001	As received - Brown non-homogeneous soil & rocks	Total sample ~ 577.7 g > 2mm fraction ~ 184.8 g < 2mm fraction ~ 392.9 g < 2mm sub sample ~ 41.6 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF016-VAL-002	As received - Brown non-homogeneous soil & rocks	Total sample ~ 429.5 g > 2mm fraction ~ 178.8 g < 2mm fraction ~ 250.7 g < 2mm sub sample ~ 52 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

This Document may not be reproduced except in full.



Asbestos Clearance Certificate (ACC010)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC010_ESR_Westlink Stage 1_AEC09b_v1 | 14 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Asbestos Clearance Certificate – ACC010

Westlink Stage 1 – AEC09b

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Hayley Erskine – Graduate Environmental Scientist

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	08.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to AEC09b within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. AEC09b covers an approximate surface area of 60 m^2 and includes soils up to a depth of 0.1 m below ground level (mBGL).
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], the contaminant of potential concern (CoPC) identified within AEC09b was: Bonded asbestos in surface soils <0.1m below surface. The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Works will be undertaken in a manner that avoids further damage or burial of the asbestos-containing material (ACM) by the process. • Systematic inspection of surface and hand picking of visible ACM fragments. • Rake surface soils in one direction, to a depth of 0.1m below ground level, using an excavator fitted with a tooth bucket. • Systematic inspection of raked surface and hand picking of visible ACM fragments. • Rake surface soils in a direction 90° perpendicular to the first raking direction, to a depth of 0.1 mBGL using an excavator fitted with a tooth bucket. • Systematic inspection of raked surface and hand picking of visible ACM fragments. • ACM fragments disposed to a suitably licensed waste receiving facility, with a waste classification. Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos. • Field screening for bonded (non-friable) ACM (>7mm).

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☐ Other: N/A
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	08.08.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken across the base the in-situ rake footprint and along the northern, southern, eastern and western perimeter excavation walls.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. No bonded (non-friable) ACM was detected during the sieve tests. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
AEC09b-VAL-001	Base of in-situ rake footprint	0.1 mBGL	No Asbestos Detected
AEC09b-VAL-002	Base of in-situ rake footprint	0.1 mBGL	No Asbestos Detected
AEC09b-VAL-003	Northern wall of in-situ rake footprint	0.1 mBGL	No Asbestos Detected
AEC09b-VAL-004	Southern wall of in-situ rake footprint	0.1 mBGL	No Asbestos Detected
AEC09b-VAL-005	Eastern wall of in-situ rake footprint	0.1 mBGL	No Asbestos Detected
AEC09b-VAL-006	Western wall of in-situ rake footprint	0.1 mBGL	No Asbestos Detected

5. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. The visual inspection was limited to surficial soils only and does not include soil beneath trees remaining in the Clearance Area. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011.

	EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

6. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

7. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

8. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection and sieve tests. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Hayley Erskine	Signature:	

9. ATTACHMENTS

1. Figure(s)	Yes ☒	No ☐	N/A ☐
2. Photolog	Yes ☒	No ☐	N/A ☐
3. Clearance Air Monitoring Report	Yes ☐	No ☐	N/A ☒
4. Certificate of Analysis	Yes ☐	No ☐	N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	H. Erskine	14.08.2023	K. Guenther	14.08.2023	J. Shao	14.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*14.08.2023*	*EP3244.003_ACC010_ESR_Westlink Stage 1_AEC09b_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

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Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC010)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 14/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 10 20 30 40 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HE Checked by: JS
Scale of regional map and inset map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 08/08/2023

AEC09b following in-situ mechanical rake and emu pick of surficial soils.



Plate 2 – 08/08/2023

AEC09b following in-situ mechanical rake and emu pick of surficial soils.



Plate 3 – 08/08/2023

AEC09b following in-situ mechanical rake and emu pick of surficial soils.



Asbestos Clearance Certificate (ACC011)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC011_ESR_Westlink Stage 1_UF001_v1 | 7 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

7 August 2023
Ref: EP3244.003_ACC011_ESR_Westlink Stage 1_UF001_v1

Asbestos Clearance Certificate – ACC011

Westlink Stage 1 – UF001

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462) Naomi Madigan – Graduate Environmental Scientist

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	31.07.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to Unexpected Find (UF) - UF001 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. UF001 comprised of: • Asbestos containing material (ACM) fragments in poor condition identified to the entry of the Northern Lot entry gate, south of AEC01a. • Friable asbestos in soils (ASBINS) within a 3 m x 2 m box out, up to a depth of 0.2 metres below ground surface (mBGS).
Scope of work (as advised by client/contractor):	The remediation methodology as undertaken by TCE to manage and remove the UF was as follows: • Works will be undertaken in a manner that avoids further damage or burial of the asbestos-containing material (ACM) by the process. • Soil within the 3 m x 2 m box out, up to a depth of 0.2 m BGS was carefully excavated and stockpiled for load out as friable (F3) material to the on-site stockpiling pad. Following the remediation works, EP Risk adopted a validation strategy encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos. • Collection of validation samples of the residual in-situ material.
Type of asbestos containing material (ACM) removed:	☒ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☐ Other:
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area.

	☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	31.07.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☒ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. ASBESTOS GRAVIMETRIC (AF/FA) RESULTS

Following the visual clearance inspection of the Clearance Area, EP Risk collected one (1) 500 mL sample of the residual in-situ material following excavation of soils to 0.2 mBGL. The sample was submitted to a National Association of Testing Authorities (NATA) accredited laboratory for Asbestos Gravimetric Analysis (non-NATA) for the detection of Asbestos Fines (AF)/Fibrous Asbestos (FA).

No asbestos was detected above the reporting limit of 0.1 g/kg. Moreover, no trace (respirable) asbestos fibres were detected. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
UF001-VAL-001	Base of excavation footprint	0.2 mBGL	No Asbestos Detected

5. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

6. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

7. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

8. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection and within the gravimetric asbestos sample. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

9. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☒ N/A ☐
4. Certificate of Analysis	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	N. Madigan	07.08.2023	K. Guenther	07.08.2023	J. Shao	07.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*07.08.2023*	*EP3244.003_ACC011_ESR_Westlink Stage 1_UF001_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

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Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC011)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 04/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 7 14 21 28 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: NM
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 11/07/2023

UF001 prior to remediation works; ACM fragments in poor condition identified adjacent to site entry gate.



Plate 2 – 11/07/2023

UF001 prior to remediation works; ACM fragments in poor condition identified adjacent to site entry gate.



Plate 3 – 31/07/2023

UF001 subsequent to excavation of surficial soils as F3 material.



Plate 4 – 31/07/2023

UF001 subsequent to excavation of surficial soils as F3 material.

Attachment 3 – Certificate of Analysis

Bulk Identification Report

Job No: 754-SYDEN234000 Bulk ID Report EP3244 01082023
Client: EP Risk Management Pty Ltd
Client Address: Suite 13.01, Level 13, 80 Mount Street,
North Sydney, NSW

Contact: Jenny Shao
E-mail: jenny.shao@eprisk.com.au
Date Sampled: 31-07-23
Date Analysed: 01-08-23
Date Authorised: 01-08-23
Sampled By: As received by client (Naomi Madigan & Zak Bursey)
Site: ESR

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No:2220
Corporate Site No:16909

Please note: Where you have provided the samples for analysis, Tetra Tech Coffey Pty Ltd does not take any responsibility for the quality of the such samples. This report relates exclusively to the samples analysed by Tetra Tech Coffey Pty Ltd and as such only the samples submitted or collected for analysis have been considered in presenting these results. The data and results contained in this report are not representative of the site, product or source material as a whole. Tetra Tech Coffey Pty Ltd does not make any warranty or representation in relation to the site, product or source material as a whole. If you suspect any material to contain asbestos, then you must immediately stop the works and activities at the site or in respect of the materials and engage Tetra Tech Coffey Pty Ltd or another suitably trained asbestos hygienist to sample, assess or re-assess (as the case may be) the material suspected to contain asbestos.

Test Method: **Asbestos in Bulk Samples and Non-homogenous Material**
Tetra Tech Coffey Pty Ltd analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Coffey SOP WILAB1, and Australian Standard (AS) 4964 – 2004, Method for the qualitative identification of asbestos in bulk samples (AS 4964). The detection limit for the test method as per AS 4964 is 0.1 g/kg. For non-homogenous samples a semi-quantitative aspect is adopted for the test method and is taken into account when reporting the results. As per Tetra Tech Coffey Pty Ltd's NATA approved SOP WILAB1 sample retention periods are set at 1 month for all samples from the date of analysis.

Analysed At: Tetra Tech Coffey Pty Ltd Laboratory, Level 20, Tower B, Citadel Towers 799 Pacific Highway Chatswood NSW 2067

Total Samples: 2

Approved Identifier
Panika Wongchanda

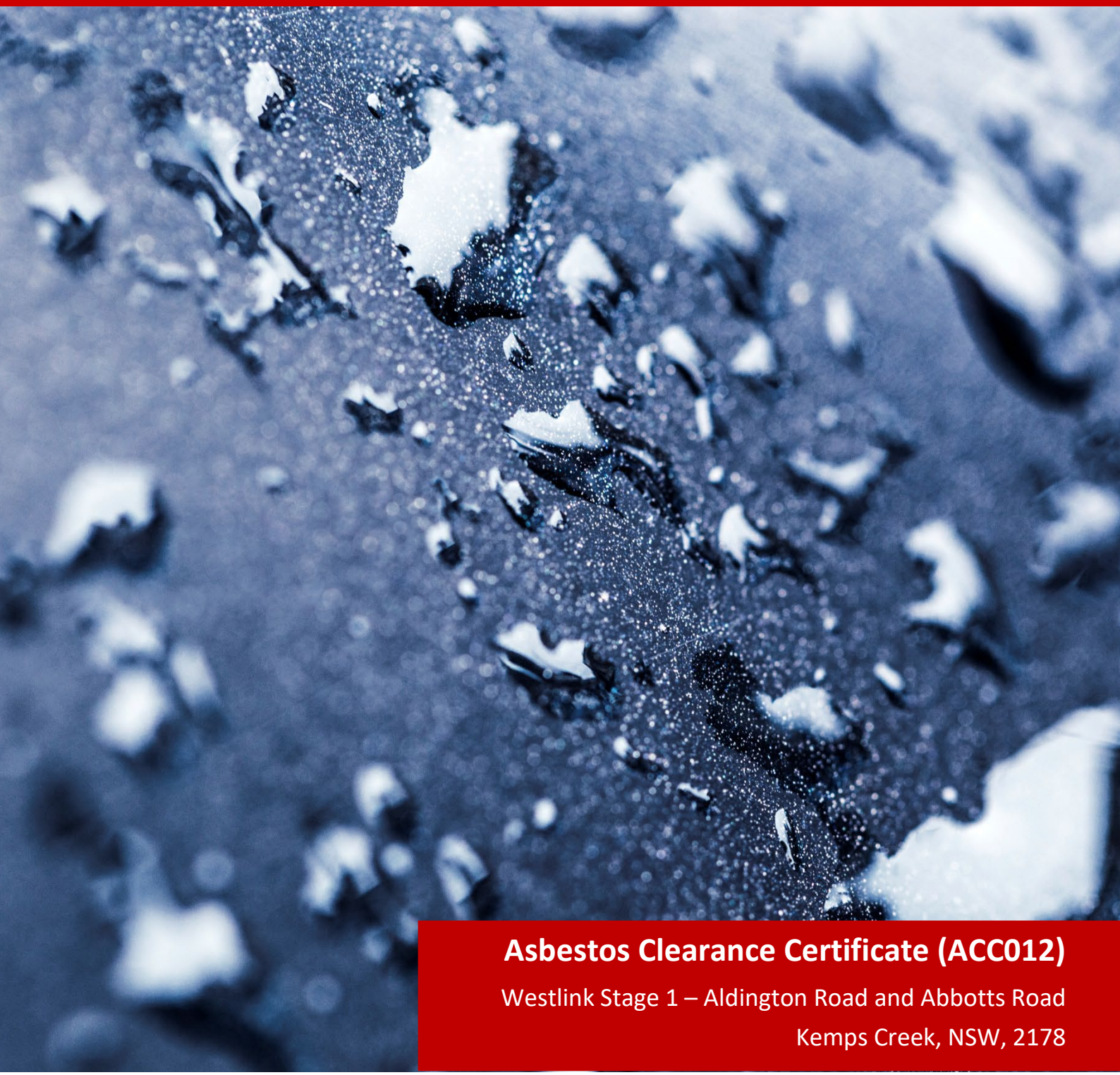
Approved Signatory
Matthew Tang

Sample No.	Location & Description	Sample Size (~)	Results
UF001-VAL-001	As received - Brown non-homogeneous soil & rocks	Total sample ~ 603 g > 2mm fraction ~ 185.3 g < 2mm fraction ~ 417.7 g < 2mm sub sample ~ 37.6 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF018_VAL-001	As received - Brown non-homogeneous soil & rocks	Total sample ~ 528 g > 2mm fraction ~ 336.2 g < 2mm fraction ~ 191.8 g < 2mm sub sample ~ 42.5 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Notes

Subsampling is carried out as per Coffey SOP WILAB1 using the coning and quartering method, please note subsampling may reduce the accuracy of the analytical result.

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Asbestos Clearance Certificate (ACC012)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC012_ESR_Westlink Stage 1_UF025_v1 | 5 September 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

5 September 2023
Ref: EP3244.003_ACC012_ESR_Westlink Stage 1_UF025_v1

Asbestos Clearance Certificate – ACC012

Westlink Stage 1 – UF025

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462) Sally Kennedy – Environmental Scientist (Competent Person)

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	16.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to UF025 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. UF025 comprised of soil contaminated with bonded (non-friable) asbestos containing material (ACM) fragments identified south of AEC38 Upper. UF025 covers an approximate surface area of 480 m^2 and includes an ex-situ stockpile of soil and in-situ soils up to a depth of 0.3 m below ground level (mBGL).
Scope of work (as advised by client/contractor):	The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Works were undertaken in a manner that avoided further damage or burial of the asbestos-containing material (ACM) by the process. • Soil within the UF extent, including the ex-situ stockpile was carefully excavated to a depth of 0.3 mBGL and stockpiled for load out as bonded (B3) material to the on-site stockpiling pad. Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos. • Field screening for bonded (non-friable) ACM (>7mm).
Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☐ Other: N/A
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water.

	☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	16.08.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken across the base the excavation footprint and along the northern, southern, eastern and western perimeter excavation walls.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. Bonded (non-friable) ACM was not detected during the sieve tests. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
UF025-VAL-001	Base of excavation footprint	0.3 mBGL	No Asbestos Detected
UF025-VAL-002	Base of excavation footprint	0.3 mBGL	No Asbestos Detected
UF025-VAL-003	Base of excavation footprint	0.3 mBGL	No Asbestos Detected
UF025-VAL-004	Base of excavation footprint	0.3 mBGL	No Asbestos Detected
UF025-VAL-005	Base of excavation footprint	0.3 mBGL	No Asbestos Detected
UF025-VAL-006	Base of excavation footprint	0.3 mBGL	No Asbestos Detected
UF025-VAL-007	Base of excavation footprint	0.3 mBGL	No Asbestos Detected

Sample ID	Location	Sample Depth	Result
UF025-VAL-008	Base of excavation footprint	0.3 mBGL	No Asbestos Detected
UF025-VAL-009	Northern wall of excavation footprint	0.2 mBGL	No Asbestos Detected
UF025-VAL-010	Northern wall of excavation footprint	0.2 mBGL	No Asbestos Detected
UF025-VAL-011	Northern wall of excavation footprint	0.2 mBGL	No Asbestos Detected
UF025-VAL-012	Southern wall of excavation footprint	0.2 mBGL	No Asbestos Detected
UF025-VAL-013	Southern wall of excavation footprint	0.2 mBGL	No Asbestos Detected
UF025-VAL-014	Southern wall of excavation footprint	0.2 mBGL	No Asbestos Detected
UF025-VAL-015	Eastern wall of excavation footprint	0.2 mBGL	No Asbestos Detected
UF025-VAL-016	Western wall of excavation footprint	0.2 mBGL	No Asbestos Detected

5. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

6. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

7. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP) ☒ Prepare Long Term Environmental Management Plan (LTEMP) for the wider Site. ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☐ N/A.

8. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection and sieve tests. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

9. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☐ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	05.09.2023	L. Munnichs	05.09.2023	J. Thompson	05.09.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*05.09.2023*	*EP3244.003_ACC012_ESR_Westlink Stage 1_UF025_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC012)

Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 23/08/2023
Drawing Ref: EP3244.003_Fig. 1
Version No: v1

N

0 5 10 15 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: TC
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 16/08/2023

UF025 following excavation of 0.3m BGL of in-situ soils and ex-situ stockpile.



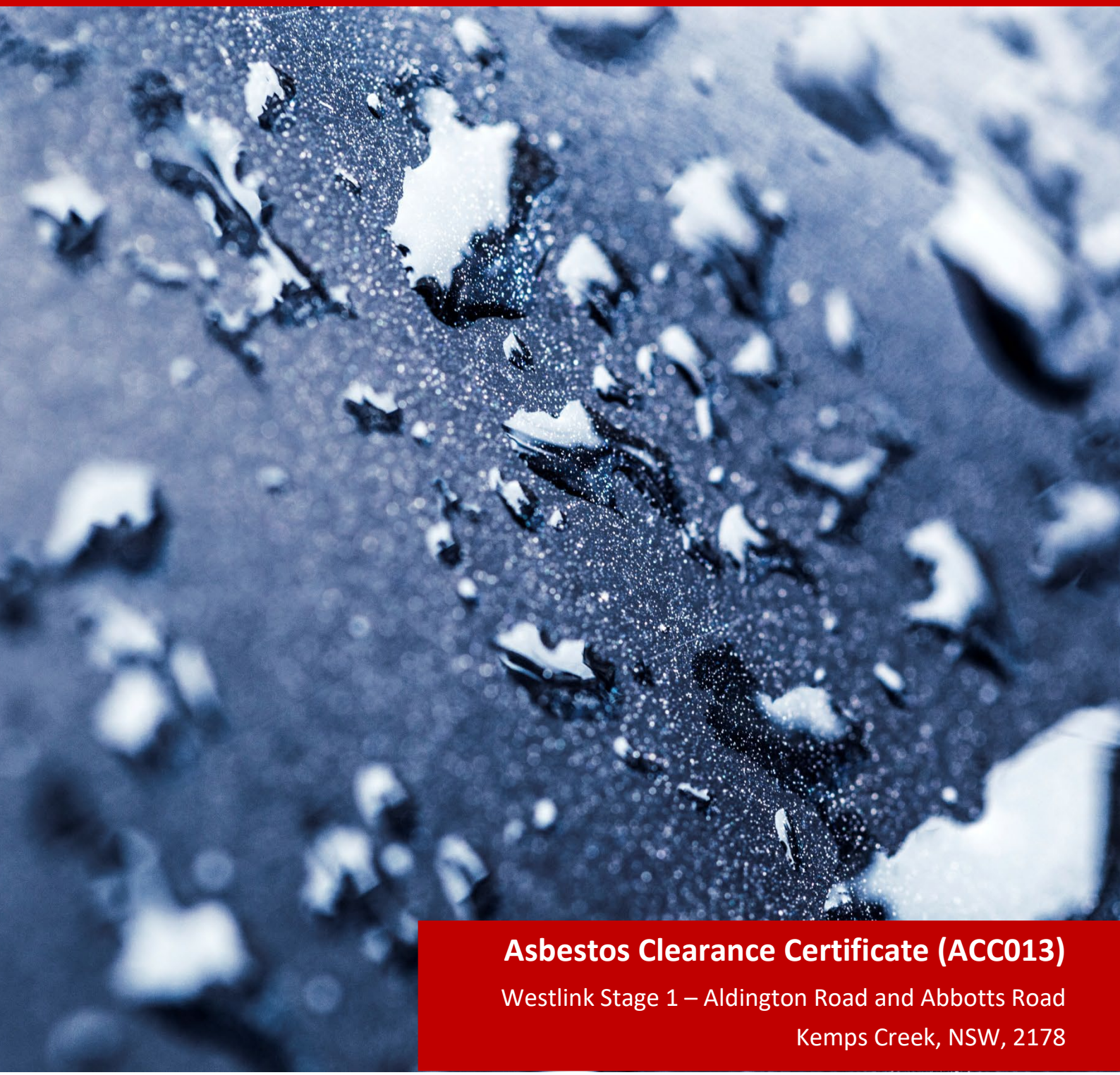
Plate 2 – 16/08/2023

UF025 following excavation of 0.3m BGL of in-situ soils and ex-situ stockpile.



Plate 3 – 16/08/2023

UF025 following excavation of 0.3m BGL of in-situ soils and ex-situ stockpile.



Asbestos Clearance Certificate (ACC013)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC013_ESR_Westlink Stage 1_AEC13 UF002_v1 | 15 April 2024

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

15 April 2024
Ref: EP3244.003_ACC013_ESR_Westlink Stage 1_AEC13 UF002_v1

Asbestos Clearance Certificate – ACC013

Westlink Stage 1 – AEC13 & UF002

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – Jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldginton Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (NSW LAA001462) Sean Kelly – Senior Occupational Hygienist (NSW LAA001369) Naomi Madigan – Graduate Environmental Scientist (Competent Person)

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	02.08.2023 – 23.08.2023 & 04.09.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to AEC13 and UF002 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. • **AEC13:** covers an approximate surface area of 270 m^2 and includes soils up to a depth of 0.3 m below ground level (mBGL) and includes the footprint of the former house. • **UF002:** includes concrete stockpiles SP15 and SP16 located within AEC13, which were observed to contain bonded (non-friable) asbestos containing material (ACM) fragments.
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], the contaminant of potential concern (CoPC) identified within AEC13 was as follows: • Asbestos fines (AF) in surface and/or fill soils; and • Vegetation scrape – visible asbestos in surface soils. During a walkover of AEC13, multiple bonded (non-friable) ACM fragments were identified to concrete stockpiles SP15 and SP16. As such, these concrete stockpiles were transported and stockpiled at the stockpiling pad as asbestos contaminated building waste. This was raised as UF002. During remediation works within AEC13, a large quantity of bonded (non-friable) ACM fragments and building and demolition waste was identified within the footprint of the former house. As such, material from this footprint was excavated and transported to the stockpile pad as B3 material requiring ex-situ treatment. As such, the additional CoPC were identified within AEC13: • Bonded asbestos within concrete stockpiles; and • Bonded asbestos in fill soils >0.1 m below the surface. The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Remove the vegetation from the vegetations scrape area by beans of stripping/tilling/grubbing in order to allow for clear and unobstructed visual assessment of surface soils. Undertake a grid-based walkover, using 5 m transects to

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

	assess the presence of visible asbestos in surface soils. Any identified ACM fragments to be disposed to a suitably licensed waste receiving facility as dry asbestos waste. • Excavate friable impacted soils (F3) from the AF area to natural and transport to the friable asbestos stockpile pad (F3); • Excavate bonded (non-friable) impacted soils (B3) from the footprint of the former house to natural and transport to the bonded (non-friable) asbestos stockpile pad for ex-situ treatment (B3); • Movement of the asbestos-contaminated concrete stockpiles (UF002 – SP15 and SP16) to the stockpile pad. • Undertake a vegetation scrape. Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023) and Addendum (EP Risk 2023)[2], encompassing the following: • A visual assessment of surficial soils within the vegetation scrape area, F3 excavation footprint and B3 footprint of the former house for visible asbestos; • Field screening for bonded (non-friable) ACM (>7mm) to the AF F3 excavation footprint and B3 footprint of the former house for visible asbestos; • Collection of gravimetric asbestos samples for friable asbestos (AF/fibrous asbestos (FA)) to the AF F3 excavation footprint area only; and • Preparation of a clearance certificate from a licenced asbestos assessor (LAA).
Type of asbestos containing material (ACM) removed:	☒ Friable. ☒ Non-Friable. ☒ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☒ Other: Asbestos contaminated concrete stockpiles.
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☒ Wet decontamination unit. ☐ Dry decontamination unit or area.

[2] EP Risk (2023), *Remediation Action Plan Addendu*m, Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW, dated 12 September 2023 (ref: EP3244.004_v1).

	☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☐ N/A. ☐ PVA / Adhesive. ☐ Other. ☒ Imported 'clean' soil.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	23.08.2023 & 04.09.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☒ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken across the base and walls of the AF F3 excavation footprint of AEC13, as well as to the base and walls of the former house footprint in AEC13.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. Where bonded (non-friable) ACM was detected within the sieve, the area was retreated as per the approved RAP methodology and a visual and field screening undertaken again.

Sample locations are provided in **Attachment 1 - Figure 2.**

Sample ID	Location	Sample Depth	Result
AEC13_VAL_001	Southern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_002	Southern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_003	Southern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_004	Western exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_005	Western exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	Fibre cement fragment containing Chrysotile (white) asbestos < 7 mm fraction 0.0001 %w/w
AEC13_VAL_006	Western exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_007	Northern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_008	Northern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_009	Northern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_010	Northern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_011	Eastern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_012	Eastern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_013	Eastern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_014	Southern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_015	Southern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_016	Southern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_017	Western interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_018	Western interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected

AEC13_VAL_019	Northern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_020	Northern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_021	Northern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_022	Eastern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_023	Southern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_024	Southern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_025	Southern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_026	Southern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_027	Western portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_028	Northern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_029	Northern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_030	Northern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_031	Northern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_032	Northern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_033	Eastern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_034	Eastern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_036	Southern end of B3 former house footprint – base	0.1 mBGL	No Asbestos Detected
AEC13_VAL_037	Southern end of B3 former house footprint – base	0.1 mBGL	No Asbestos Detected
AEC13_VAL_038	Southern end of B3 former house footprint – base	0.1 mBGL	No Asbestos Detected
AEC13_VAL_039	Southern end of B3 former house footprint – base	0.1 mBGL	No Asbestos Detected
AEC13_VAL_040	Western end of B3 former house footprint – base	0.1 mBGL	No Asbestos Detected
AEC13_VAL_041	Northern end of B3 former house footprint – base	0.1 mBGL	No Asbestos Detected

AEC13_VAL_042	Northern end of B3 former house footprint – base	0.1 mBGL	No Asbestos Detected
AEC13_VAL_043	Northern end of B3 former house footprint – base	0.1 mBGL	No Asbestos Detected
AEC13_VAL_044	Northern end of B3 former house footprint – base	0.1 mBGL	No Asbestos Detected
AEC13_VAL_045	Eastern end of B3 former house footprint – base	0.1 mBGL	No Asbestos Detected

5. ASBESTOS GRAVIMETRIC (AF/FA) RESULTS

In addition to on-site field screening, EP Risk collected 500 mL soil samples from the base and walls of the AF F3 excavation footprint of AEC13 due to known friable asbestos within the footprint.

Samples were submitted to a National Association of Testing Authorities (NATA) accredited laboratory for Asbestos Gravimetric Analysis (non-NATA) for the detection of AF/FA.

In the first batch of validation sampling undertaken on 23 August 2023, no bonded (non-friable) asbestos >7 mm was identified during the field screen tests, however, asbestos was identified above the reporting limit of 0.1 g/kg in one (1) of the asbestos gravimetric samples (AEC13_VAL_005). AEC13_VAL_005 contained AF in the form of fibre cement fragments which was positive for Chrysotile (white) asbestos) in the <7 mm fraction at concentrations of 0.0001 %w/w, which is below the 0.05 %w/w health screening level (HSL) for commercial / industrial sites. No trace (respirable) asbestos fibres were detected in all collected validation samples.

Further excavation works within this location was subsequently recommended for conservative reasons. Further excavation works were undertaken on 04 September 2023, and comprised a 1 m x 1 m box out with the material transported to the stockpile pad as F3 material due to small volume and known F3 material within AEC13.

Following a visual clearance inspection of the area, EP Risk collected an additional 500 mL sample of the residual in-situ material for Asbestos Gravimetric Analysis (non-NATA) for the detection of AF/FA, labelled as AEC13_VAL_035. No asbestos was detected above the reporting limit of 0.1 g/kg. Moreover, no trace (respirable) asbestos fibres were detected.

The results of the validation sampling have been summarised below.

Sample locations are provided in **Attachment 1 - Figure 2.**

Sample ID	Location	Sample Depth	Result
AEC13_VAL_001	Southern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_002	Southern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_003	Southern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected

AEC13_VAL_004	Western exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_005	Western exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	Fibre cement fragment containing Chrysotile (white) asbestos < 7 mm fraction 0.0001 %w/w
AEC13_VAL_006	Western exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_007	Northern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_008	Northern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_009	Northern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_010	Northern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_011	Eastern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_012	Eastern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_013	Eastern exterior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_014	Southern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_015	Southern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_016	Southern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_017	Western interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_018	Western interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_019	Northern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_020	Northern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_021	Northern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_022	Eastern interior boundary of AF F3 excavation footprint – wall	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_023	Southern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected

AEC13_VAL_024	Southern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_025	Southern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_026	Southern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_027	Western portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
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AEC13_VAL_031	Northern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_032	Northern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	No Asbestos Detected
AEC13_VAL_033	Eastern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	Sample Not Submitted
AEC13_VAL_034	Eastern portion of AF F3 excavation footprint – base	0.0 – 0.3 mBGL	Sample Not Submitted
AEC13_VAL_035	Resample following further excavation works to AEC13_VAL_0-10	0.0 – 0.3 mBGL	No Asbestos Detected

6. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. The visual inspection was limited to surficial soils only and does not include soil beneath trees remaining in the Clearance Area. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site.

	The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

7. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

8. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP) for the wider Site. ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

9. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection, during field sieve tests and within gravimetric asbestos samples. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Sean Kelly	Signature:	
LAA Number:	LAA001369		

10. ATTACHMENTS

1. Figure(s)	Yes ☒	No ☐	N/A ☐
2. Photolog	Yes ☒	No ☐	N/A ☐
3. Clearance Air Monitoring Report	Yes ☐	No ☒	N/A ☐
4. Certificate of Analysis	Yes ☒	No ☐	N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	15.04.2024	K. Guenther	15.04.2024	S. Kelly	15.04.2024

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*15.04.2024*	*EP3244.003_ACC013_ESR_Westlink Stage 1_AEC13 UF002_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

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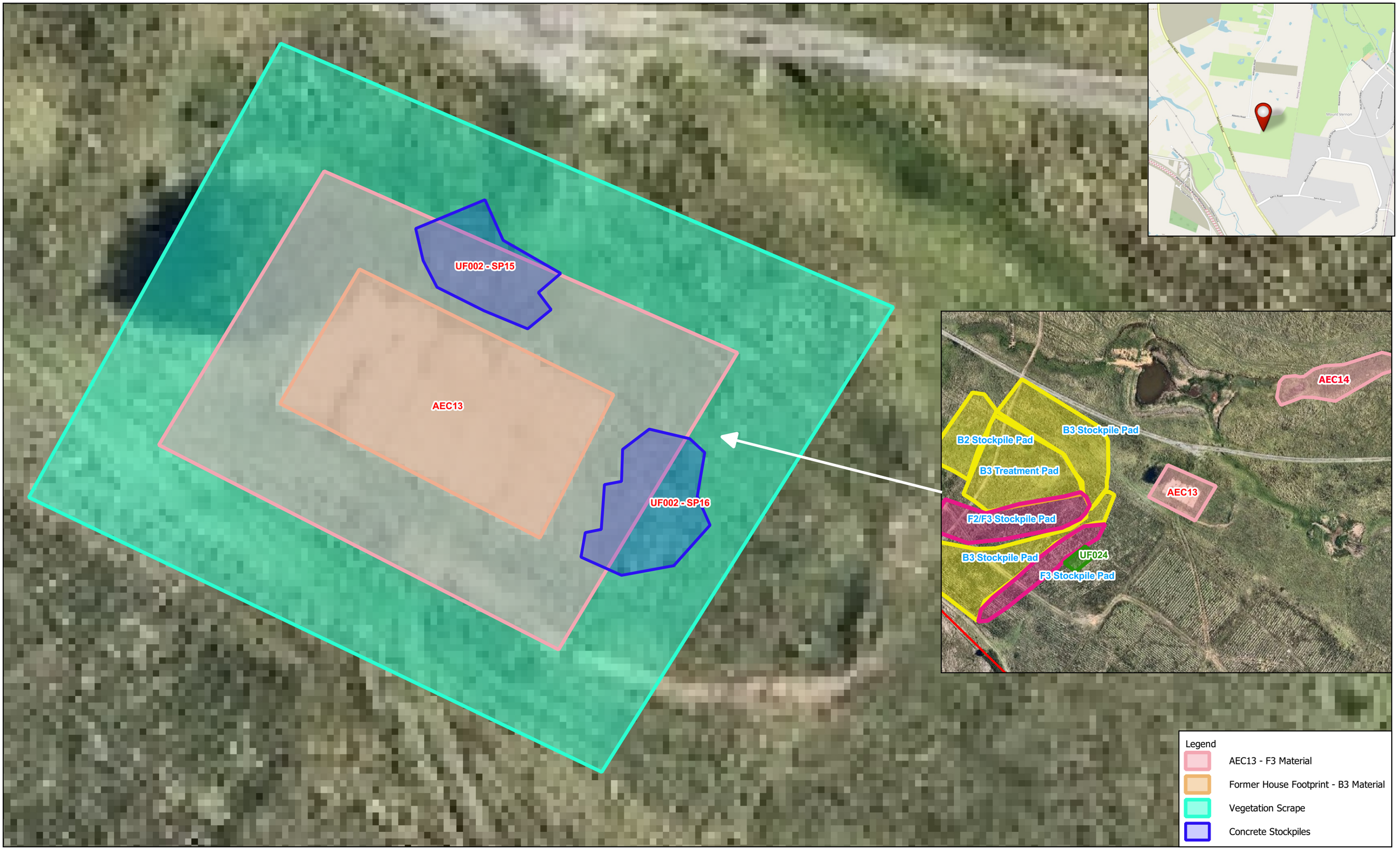
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Attachment 1 – Figures



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Asbestos Clearance Certificate (ACC013)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 12/04/2024
Drawing Ref: EP3244.003_Fig. 1
Version No: v1

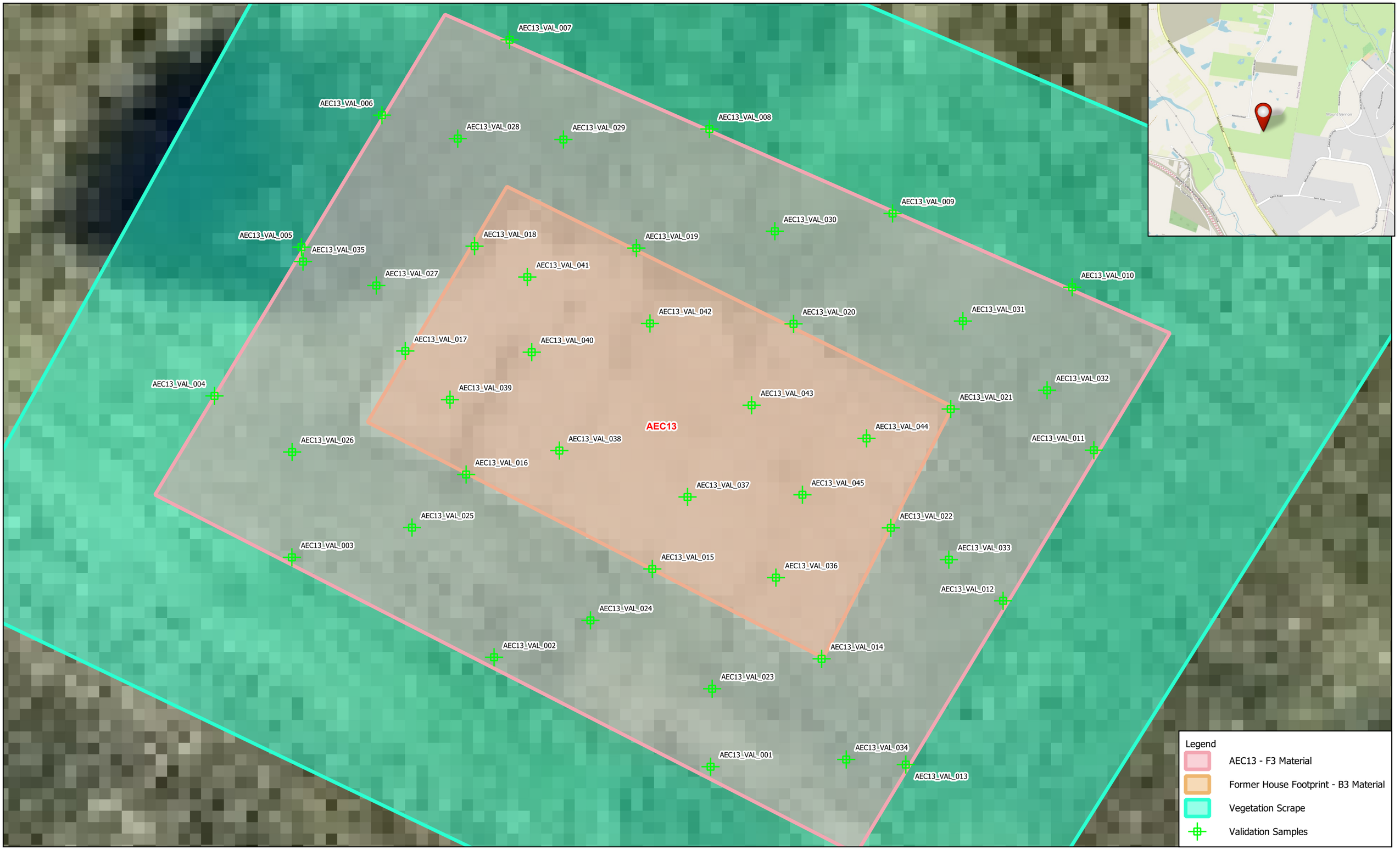
N

0 2.5 5 7.5 10 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: SK
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services



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Asbestos Clearance Certificate (ACC013)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 2 - Validation Sample Locations

Job No: EP3244
Date: 12/04/2024
Drawing Ref: EP3244.003_Fig. 2
Version No: v1

N

0 1.5 3 4.5 6 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: SK
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 02/08/2023

Bonded (non-friable) ACM identified to concrete stockpiles SP15 and SP16 (UF002).



Plate 2 – 02/08/2023

Footprint of former house – material deemed as B3.



Plate 3 – 02/08/2023

Remediation works in progress within AEC13.



Plate 4 – 04/08/2023

Bonded (non-friable) ACM identified to vegetation scrape area.



Plate 5 – 09/08/2023

AEC13 subsequent to excavation of B3 soils (former house footprint), F3 soils and a vegetation scrape.



Plate 6 – 09/08/2023

AEC13 subsequent to excavation of B3 soils (former house footprint), F3 soils and a vegetation scrape.



Plate 7 – 09/08/2023

AEC13 subsequent to excavation of B3 soils (former house footprint), F3 soils, removal of SP16 (UF002) and a vegetation scrape.



Plate 8 – 09/08/2023

AEC13 subsequent to excavation of B3 soils (former house footprint), F3 soils, removal of SP15 (UF002) and a vegetation scrape.



Plate 9 – 09/08/2023

Validation sampling undertaken within AEC13.

Attachment 3 – Certificate of Analysis

SESA-Safety & Environmental Services Australia Pty Ltd
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Asbestos Certificate of Analysis
AS4964 (2004) Method for the Qualitative Identification of Asbestos in Bulk Samples

WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025-Testing. Accreditation Number 20403

Report Date: 11 August 2023
Report No: J23-5667.1-LR1-LAR-110823
Prepared For: EP Risk Management Pty Ltd
Project Name: EP3244
Project Description: ESR Abbots Road, Kemps Creek
Project Address: Abbots Road, Kemps Creek, NSW
Client Address: Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW

Analysis Methodology

Samples received by SESALAB are analysed in accordance with Australian Standard AS4964-2004 Method for the qualitative identification of asbestos in bulk samples.
Analysis undertaken is a qualitative identification of asbestos fibres in bulk and soil samples by polarised light microscopy, including dispersion staining in accordance with AS4964-2004 and SESALAB "QMS-PR-008 Asbestos Fibre ID, Bulk, Soil.
Accredited for compliance with ISO/IEC: 17025-Testing (NATA Accreditation No# 20403).
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Limitations

The results contained in this report relate only to the sample/s submitted for testing. Samples are analysed as received. The laboratory accepts no responsibility for location, sample size or representation and client details provided. AS4964-2004 specifies the quantity of a representative sample of building materials should be 5–100 grams, except floor tiles that require a minimum of approximately 100 square centimetres.
Soil samples of larger size (eg. >100g) may be subject to sub-sampling in accordance with BS EN932-1-1997 Section 9.4-Reduction of a bulk sample by quartering. In subsampling non-homogeneous samples there is high probability that small amounts of asbestos materials may be unintentionally omitted due to the sub-sampling process. Where sub-sampling is performed it will be noted in the results section of the report.
Loose asbestos fibres/fibre bundles detected and reported do not represent respirable fibres. Trace asbestos analysis is used to determine the presence of 'respirable' as asbestos fibres in soils.
Results of "No asbestos detected" indicate a reporting limit specified in AS4964-2004 which is 0.1g/ Kg (0.01%).
If no asbestos is detected in vinyl tiles, mastics, sealants, epoxy resins and ore samples then confirmation by another independent analytical technique (eg. XRD, SEM) is advised due to the nature of those samples.
SESA and SESALAB accept no responsibility for the initial collection, packaging or transportation of samples submitted by a non SESALAB consultant / employee.

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Asbestos Certificate of Analysis

PROJECT DETAILS

Report Number		**Report Number**	J23-5667.1-LR1-LAR-110823
Company	EP Risk Management Pty Ltd	**Contact Name**	Jenny Shao
Project Name	EP3244	**Project Details**	ESR Abbots Road, Kemps Creek
Lab Reference	J23-5667.1	**Client PO / Project No.**	ESR EP3244
Company Address	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW		
Site Address	Abbots Road, Kemps Creek, NSW		
Collected By	Naomi Madigan	**Collected Date/Time**	9-Aug-23
Analysed By	Imran Javed	**Analysed Date**	10-Aug-23

The results contained with this report relate only to the samples tested.
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Where (*) is noted in the report it designates that "NATA accreditation does not cover the performance of this service".
Samples are analysed as received. Samples are only kept by SESALAB for one month after analysis date.

ASBESTOS SAMPLES DETAILS

Lab Sample ID	Other Sample Number	Location	Sample Descriptions	Weight (g) / Dimensions (L x W x D) mm	Results (See Legend Section Below for Abbreviations)
J23-5667.1-NEPM1	AEC13_VAL_001	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	878 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM2	AEC13_VAL_002	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	758 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM3	AEC13_VAL_003	NA	The sample consists of sandy clay soil and plants matrix.	688 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM4	AEC13_VAL_004	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	797 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM5	AEC13_VAL_005	NA	The sample consists of sandy clay soil, pebbles, concrete and plants matrix.	828 g	Chrysotile asbestos detected (1x fibre cement fragment (<7mm)- approx. 0.162 g). Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM6	AEC13_VAL_006	NA	The sample consists of sandy clay soil and plants matrix.	755 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM7	AEC13_VAL_007	NA	The sample consists of sandy clay soil and plants matrix.	795 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM8	AEC13_VAL_008	NA	The sample consists of sandy clay soil and plants matrix.	710 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM9	AEC13_VAL_009	NA	The sample consists of sandy clay soil, pebbles, cement material and plants matrix.	751 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM10	AEC13_VAL_010	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	774 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM11	AEC13_VAL_011	NA	The sample consists of sandy clay soil, pebbeles and plants matrix.	780 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM12	AEC13_VAL_012	NA	The sample consists of sandy clay soil with plants matrix.	612 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM13	AEC13_VAL_013	NA	The sample consists of sandy clay soil and pebbles material.	755 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM14	AEC13_VAL_014	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	762 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.1-NEPM15	AEC13_VAL_015	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	616 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.

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Asbestos Certificate of Analysis

PROJECT DETAILS

Report Number		**Report Number**	J23-5667.1-LR1-LAR-110823
Company	EP Risk Management Pty Ltd	**Contact Name**	Jenny Shao
Project Name	EP3244	**Project Details**	ESR Abbots Road, Kemps Creek
Lab Reference	J23-5667.1	**Client PO / Project No.**	ESR EP3244
Company Address	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW		
Site Address	Abbots Road, Kemps Creek, NSW		
Collected By	Naomi Madigan	**Collected Date/Time**	9-Aug-23
Analysed By	Imran Javed	**Analysed Date**	10-Aug-23

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Samples are analysed as received. Samples are only kept by SESALAB for one month after analysis date.

ASBESTOS SAMPLES DETAILS

Lab Sample ID	Other Sample Number	Location	Sample Descriptions	Weight (g) / Dimensions (L x W x D) mm	Results (See Legend Section Below for Abbreviations)
J23-5667.1-NEPM16	AEC13_VAL_016	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	658 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.

Legend					
ACM	Asbestos Containing Material	CH	Chrysotile Asbestos Fibres	1	Fibre Cement Fragments
PLM	Polarised Light Microscopy	AM	Amosite Asbestos Fibres	2	Loose Fibre Bundles
DS	Dispersion Staining	CR	Crocidolite Asbestos Fibres	3	Other ACM Fragments
RL	Reporting Limit	NAD	No Asbestos Detected	4	Respirable Fibres
NAD	No Asbestos Detected	UMF	Unknown Mineral Fibres	5	Soil subsampling to BS EN932-1:1997
		SMF	Synthetic Mineral Fibres		
		OF	Organic Fibres		

Accredited for compliance with ISO/IEC 17025-Testing.
Accreditation Number 20403

Approved Signatory
Ibrahim Ech (MAIOH, COH)

Occupational Hygienist

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Gravimetric Asbestos in Soil Analysis Report

Report Date: 11 August 2023
Report No: J23-5667.1-LR2-LAR-110823
Prepared For: EP Risk Management Pty Ltd
Project Name: EP3244
Project Description: ESR Abbots Road, Kemps Creek
Project Address: Abbots Road, Kemps Creek, NSW
Client Address: Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW

Accredited for compliance with ISO/IEC 17025- Testing. Accreditation Number 20403

Analysis Methodology

Samples received by SESALAB are analysed in accordance with Australian Standard (AS 4964-2004) section 8.2.3 Soil Samples. Trace analysis is conducted in accordance with section 8.4 Trace analysis criteria of the standard. Asbestos analysis is conducted in accordance with the standard section 8.3.3 Analytical criteria. The asbestos analysis process follows methodology outlined in section D Simplified flowchart for bulk asbestos identification of the standard.
The relative degree of asbestos contamination is required to be assessed for the potential risk to health. This is done in accordance to the method outlined within Clause 4.1.7 of the Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia – May 2009. This method provides a validated criteria in determining the degree of asbestos contamination. The method primarily refers to the visual inspection of the soil surface and the manual collection of Asbestos Containing Materials (ACM) fragments and soil samples. Percentages for Asbestos content in ACM are based on the 2013 NEPM nominated values.
The screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. friable/fibrous asbestos or asbestos fines) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres (Respirable Fibres) in soil. Loose respirable fibres are detected under criteria set by Australian Standard (AS 4964-2004), section 8.4 Trace analysis criteria, with an implied detection and reporting limit of 0.1g/kg (0.01%).
Unless otherwise noted in the report, non-Friable ACM weight is calculated based on the assumption of 15% asbestos by weight in non-friable ACM products used in Australia. Fibrous Asbestos (AF) and Asbestos Fines (AF) making up the Friable Asbestos weight is calculated based on the assumption of 100% asbestos by weight. Soil density is based on observations on site and reported density for soil type and it may range between 1.55 kg/L to 1.7 kg/L depending on the type of soil and locality.
Soil samples of larger size may be subject to sub-sampling in accordance with BS EN932-1-1997 Section 9.4-Reduction of a bulk sample by quartering. In subsampling non-homogeneous samples there is high probability that small amounts of asbestos materials may be unintentionally omitted due to the sub-sampling process. Where sub-sampling is performed it will be noted in the results section of the report.
The NEPM gravimetric analysis presented in this report is not covered by our NATA accreditation.

Definition of Terms

- Asbestos Containing Materials (ACM) - comprises ACM which is in sound condition, although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin (e.g. asbestos sheet or vinyl tiles). This term is restricted to material that cannot pass a 7 mm x 7 mm sieve.
- Fibrous Asbestos (FA) - comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken, crumbled or reduced to powder by hand pressure when dry. This material is typically unbonded (friable) or was previously bonded and is now significantly degraded (crumbling).
- Asbestos Fines (AF) - AF includes free fibres, small fibre bundles and also small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.

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Gravimetric Asbestos in Soil Analysis Report

PROJECT DETAILS

Report Number		**Report Number**	J23-5667.1-LR2-LAR-110823
Company	EP Risk Management Pty Ltd	**Contact Name**	Jenny Shao
Project Name	EP3244	**Project Details**	ESR Abbots Road, Kemps Creek
Lab Reference	J23-5667.1	**Client PO / Project No.**	ESR EP3244
Company Address	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW		
Site Address	Abbots Road, Kemps Creek, NSW		
Collected By	Naomi Madigan	**Collected Date/Time**	9-Aug-23
Analysed By	Imran Javed	**Analysed Date**	10-Aug-23

	Total Soil Weight	Asbestos Type Detected	Free Fibres (Respirable) Trace to AS4964	*ACM <7mm as AF in Sample	*FA (any size) AF (loose fibre) >2mm in Sample	*FA/AF (fibres/bundles) <2mm in Sample	*Total AF/FA in Sample	*ACM >7mm in Sample	Comments
Unit	g	N/A	g/kg	g	g	g	g *(%w/w)	g *(%w/w)	
Limit of Reporting	0.1	-	0.1	0.001	0.001	0.001	0.001g 0.001%	0.01g 0.01%	
Lab ID Number: J23-5667.1-NEPM1			**Sample Number: AEC13_VAL_001**			**Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix. Sample Location: NA**			
1	878	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM2			**Sample Number: AEC13_VAL_002**			**Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix. Sample Location: NA**			
2	758	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM3			**Sample Number: AEC13_VAL_003**			**Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA**			
3	688	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM4			**Sample Number: AEC13_VAL_004**			**Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix. Sample Location: NA**			
4	797	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM5			**Sample Number: AEC13_VAL_005**			**Sample Description: The sample consists of sandy clay soil, pebbles, concrete and plants matrix. Sample Location: NA**			
5	828	CH	No	<0.001	0.162	<0.001	0.162 g (0.0196%)	<0.01 g (<0.01%)	Chrysotile asbestos detected (1x fibre cement fragment (<7mm) - approx. 0.162 g). Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM6			**Sample Number: AEC13_VAL_006**			**Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA**			
6	755	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM7			**Sample Number: AEC13_VAL_007**			**Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA**			
7	795	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM8			**Sample Number: AEC13_VAL_008**			**Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA**			

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Gravimetric Asbestos in Soil Analysis Report

PROJECT DETAILS

		Report Number	J23-5667.1-LR2-LAR-110823
Company	EP Risk Management Pty Ltd	**Contact Name**	Jenny Shao
Project Name	EP3244	**Project Details**	ESR Abbots Road, Kemps Creek
Lab Reference	J23-5667.1	**Client PO / Project No.**	ESR EP3244
Company Address	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW		
Site Address	Abbots Road, Kemps Creek, NSW		
Collected By	Naomi Madigan	**Collected Date/Time**	9-Aug-23
Analysed By	Imran Javed	**Analysed Date**	10-Aug-23

	Total Soil Weight	Asbestos Type Detected	Free Fibres (Respirable) Trace to AS4964	*ACM <7mm as AF in Sample	*FA (any size) AF (loose fibre) >2mm in Sample	*FA/AF (fibres/bundles) <2mm in Sample	*Total AF/FA in Sample	*ACM >7mm in Sample	Comments
Unit	g	N/A	g/kg	g	g	g	g *(%w/w)	g *(%w/w)	
Limit of Reporting	0.1	-	0.1	0.001	0.001	0.001	0.001g 0.001%	0.01g 0.01%	
8	710	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM9			Sample Number: AEC13_VAL_009			Sample Description: The sample consists of sandy clay soil, pebbles, cement material and plants matrix. Sample Location: NA			
9	751	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM10			Sample Number: AEC13_VAL_010			Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix. Sample Location: NA			
10	774	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM11			Sample Number: AEC13_VAL_011			Sample Description: The sample consists of sandy clay soil, pebbeles and plants matrix. Sample Location: NA			
11	780	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM12			Sample Number: AEC13_VAL_012			Sample Description: The sample consists of sandy clay soil with plants matrix. Sample Location: NA			
12	612	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM13			Sample Number: AEC13_VAL_013			Sample Description: The sample consists of sandy clay soil and pebbles material. Sample Location: NA			
13	755	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM14			Sample Number: AEC13_VAL_014			Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix. Sample Location: NA			
14	762	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM15			Sample Number: AEC13_VAL_015			Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix.			

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Gravimetric Asbestos in Soil Analysis Report

PROJECT DETAILS

		Report Number	J23-5667.1-LR2-LAR-110823
Company	EP Risk Management Pty Ltd	**Contact Name**	Jenny Shao
Project Name	EP3244	**Project Details**	ESR Abbots Road, Kemps Creek
Lab Reference	J23-5667.1	**Client PO / Project No.**	ESR EP3244
Company Address	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW		
Site Address	Abbots Road, Kemps Creek, NSW		
Collected By	Naomi Madigan	**Collected Date/Time**	9-Aug-23
Analysed By	Imran Javed	**Analysed Date**	10-Aug-23

	Total Soil Weight	Asbestos Type Detected	Free Fibres (Respirable) Trace to AS4964	*ACM <7mm as AF in Sample	*FA (any size) AF (loose fibre) >2mm in Sample	*FA/AF (fibres/bundles) <2mm in Sample	*Total AF/FA in Sample	*ACM >7mm in Sample	Comments
Unit	g	N/A	g/kg	g	g	g	g *(%w/w)	g *(%w/w)	
Limit of Reporting	0.1	-	0.1	0.001	0.001	0.001	0.001g 0.001%	0.01g 0.01%	
15	616	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.1-NEPM16			Sample Number: AEC13_VAL_016			Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix. Sample Location: NA			
16	658	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.

Legend					
NEPM	National Environment Protection Measures	CH	Chrysotile Asbestos Detected	OF	Organic Fibres Detected
PLM	Polarised Light Microscopy	AM	Amosite Asbestos Detected	1	Loose Fibre Bundles
ACM	Asbestos Containing Material	CR	Crocidolite Asbestos Detected	2	Fibre Cement Fragments
FA	Fibrous Asbestos	NAD	No Asbestos Detected	3	Other ACM Fragments
AF	Asbestos Fines	UMF	Unknown Mineral Fibres Detected	4	Respirable Fibre
RL	Reporting Limit	SMF	Synthetic Mineral Fibres Detected	5	Soil sub-sampling by quartering
DS	Dispersion Staining				

The results contained with this report relate only to the samples tested.
All weights obtained and calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
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Where (*) is noted in the report it designates that "NATA accreditation does not cover the performance of this service".
The NEPM gravimetric analysis presented in this report is not covered by our NATA accreditation.
Samples are analysed as received. Samples are only kept by SESALAB for one month after analysis date.

Accredited for compliance with ISO/IEC 17025-Testing. Accreditation Number 20403

Approved Signatory
Ibrahim Ech (MAIOH, COH)

Occupational Hygienist

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Asbestos Certificate of Analysis
AS4964 (2004) Method for the Qualitative Identification of Asbestos in Bulk Samples

WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025-Testing. Accreditation Number 20403

Report Date: 11 August 2023
Report No: J23-5667.2-LR1-LAR-110823
Prepared For: EP Risk Management Pty Ltd
Project Name: EP3244
Project Description: ESR Abbots Road, Kemps Creek
Project Address: Abbots Road, Kemps Creek, NSW
Client Address: Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW

Analysis Methodology

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Analysis undertaken is a qualitative identification of asbestos fibres in bulk and soil samples by polarised light microscopy, including dispersion staining in accordance with AS4964-2004 and SESALAB "QMS-PR-008 Asbestos Fibre ID, Bulk, Soil.
Accredited for compliance with ISO/IEC: 17025-Testing (NATA Accreditation No# 20403).
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Limitations

The results contained in this report relate only to the sample/s submitted for testing. Samples are analysed as received. The laboratory accepts no responsibility for location, sample size or representation and client details provided. AS4964-2004 specifies the quantity of a representative sample of building materials should be 5–100 grams, except floor tiles that require a minimum of approximately 100 square centimetres.
Soil samples of larger size (eg. >100g) may be subject to sub-sampling in accordance with BS EN932-1-1997 Section 9.4-Reduction of a bulk sample by quartering. In subsampling non-homogeneous samples there is high probability that small amounts of asbestos materials may be unintentionally omitted due to the sub-sampling process. Where sub-sampling is performed it will be noted in the results section of the report.
Loose asbestos fibres/fibre bundles detected and reported do not represent respirable fibres. Trace asbestos analysis is used to determine the presence of 'respirable' as asbestos fibres in soils.
Results of "No asbestos detected" indicate a reporting limit specified in AS4964-2004 which is 0.1g/ Kg (0.01%).
If no asbestos is detected in vinyl tiles, mastics, sealants, epoxy resins and ore samples then confirmation by another independent analytical technique (eg. XRD, SEM) is advised due to the nature of those samples.
SESA and SESALAB accept no responsibility for the initial collection, packaging or transportation of samples submitted by a non SESALAB consultant / employee.

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Asbestos Certificate of Analysis

PROJECT DETAILS

Report Number		**Report Number**	J23-5667.2-LR1-LAR-110823
Company	EP Risk Management Pty Ltd	**Contact Name**	Jenny Shao
Project Name	EP3244	**Project Details**	ESR Abbots Road, Kemps Creek
Lab Reference	J23-5667.2	**Client PO / Project No.**	ESR EP3244
Company Address	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW		
Site Address	Abbots Road, Kemps Creek, NSW		
Collected By	Naomi Madigan	**Collected Date/Time**	9-Aug-23
Analysed By	Imran Javed	**Analysed Date**	11-Aug-23

The results contained with this report relate only to the samples tested.
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Where (*) is noted in the report it designates that "NATA accreditation does not cover the performance of this service".
Samples are analysed as received. Samples are only kept by SESALAB for one month after analysis date.

ASBESTOS SAMPLES DETAILS

Lab Sample ID	Other Sample Number	Location	Sample Descriptions	Weight (g) / Dimensions (L x W x D) mm	Results (See Legend Section Below for Abbreviations)
J23-5667.2-NEPM1	AEC13_VAL_017	NA	The sample consists of sandy clay soil, pebbles, insulation material and plants matrix.	937 g	No asbestos detected. Organic fibres detected. Synthetic mineral fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM2	AEC13_VAL_018	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	790 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM3	AEC13_VAL_019	NA	The sample consists of sandy clay soil and plants matrix.	694 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM4	AEC13_VAL_020	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	737 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM5	AEC13_VAL_021	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	608 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM6	AEC13_VAL_022	NA	The sample consists of sandy clay soil and plants matrix.	615 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM7	AEC13_VAL_023	NA	The sample consists of sandy clay soil and plants matrix.	741 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis. No asbestos detected by polarized light microscopy including dispersion staining
J23-5667.2-NEPM8	AEC13_VAL_024	NA	The sample consists of sandy clay soil and plants matrix.	697 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM9	AEC13_VAL_025	NA	The sample consists of sandy clay soil, pebbles, plastic material and plants matrix.	653 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM10	AEC13_VAL_026	NA	The sample consists of sandy clay soil and plants matrix.	646 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM11	AEC13_VAL_027	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	609 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM12	AEC13_VAL_028	NA	The sample consists of sandy clay soil, pebbles and plants matrix.	646 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM13	AEC13_VAL_029	NA	The sample consists of sandy clay soil and plants matrix.	456 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM14	AEC13_VAL_030	NA	The sample consists of sandy clay soil and plants matrix.	665 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
J23-5667.2-NEPM15	AEC13_VAL_031	NA	The sample consists of sandy clay soil and plants matrix.	589 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.

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Asbestos Certificate of Analysis

PROJECT DETAILS

Report Number		**Report Number**	J23-5667.2-LR1-LAR-110823
Company	EP Risk Management Pty Ltd	**Contact Name**	Jenny Shao
Project Name	EP3244	**Project Details**	ESR Abbots Road, Kemps Creek
Lab Reference	J23-5667.2	**Client PO / Project No.**	ESR EP3244
Company Address	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW		
Site Address	Abbots Road, Kemps Creek, NSW		
Collected By	Naomi Madigan	**Collected Date/Time**	9-Aug-23
Analysed By	Imran Javed	**Analysed Date**	11-Aug-23

The results contained with this report relate only to the samples tested.
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Where (*) is noted in the report it designates that "NATA accreditation does not cover the performance of this service".
Samples are analysed as received. Samples are only kept by SESALAB for one month after analysis date.

ASBESTOS SAMPLES DETAILS

Lab Sample ID	Other Sample Number	Location	Sample Descriptions	Weight (g) / Dimensions (L x W x D) mm	Results (See Legend Section Below for Abbreviations)
J23-5667.2-NEPM16	AEC13_VAL_032	NA	The sample consists of sandy clay soil and plants matrix.	692 g	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.

Legend

ACM	Asbestos Containing Material	CH	Chrysotile Asbestos Fibres	1	Fibre Cement Fragments
PLM	Polarised Light Microscopy	AM	Amosite Asbestos Fibres	2	Loose Fibre Bundles
DS	Dispersion Staining	CR	Crocidolite Asbestos Fibres	3	Other ACM Fragments
RL	Reporting Limit	NAD	No Asbestos Detected	4	Respirable Fibres
NAD	No Asbestos Detected	UMF	Unknown Mineral Fibres	5	Soil subsampling to BS EN932-1:1997
		SMF	Synthetic Mineral Fibres		
		OF	Organic Fibres		

Accredited for compliance with ISO/IEC 17025-Testing.
Accreditation Number 20403

Approved Signatory
Ibrahim Ech (MAIOH, COH)

Occupational Hygienist

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Gravimetric Asbestos in Soil Analysis Report

Report Date: 11 August 2023
Report No: J23-5667.2-LR2-LAR-110823
Prepared For: EP Risk Management Pty Ltd
Project Name: EP3244
Project Description: ESR Abbots Road, Kemps Creek
Project Address: Abbots Road, Kemps Creek, NSW
Client Address: Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW

Accredited for compliance with ISO/IEC 17025- Testing. Accreditation Number 20403

Analysis Methodology

Samples received by SESALAB are analysed in accordance with Australian Standard (AS 4964-2004) section 8.2.3 Soil Samples. Trace analysis is conducted in accordance with section 8.4 Trace analysis criteria of the standard. Asbestos analysis is conducted in accordance with the standard section 8.3.3 Analytical criteria. The asbestos analysis process follows methodology outlined in section D Simplified flowchart for bulk asbestos identification of the standard.
The relative degree of asbestos contamination is required to be assessed for the potential risk to health. This is done in accordance to the method outlined within Clause 4.1.7 of the Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia – May 2009. This method provides a validated criteria in determining the degree of asbestos contamination. The method primarily refers to the visual inspection of the soil surface and the manual collection of Asbestos Containing Materials (ACM) fragments and soil samples. Percentages for Asbestos content in ACM are based on the 2013 NEPM nominated values.
The screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. friable/fibrous asbestos or asbestos fines) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres (Respirable Fibres) in soil. Loose respirable fibres are detected under criteria set by Australian Standard (AS 4964-2004), section 8.4 Trace analysis criteria, with an implied detection and reporting limit of 0.1g/kg (0.01%).
Unless otherwise noted in the report, non-Friable ACM weight is calculated based on the assumption of 15% asbestos by weight in non-friable ACM products used in Australia. Fibrous Asbestos (AF) and Asbestos Fines (AF) making up the Friable Asbestos weight is calculated based on the assumption of 100% asbestos by weight. Soil density is based on observations on site and reported density for soil type and it may range between 1.55 kg/L to 1.7 kg/L depending on the type of soil and locality.
Soil samples of larger size may be subject to sub-sampling in accordance with BS EN932-1-1997 Section 9.4-Reduction of a bulk sample by quartering. In subsampling non-homogeneous samples there is high probability that small amounts of asbestos materials may be unintentionally omitted due to the sub-sampling process. Where sub-sampling is performed it will be noted in the results section of the report.
The NEPM gravimetric analysis presented in this report is not covered by our NATA accreditation.

Definition of Terms

- Asbestos Containing Materials (ACM) - comprises ACM which is in sound condition, although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin (e.g. asbestos sheet or vinyl tiles). This term is restricted to material that cannot pass a 7 mm x 7 mm sieve.
- Fibrous Asbestos (FA) - comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken, crumbled or reduced to powder by hand pressure when dry. This material is typically unbonded (friable) or was previously bonded and is now significantly degraded (crumbling).
- Asbestos Fines (AF) - AF includes free fibres, small fibre bundles and also small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.

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Gravimetric Asbestos in Soil Analysis Report

PROJECT DETAILS

		Report Number	J23-5667.2-LR2-LAR-110823
Company	EP Risk Management Pty Ltd	**Contact Name**	Jenny Shao
Project Name	EP3244	**Project Details**	ESR Abbots Road, Kemps Creek
Lab Reference	J23-5667.2	**Client PO / Project No.**	ESR EP3244
Company Address	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW		
Site Address	Abbots Road, Kemps Creek, NSW		
Collected By	Naomi Madigan	**Collected Date/Time**	9-Aug-23
Analysed By	Imran Javed	**Analysed Date**	11-Aug-23

	Total Soil Weight	Asbestos Type Detected	Free Fibres (Respirable) Trace to AS4964	*ACM <7mm as AF in Sample	*FA (any size) AF (loose fibre) >2mm in Sample	*FA/AF (fibres/bundles) <2mm in Sample	*Total AF/FA in Sample	*ACM >7mm in Sample	Comments
Unit	g	N/A	g/kg	g	g	g	g *(%w/w)	g *(%w/w)	
Limit of Reporting	0.1	-	0.1	0.001	0.001	0.001	0.001g 0.001%	0.01g 0.01%	
Lab ID Number: J23-5667.2-NEPM1			**Sample Number: AEC13_VAL_017**			**Sample Description: The sample consists of sandy clay soil, pebbles, insulation material and plants matrix. Sample Location: NA**			
1	937	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. Synthetic mineral fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM2			**Sample Number: AEC13_VAL_018**			**Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix. Sample Location: NA**			
2	790	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM3			**Sample Number: AEC13_VAL_019**			**Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA**			
3	694	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM4			**Sample Number: AEC13_VAL_020**			**Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix. Sample Location: NA**			
4	737	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM5			**Sample Number: AEC13_VAL_021**			**Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix. Sample Location: NA**			
5	608	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM6			**Sample Number: AEC13_VAL_022**			**Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA**			
6	615	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM7			**Sample Number: AEC13_VAL_023**			**Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA**			
7	741	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM8			**Sample Number: AEC13_VAL_024**			**Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA**			

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Gravimetric Asbestos in Soil Analysis Report

PROJECT DETAILS

		Report Number	J23-5667.2-LR2-LAR-110823
Company	EP Risk Management Pty Ltd	**Contact Name**	Jenny Shao
Project Name	EP3244	**Project Details**	ESR Abbots Road, Kemps Creek
Lab Reference	J23-5667.2	**Client PO / Project No.**	ESR EP3244
Company Address	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW		
Site Address	Abbots Road, Kemps Creek, NSW		
Collected By	Naomi Madigan	**Collected Date/Time**	9-Aug-23
Analysed By	Imran Javed	**Analysed Date**	11-Aug-23

	Total Soil Weight	Asbestos Type Detected	Free Fibres (Respirable) Trace to AS4964	*ACM <7mm as AF in Sample	*FA (any size) AF (loose fibre) >2mm in Sample	*FA/AF (fibres/bundles) <2mm in Sample	*Total AF/FA in Sample	*ACM >7mm in Sample	Comments
Unit	g	N/A	g/kg	g	g	g	g *(%w/w)	g *(%w/w)	
Limit of Reporting	0.1	-	0.1	0.001	0.001	0.001	0.001g 0.001%	0.01g 0.01%	
8	697	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM9			Sample Number: AEC13_VAL_025			Sample Description: The sample consists of sandy clay soil, pebbles, plastic material and plants matrix. Sample Location: NA			
9	653	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM10			Sample Number: AEC13_VAL_026			Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA			
10	646	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM11			Sample Number: AEC13_VAL_027			Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix. Sample Location: NA			
11	609	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM12			Sample Number: AEC13_VAL_028			Sample Description: The sample consists of sandy clay soil, pebbles and plants matrix. Sample Location: NA			
12	646	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM13			Sample Number: AEC13_VAL_029			Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA			
13	456	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM14			Sample Number: AEC13_VAL_030			Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA			
14	665	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM15			Sample Number: AEC13_VAL_031			Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA			

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Gravimetric Asbestos in Soil Analysis Report

PROJECT DETAILS

		Report Number	J23-5667.2-LR2-LAR-110823
Company	EP Risk Management Pty Ltd	**Contact Name**	Jenny Shao
Project Name	EP3244	**Project Details**	ESR Abbots Road, Kemps Creek
Lab Reference	J23-5667.2	**Client PO / Project No.**	ESR EP3244
Company Address	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW		
Site Address	Abbots Road, Kemps Creek, NSW		
Collected By	Naomi Madigan	**Collected Date/Time**	9-Aug-23
Analysed By	Imran Javed	**Analysed Date**	11-Aug-23

	Total Soil Weight	Asbestos Type Detected	Free Fibres (Respirable) Trace to AS4964	*ACM <7mm as AF in Sample	*FA (any size) AF (loose fibre) >2mm in Sample	*FA/AF (fibres/bundles) <2mm in Sample	*Total AF/FA in Sample	*ACM >7mm in Sample	Comments
Unit	g	N/A	g/kg	g	g	g	g *(%w/w)	g *(%w/w)	
Limit of Reporting	0.1	-	0.1	0.001	0.001	0.001	0.001g 0.001%	0.01g 0.01%	
15	589	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.
Lab ID Number: J23-5667.2-NEPM16			Sample Number: AEC13_VAL_032			Sample Description: The sample consists of sandy clay soil and plants matrix. Sample Location: NA			
16	692	NAD	No	<0.001	<0.001	<0.001	<0.001 g (<0.001%)	<0.01 g (<0.01%)	No asbestos detected. Organic fibres detected. No respirable fibres detected by trace analysis.

Legend					
NEPM	National Environment Protection Measures	CH	Chrysotile Asbestos Detected	OF	Organic Fibres Detected
PLM	Polarised Light Microscopy	AM	Amosite Asbestos Detected	1	Loose Fibre Bundles
ACM	Asbestos Containing Material	CR	Crocidolite Asbestos Detected	2	Fibre Cement Fragments
FA	Fibrous Asbestos	NAD	No Asbestos Detected	3	Other ACM Fragments
AF	Asbestos Fines	UMF	Unknown Mineral Fibres Detected	4	Respirable Fibre
RL	Reporting Limit	SMF	Synthetic Mineral Fibres Detected	5	Soil sub-sampling by quartering
DS	Dispersion Staining				

The results contained with this report relate only to the samples tested.
All weights obtained and calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
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Where (*) is noted in the report it designates that "NATA accreditation does not cover the performance of this service".
The NEPM gravimetric analysis presented in this report is not covered by our NATA accreditation.
Samples are analysed as received. Samples are only kept by SESALAB for one month after analysis date.

Accredited for compliance with ISO/IEC 17025-Testing. Accreditation Number 20403

Approved Signatory
Ibrahim Ech (MAIOH, COH)

Occupational Hygienist

Bulk Identification Report V2

Job No: 754-SYDEN234000 Bulk ID Report EP3244 17082023 V2
Client: EP Risk Management Pty Ltd
Client Address: Suite 13.01, Level 13, 80 Mount Street,
North Sydney, NSW
Contact: Jenny Shao
E-mail: jenny.shao@eprisk.com.au & troy.chatman@eprisk.com.au
Date Sampled: 16-08-23
Date Analysed: 18-08-23
Date Authorised: 18-08-23
Sampled By: As received by client (Jenny Shao)
Site: ESR

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No:2220
Corporate Site No:16909

Please note: Where you have provided the samples for analysis, Tetra Tech Coffey Pty Ltd does not take any responsibility for the quality of the such samples. This report relates exclusively to the samples analysed by Tetra Tech Coffey Pty Ltd and as such only the samples submitted or collected for analysis have been considered in presenting these results. The data and results contained in this report are not representative of the site, product or source material as a whole. Tetra Tech Coffey Pty Ltd does not make any warranty or representation in relation to the site, product or source material as a whole. If you suspect any material to contain asbestos, then you must immediately stop the works and activities at the site or in respect of the materials and engage Tetra Tech Coffey Pty Ltd or another suitably trained asbestos hygienist to sample, assess or re-assess (as the case may be) the material suspected to contain asbestos.

Test Method: **Asbestos in Bulk Samples and Non-homogenous Material**
Tetra Tech Coffey Pty Ltd analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Coffey SOP WILAB1, and Australian Standard (AS) 4964 – 2004, Method for the qualitative identification of asbestos in bulk samples (AS 4964). The detection limit for the test method as per AS 4964 is 0.1 g/kg. For non-homogenous samples a semi-quantitative aspect is adopted for the test method and is taken into account when reporting the results. As per Tetra Tech Coffey Pty Ltd's NATA approved SOP WILAB1 sample retention periods are set at 1 month for all samples from the date of analysis.
Please note; this report; ***754-SYDEN234000 Bulk ID Report EP3244 17082023 V2*** *supersedes the report;* ***754-SYDEN234000 Bulk ID Report EP3244 17082023*** *issued on the 18/08/2023. This is due to a formatting error, the results remain the same.*

Analysed At: Tetra Tech Coffey Pty Ltd Laboratory, Level 20, Tower B, Citadel Towers 799 Pacific Highway Chatswood NSW 2067

Total Samples: 1

Approved Identifier
Panika Wongchanda

Approved Signatory
Matthew Tang

Sample No.	Location & Description	Sample Size (~)	Results
AEC13_VAL_035	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 604.2 g > 2mm fraction ~ 339 g < 2mm fraction ~ 265.2 g < 2mm sub sample ~ 40.1 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Notes

Subsampling is carried out as per Coffey SOP WILAB1 using the coning and quartering method, please note subsampling may reduce the accuracy of the analytical result.

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Asbestos Clearance Certificate (ACC014)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC014_ESR_Westlink Stage 1_AEC14_v1 | 11 April 2024

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

11 April 2024
Ref: EP3244.003_ACC014_ESR_Westlink Stage 1_AEC14_v1

Asbestos Clearance Certificate – ACC014

Westlink Stage 1 – AEC14

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldginton Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462) Zak Bursey – Graduate Environmental Scientist (Competent Person) Hayley Erskine – Graduate Environmental Scientist (Competent Person

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	09.08.2023 – 04.09.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to the friable (F3) hotspot of AEC14 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. AEC14 covers an approximate surface area of 950 m^2 and includes soils up to a depth of 2.2 m below ground level (mBGL). The friable hotspot comprises of the several test pits (TP61, TP150, TP159, TP166, ASB11, ASB12), the delineation trench to the east and the brick stockpile to the west, halfway to the next clean sample.
Scope of work (as advised by client/contractor)	As per the Alliance (2023) Remediation Action Plan (RAP)[1], the contaminant of potential concern (CoPC) identified within AEC14 was: Asbestos fines (AF) in surface and/or fill soils. Based on the Alliance (2023) RAP, soils within AEC14 are to be excavated and disposed to a suitable licensed waste receiving facility, with a waste classification certificate. At the request of ESR, EP Risk conducted a high-level review of the Alliance (2023) RAP and previous environmental investigations to determine if volumes of material impacted by friable asbestos in soils (ASBINS) (AF and fibrous asbestos (FA)) and set for off-site disposal could be reduced through a delineation assessment. Following a review of previous sampling data, EP Risk concluded the remediation extent within AEC14 could be reduced to a friable (F3) hotspot at the central of AEC14, comprising of the following test pits, halfway to the next clean sample: • TP61 • TP159 • TP166 • ASB12 • Delineation Trench However, during a site walkover of the area conducted by EP Risk and TCE, an abundance of super six sheeting ACM fragments in poor condition were identified to the west of the friable (F3) hotspot, in line with the western edge of the brick stockpile. As such, the western extent of the friable (F3) hotspot was extended westwards to include TP150, ASB11 and the entirety of the brick stockpile. Should excavation works be required to be undertaken in areas

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

	outside of the friable (F3) hotspot but within the AEC14 boundary defined by Alliance, EP Risk recommends this is undertaken under supervision in case of unexpected finds. The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following within the friable (F3) hotspot: • Excavation of soils until natural was intercepted (approximately 2.0 - 3.8mBGL) and transport to the friable stockpile pad (F3) and; • Movement of the brick stockpile to the friable stockpile pad (F3). Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023) and Addendum[2] (EP Risk 2023)[2], encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos; • Field screening for bonded (non-friable) ACM (>7mm; • Gravimetric asbestos samples for friable asbestos (AF/FA); • and • Clearance certificate from a licenced asbestos assessor (LAA).
Type of asbestos containing material (ACM) removed:	☒ Friable. ☐ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☒ Other: Asbestos contaminated brick stockpile
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☒ Wet decontamination unit. ☐ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☒ Wet wiping.

[2] EP Risk (2023), *Remediation Action Plan Addendu*m, Westlink Stage 1 – Aldington Road and Abbotts Road, Kemps Creek, NSW, dated 12 September 2023 (ref: EP3244.004_v1).

	☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☐ N/A. ☐ PVA / Adhesive. ☐ Other. ☒ Imported 'clean' fill.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	04.09.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☒ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken across the base the excavation footprint and along the northern, southern, eastern and western perimeter excavation walls.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. No bonded (non-friable) ACM was detected during the sieve tests. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
AEC14_VAL_001	Northern end of excavation footprint – wall of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_002	Northern end of excavation footprint – wall of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_003	Western end of excavation footprint – wall of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_004	Northern end of excavation footprint – wall of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_005	Northern end of excavation footprint – wall of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected

AEC14_VAL_006	Northern end of excavation footprint – wall of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_007	Southern end of excavation footprint – wall of fifth bench from north	0.0 – 1.9 mBGL	No Asbestos Detected
AEC14_VAL_008	Southern end of excavation footprint – wall of sixth bench from north	0.0 – 1.1 mBGL	No Asbestos Detected
AEC14_VAL_009	Southern end of excavation footprint – wall of sixth bench from north	0.0 – 1.1 mBGL	No Asbestos Detected
AEC14_VAL_010	Southern end of excavation footprint – wall of fifth bench from north	1.9 – 2.7 mBGL	No Asbestos Detected
AEC14_VAL_011	Southern end of excavation footprint – base of fifth bench from north	1.9 – 2.7 mBGL	No Asbestos Detected
AEC14_VAL_012	Southern end of excavation footprint – wall of fourth bench from north	0.0 – 2.2 mBGL	No Asbestos Detected
AEC14_VAL_013	Western end of excavation footprint – wall of fourth bench from north	0.0 – 2.2 mBGL	No Asbestos Detected
AEC14_VAL_014	Western end of excavation footprint – wall of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VA_015	Western end of excavation footprint – base of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_016	Northern end of excavation footprint – base of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_017	Western end of excavation footprint – base of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_018	Northern end of excavation footprint – base of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_019	Eastern end of excavation footprint – base of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_020	Northern end of excavation footprint – base of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_021	Eastern end of excavation footprint – base of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_022	Northern end of excavation footprint – base of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_023	Eastern end of excavation footprint – base of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_024	Eastern end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_025	Eastern end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_026	Eastern end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_027	Eastern end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected

AEC14_VAL_028	Western end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_029	Western end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_030	Western end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_031	Western end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_032	Western end of excavation footprint – base of fourth bench from north	0.0 – 2.2 mBGL	No Asbestos Detected
AEC14_VAL_033	Western end of excavation footprint – base of fourth bench from north	0.0 – 2.2 mBGL	No Asbestos Detected
AEC14_VAL_034	Southern end of excavation footprint – base of fourth bench from north	2.7 – 3.7 mBGL	No Asbestos Detected
AEC14_VAL_035	Southern end of excavation footprint – base of fifth bench from north	1.9 – 2.7 mBGL	No Asbestos Detected
AEC14_VAL_036	Southern end of excavation footprint – base of fourth bench from north	2.7 – 3.7 mBGL	No Asbestos Detected
AEC14_VAL_037	Southern end of excavation footprint – base of fifth bench from north	0.0 – 1.9 mBGL	No Asbestos Detected
AEC14_VAL_038	Southern end of excavation footprint – base of sixth bench from north	0.0 – 1.1 mBGL	No Asbestos Detected
AEC14_VAL_039	Southern end of excavation footprint – base of fifth bench from north	0.0 – 1.9 mBGL	No Asbestos Detected
AEC14_VAL_040	Southern end of excavation footprint – base of sixth bench from north	0.0 – 1.1 mBGL	No Asbestos Detected
AEC14_VAL_041	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_042	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_043	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_044	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_045	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_046	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_047	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_048	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected

5. ASBESTOS GRAVIMETRIC (AF/FA) RESULTS

Following the visual clearance inspection of the Clearance Area on 28 August 2023, EP Risk collected forty-eight (48) 500 mL samples of the residual in-situ material at the base of the excavation footprint and along the northern, southern, eastern and western perimeter excavation walls. The samples were submitted to a National Association of Testing Authorities (NATA) accredited laboratory for Asbestos Gravimetric Analysis (non-NATA) for the detection of AF/FA.

No asbestos was detected above the reporting limit of 0.1 g/kg, with the exception of one (1) sample (AEC14_VAL_010). AEC14_VAL_010 contained matted fibre bundles containing Chrysotile (white asbestos) in the > 2mm fraction at concentrations of 0.0002 w/w%, which is below the 0.05 %w/w HSL for commercial / industrial sites. No trace (respirable) asbestos fibres were detected in all collected validation samples.

Further excavation works within this location weas subsequently recommended for conservative reasons. Further excavation works were undertaken on 04 September 2023, and comprised a 1 m x 1 m box out with the material transported to the stockpile pad as F3 material due to small volume and known F3 material within AEC14.

Following a visual clearance inspection of the area, EP Risk collected an additional 500 mL sample of the residual in-situ material for Asbestos Gravimetric Analysis (non-NATA) for the detection of AF/FA, labelled as AEC14_VAL_049. No asbestos was detected above the reporting limit of 0.1 g/kg. Moreover, no trace (respirable) asbestos fibres were detected.

Results have been summarised below.

Sample ID	Location	Sample Depth	Result
AEC14_VAL_001	Northern end of excavation footprint – wall of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_002	Northern end of excavation footprint – wall of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_003	Western end of excavation footprint – wall of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_004	Northern end of excavation footprint – wall of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_005	Northern end of excavation footprint – wall of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_006	Northern end of excavation footprint – wall of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_007	Southern end of excavation footprint – wall of fifth bench from north	0.0 – 1.9 mBGL	No Asbestos Detected
AEC14_VAL_008	Southern end of excavation footprint – wall of sixth bench from north	0.0 – 1.1 mBGL	No Asbestos Detected
AEC14_VAL_009	Southern end of excavation footprint – wall of sixth bench from north	0.0 – 1.1 mBGL	No Asbestos Detected

AEC14_VAL_010	Southern end of excavation footprint – wall of fifth bench from north	1.9 – 2.7 mBGL	Matted Fibre Bundles Containing Chrysotile (white asbestos) > 2mm fraction 0.0002 %w/w
AEC14_VAL_011	Southern end of excavation footprint – base of fifth bench from north	1.9 – 2.7 mBGL	No Asbestos Detected
AEC14_VAL_012	Southern end of excavation footprint – wall of fourth bench from north	0.0 – 2.2 mBGL	No Asbestos Detected
AEC14_VAL_013	Western end of excavation footprint – wall of fourth bench from north	0.0 – 2.2 mBGL	No Asbestos Detected
AEC14_VAL_014	Western end of excavation footprint – wall of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VA_015	Western end of excavation footprint – base of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_016	Northern end of excavation footprint – base of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_017	Western end of excavation footprint – base of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_018	Northern end of excavation footprint – base of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_019	Eastern end of excavation footprint – base of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_020	Northern end of excavation footprint – base of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_021	Eastern end of excavation footprint – base of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_022	Northern end of excavation footprint – base of first bench from north	0.0 - 1.3 mBGL	No Asbestos Detected
AEC14_VAL_023	Eastern end of excavation footprint – base of second bench from north	1.3 – 2.8 mBGL	No Asbestos Detected
AEC14_VAL_024	Eastern end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_025	Eastern end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_026	Eastern end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_027	Eastern end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_028	Western end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_029	Western end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected

AEC14_VAL_030	Western end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_031	Western end of excavation footprint – base of third bench from north	2.8 – 3.8 mBGL	No Asbestos Detected
AEC14_VAL_032	Western end of excavation footprint – base of fourth bench from north	0.0 – 2.2 mBGL	No Asbestos Detected
AEC14_VAL_033	Western end of excavation footprint – base of fourth bench from north	0.0 – 2.2 mBGL	No Asbestos Detected
AEC14_VAL_034	Southern end of excavation footprint – base of fourth bench from north	2.7 – 3.7 mBGL	No Asbestos Detected
AEC14_VAL_035	Southern end of excavation footprint – base of fifth bench from north	1.9 – 2.7 mBGL	No Asbestos Detected
AEC14_VAL_036	Southern end of excavation footprint – base of fourth bench from north	2.7 – 3.7 mBGL	No Asbestos Detected
AEC14_VAL_037	Southern end of excavation footprint – base of fifth bench from north	0.0 – 1.9 mBGL	No Asbestos Detected
AEC14_VAL_038	Southern end of excavation footprint – base of sixth bench from north	0.0 – 1.1 mBGL	No Asbestos Detected
AEC14_VAL_039	Southern end of excavation footprint – base of fifth bench from north	0.0 – 1.9 mBGL	No Asbestos Detected
AEC14_VAL_040	Southern end of excavation footprint – base of sixth bench from north	0.0 – 1.1 mBGL	No Asbestos Detected
AEC14_VAL_041	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_042	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_043	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_044	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_045	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_046	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_047	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_048	East of excavation footprint, within plant movement area – surficial soils	0.1 mBGL	No Asbestos Detected
AEC14_VAL_049	Resample following further excavation works to AEC14_VAL_010	1.9 – 2.7 mBGL	No Asbestos Detected

6. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate and soil validation results pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. Soil validation samples and a visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

7. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

8. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

9. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection, sieve tests and within the asbestos gravimetric samples. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

10. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	11.04.2024	K. Guenther	11.04.2024	T. Chatman	11.04.2024

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*11.04.2024*	*EP3244.003_ACC014_ESR_Westlink Stage 1_AEC14_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Inaccessible areas are omitted from the assessment including beneath concrete slabs, beneath the subsurface, within the soil or fill, beneath floorboards, in the crawlspace of the building inside the walls of the structures and inside the roof cavity not in immediate.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figure



EP RISK

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Asbestos Clearance Certificate (ACC014)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 28/08/2023
Drawing Ref: EP3244.003_Fig. 1
Version No: v1

N

0 5 10 15 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HE Checked by: JS
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 07/08/2023

AEC14 prior to remediation works.



Plate 2 – 07/08/2023

AEC14 prior to remediation works.



Plate 3 – 23/08/2023

Residual soils within AEC14 subsequent to excavation of friable ACM impacted soils to natural.



Plate 4 – 23/08/2023

Residual soils within AEC14 subsequent to excavation of friable ACM impacted soils to natural.



Plate 5 – 23/08/2023

Residual soils within AEC14 subsequent to excavation of friable ACM impacted soils to natural.



Plate 6 – 23/08/2023

Residual soils within AEC14 subsequent to excavation of friable ACM impacted soils to natural.



Plate 7 – 23/08/2023

Residual soils within AEC14 subsequent to excavation of friable ACM impacted soils to natural.



Plate 8 – 23/08/2023

Residual soils within AEC14 subsequent to excavation of friable ACM impacted soils to natural.

Attachment 3 – Certificate of Analysis

Bulk Identification Report

Job No: 754-SYDEN234000 Bulk ID Report EP3244 24082023
Client: EP Risk Management Pty Ltd
Client Address: Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW
Contact: Jenny Shao
E-mail: jenny.shao@eprisk.com.au
Date Sampled: 23-08-23
Date Analysed: 28-29/08/2023
Date Authorised: 29-08-23
Sampled By: As received by client (Jenny Shao)
Site: ESR

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No:2220
Corporate Site No:16909

Please note: Where you have provided the samples for analysis, Tetra Tech Coffey Pty Ltd does not take any responsibility for the quality of the such samples. This report relates exclusively to the samples analysed by Tetra Tech Coffey Pty Ltd and as such only the samples submitted or collected for analysis have been considered in presenting these results. The data and results contained in this report are not representative of the site, product or source material as a whole. Tetra Tech Coffey Pty Ltd does not make any warranty or representation in relation to the site, product or source material as a whole. If you suspect any material to contain asbestos, then you must immediately stop the works and activities at the site or in respect of the materials and engage Tetra Tech Coffey Pty Ltd or another suitably trained asbestos hygienist to sample, assess or re-assess (as the case may be) the material suspected to contain asbestos.

Asbestos in Bulk Samples and Non-homogenous Material

Test Method: Tetra Tech Coffey Pty Ltd analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Coffey SOP WILAB1, and Australian Standard (AS) 4964 – 2004, Method for the qualitative identification of asbestos in bulk samples (AS 4964). The detection limit for the test method as per AS 4964 is 0.1 g/kg. For non-homogenous samples a semi-quantitative aspect is adopted for the test method and is taken into account when reporting the results. As per Tetra Tech Coffey Pty Ltd's NATA approved SOP WILAB1 sample retention periods are set at 1 month for all samples from the date of analysis.

Analysed At: Tetra Tech Coffey Pty Ltd Laboratory, Level 20, Tower B, Citadel Towers 799 Pacific Highway Chatswood NSW 2067

Total Samples: 48

Approved Identifier
Panika Wongchanda & Matthew Tang

Approved Signatory
Matthew Tang

Sample No.	Location & Description	Sample Size (~)	Results
AEC14_VAL_001	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 476.7 g > 2mm fraction ~ 41.9 g < 2mm fraction ~ 434.8 g < 2mm sub sample ~ 32.2 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_002	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 422.9 g > 2mm fraction ~ 282.6 g < 2mm fraction ~ 140.3 g < 2mm sub sample ~ 36.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_003	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 574 g > 2mm fraction ~ 463 g < 2mm fraction ~ 111 g < 2mm sub sample ~ 41.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_004	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 459.3 g > 2mm fraction ~ 222.7 g < 2mm fraction ~ 236.6 g < 2mm sub sample ~ 31.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Sample No.	Location & Description	Sample Size (~)	Results
AEC14_VAL_005	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 469.4 g > 2mm fraction ~ 242.1 g < 2mm fraction ~ 227.3 g < 2mm sub sample ~ 38.6 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_006	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 436.7 g > 2mm fraction ~ 67.2 g < 2mm fraction ~ 369.5 g < 2mm sub sample ~ 36 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_007	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 418.8 g > 2mm fraction ~ 181.7 g < 2mm fraction ~ 237.1 g < 2mm sub sample ~ 38.9 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_008	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 513.7 g > 2mm fraction ~ 148.7 g < 2mm fraction ~ 365 g < 2mm sub sample ~ 41.3 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_009	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 586.6 g > 2mm fraction ~ 258.5 g < 2mm fraction ~ 328.1 g < 2mm sub sample ~ 41.1 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_010	As received - Brown non-homogenous soil, rocks & debris **>2mm Fraction** Matted fibre bundles containing **Chrysotile (white asbestos)** found in the >2mm fraction raw weight: ~ 0.0017 g	Total sample ~ 648.8 g > 2mm fraction ~ 316.8 g < 2mm fraction ~ 332 g < 2mm sub sample ~ 40.1 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_011	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 649.7 g > 2mm fraction ~ 245.3 g < 2mm fraction ~ 404.4 g < 2mm sub sample ~ 40.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_012	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 464.4 g > 2mm fraction ~ 138.2 g < 2mm fraction ~ 326.2 g < 2mm sub sample ~ 39.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_013	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 439.2 g > 2mm fraction ~ 274.2 g < 2mm fraction ~ 165 g < 2mm sub sample ~ 42.7 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_014	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 530.1 g > 2mm fraction ~ 274.9 g < 2mm fraction ~ 255.2 g < 2mm sub sample ~ 43.2 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Sample No.	Location & Description	Sample Size (~)	Results
AEC14_VAL_015	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 495.8 g > 2mm fraction ~ 270.7 g < 2mm fraction ~ 225.2 g < 2mm sub sample ~ 40.2 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_016	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 487.8 g > 2mm fraction ~ 164.8 g < 2mm fraction ~ 323 g < 2mm sub sample ~ 37.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_017	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 595 g > 2mm fraction ~ 311 g < 2mm fraction ~ 284 g < 2mm sub sample ~ 44.6 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_018	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 516.6 g > 2mm fraction ~ 274.1 g < 2mm fraction ~ 242.5 g < 2mm sub sample ~ 39.2 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_019	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 482.8 g > 2mm fraction ~ 178.8 g < 2mm fraction ~ 304 g < 2mm sub sample ~ 42.3 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_020	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 522.1 g > 2mm fraction ~ 314.9 g < 2mm fraction ~ 207.2 g < 2mm sub sample ~ 41.3 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_021	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 508.5 g > 2mm fraction ~ 200.7 g < 2mm fraction ~ 307.8 g < 2mm sub sample ~ 42.6 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_022	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 461.4 g > 2mm fraction ~ 43.7 g < 2mm fraction ~ 417.7 g < 2mm sub sample ~ 41.9 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_023	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 443.4 g > 2mm fraction ~ 151.3 g < 2mm fraction ~ 292.1 g < 2mm sub sample ~ 41.1 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_024	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 434.4 g > 2mm fraction ~ 207.5 g < 2mm fraction ~ 226.9 g < 2mm sub sample ~ 36.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Sample No.	Location & Description	Sample Size (~)	Results
AEC14_VAL_025	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 516.6 g > 2mm fraction ~ 253.5 g < 2mm fraction ~ 263.1 g < 2mm sub sample ~ 45.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_026	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 768.5 g > 2mm fraction ~ 392.4 g < 2mm fraction ~ 376.1 g < 2mm sub sample ~ 42 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_027	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 754.9 g > 2mm fraction ~ 445.1 g < 2mm fraction ~ 309.8 g < 2mm sub sample ~ 50.5 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_028	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 578 g > 2mm fraction ~ 358 g < 2mm fraction ~ 220 g < 2mm sub sample ~ 41 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_029	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 761.2 g > 2mm fraction ~ 434.3 g < 2mm fraction ~ 326.9 g < 2mm sub sample ~ 43.6 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_030	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 478 g > 2mm fraction ~ 322.8 g < 2mm fraction ~ 155.2 g < 2mm sub sample ~ 37.9 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_031	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 593.9 g > 2mm fraction ~ 433.8 g < 2mm fraction ~ 160.1 g < 2mm sub sample ~ 41.7 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_032	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 523.3 g > 2mm fraction ~ 130.6 g < 2mm fraction ~ 392.7 g < 2mm sub sample ~ 49 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_033	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 687.6 g > 2mm fraction ~ 286.7 g < 2mm fraction ~ 400.9 g < 2mm sub sample ~ 40.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_034	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 508.1 g > 2mm fraction ~ 128.3 g < 2mm fraction ~ 379.8 g < 2mm sub sample ~ 40.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Sample No.	Location & Description	Sample Size (~)	Results
AEC14_VAL_035	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 481.9 g > 2mm fraction ~ 142.7 g < 2mm fraction ~ 339.2 g < 2mm sub sample ~ 40.6 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_036	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 543.5 g > 2mm fraction ~ 184.8 g < 2mm fraction ~ 358.7 g < 2mm sub sample ~ 43.2 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_037	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 459.9 g > 2mm fraction ~ 168.2 g < 2mm fraction ~291.7 g < 2mm sub sample ~ 37.9 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_038	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 406.2 g > 2mm fraction ~ 129.5 g < 2mm fraction ~ 276.7 g < 2mm sub sample ~ 41.1 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_039	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 475.2 g > 2mm fraction ~ 197.6 g < 2mm fraction ~ 277.6 g < 2mm sub sample ~ 48.9 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_040	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 492.5 g > 2mm fraction ~ 305.8 g < 2mm fraction ~ 186.7 g < 2mm sub sample ~ 38.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_041	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 287.2 g > 2mm fraction ~ 109.8 g < 2mm fraction ~ 177.4 g < 2mm sub sample ~ 46.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_042	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 283.1 g > 2mm fraction ~ 59.6 g < 2mm fraction ~ 223.5 g < 2mm sub sample ~ 37.3 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_043	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 400.5 g > 2mm fraction ~ 128.5 g < 2mm fraction ~ 272 g < 2mm sub sample ~ 48.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_044	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 349.3 g > 2mm fraction ~ 101.8 g < 2mm fraction ~ 247.5 g < 2mm sub sample ~ 38 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Sample No.	Location & Description	Sample Size (~)	Results
AEC14_VAL_045	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 358.1 g > 2mm fraction ~ 153.2 g < 2mm fraction ~ 204.9 g < 2mm sub sample ~ 37.1 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_046	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 329.9 g > 2mm fraction ~ 133.3 g < 2mm fraction ~ 196.6 g < 2mm sub sample ~ 39.5 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_047	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 387.5 g > 2mm fraction ~ 136.8 g < 2mm fraction ~ 250.7 g < 2mm sub sample ~ 37.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC14_VAL_048	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 360.6 g > 2mm fraction ~ 126 g < 2mm fraction ~ 234.6 g < 2mm sub sample ~ 40.6 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Notes

Subsampling is carried out as per Coffey SOP WILAB1 using the coning and quartering method, please note subsampling may reduce the accuracy of the analytical result.

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Job:	754-SYDEN234000 Bulk ID Report EP3244 24082023 CALCULATIONS
Sample No.	AEC14_VAL_010

SUB-SAMPLE CALCULATOR		
Total Sample weight	648.8	g
>2mm	316.8	g
<2mm (Whole)	332	g
<2mm (Sub-Sample)	40.1	g
>2mm RAW WEIGHT	1.7	mg
Percentage	0.9	% (0.0-1.0)
>2mm Fraction Asbestos Found	**1.53**	**mg**

>2mm Fraction	
Matted fibre bundles containing Chrysotile (white asbestos) found in the >2mm fraction raw weight:	~ 0.0017 g
The asbestos content is estimated to be:	90 %
Approximate weight:	~ 1.53 mg

[redacted]

~ 1.53 mg / ~ 648.8 g	Results = ~ **0.0023582** g/kg	**0.00023582** w/w%

Bulk Identification Report

Job No:	754-SYDEN234000 Bulk ID Report EP3244 04092023
Client:	EP Risk Management Pty Ltd
Client Address:	Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW
Contact:	Jenny Shao
E-mail:	jenny.shao@eprisk.com.au
Date Sampled:	4/09/2023
Date Analysed:	5/09/2023
Date Authorised:	5/09/2023
Sampled By:	As received by client (Jenny Shao)
Site:	ESR

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No:2220
Corporate Site No:16909

Please note: Where you have provided the samples for analysis, Tetra Tech Coffey Pty Ltd does not take any responsibility for the quality of the such samples. This report relates exclusively to the samples analysed by Tetra Tech Coffey Pty Ltd and as such only the samples submitted or collected for analysis have been considered in presenting these results. The data and results contained in this report are not representative of the site, product or source material as a whole. Tetra Tech Coffey Pty Ltd does not make any warranty or representation in relation to the site, product or source material as a whole. If you suspect any material to contain asbestos, then you must immediately stop the works and activities at the site or in respect of the materials and engage Tetra Tech Coffey Pty Ltd or another suitably trained asbestos hygienist to sample, assess or re-assess (as the case may be) the material suspected to contain asbestos.

Asbestos in Bulk Samples and Non-homogenous Material

Test Method: Tetra Tech Coffey Pty Ltd analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Coffey SOP WILAB1, and Australian Standard (AS) 4964 – 2004, Method for the qualitative identification of asbestos in bulk samples (AS 4964). The detection limit for the test method as per AS 4964 is 0.1 g/kg. For non-homogenous samples a semi-quantitative aspect is adopted for the test method and is taken into account when reporting the results. As per Tetra Tech Coffey Pty Ltd's NATA approved SOP WILAB1 sample retention periods are set at 1 month for all samples from the date of analysis.

Analysed At: Tetra Tech Coffey Pty Ltd Laboratory, Level 20, Tower B, Citadel Towers 799 Pacific Highway Chatswood NSW 2067

Total Samples: 1

Approved Identifier
Panika Wongchanda

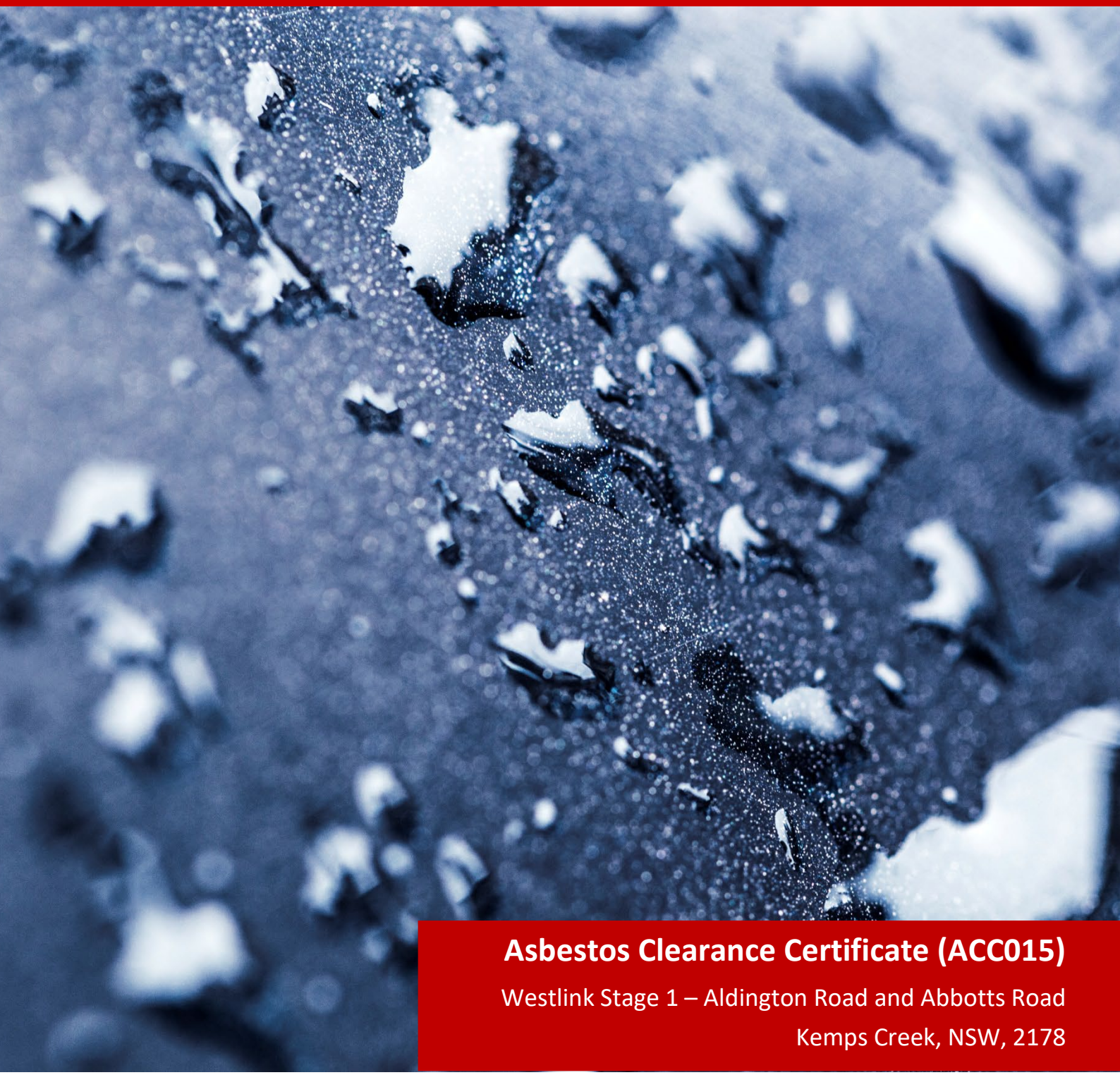
Approved Signatory
Matthew Tang

Sample No.	Location & Description	Sample Size (~)	Results
AEC14_VAL_049	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 528.3 g > 2mm fraction ~ 162.5 g < 2mm fraction ~ 365.8 g < 2mm sub sample ~ 37.7 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Notes

Subsampling is carried out as per Coffey SOP WILAB1 using the coning and quartering method, please note subsampling may reduce the accuracy of the analytical result.

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Asbestos Clearance Certificate (ACC015)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC015_ESR_Westlink Stage 1_AEC15_v1 | 24 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

24 August 2023
Ref: EP3244.003_ACC015_ESR_Westlink Stage 1_AEC15_v1

Asbestos Clearance Certificate – ACC015

Westlink Stage 1 – AEC15

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462) Hayley Erskine – Graduate Environmental Scientist

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	• **AEC15:** 03.08.223 • **AEC15 Vegetation Scrape:** 04.08.2023 & 07.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to AEC15 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. • **AEC15:** covers an approximate surface area of 100 m^2 and includes soils up to a depth of 0.1 m below ground level (mBGL). • **AEC15 Vegetation Scrape:** covers an approximate surface area of 1,950 m^2 and includes surface soils and all stockpiles to the former house footprint.
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], the contaminant of potential concern (CoPC) identified within AEC015 was as follows: • **AEC15:** Bonded asbestos in surface soils <0.1m below surface. • **AEC15 Vegetation Scrape:** Potential visible asbestos in surface soils (subject to vegetation scrape). The remediation methodology for AEC15 as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Works will be undertaken in a manner that avoids further damage or burial of the asbestos-containing material (ACM) by the process. • Systematic inspection of surface and hand picking of visible ACM fragments. • Rake surface soils in one direction, to a depth of 0.1m below ground level, using an excavator fitted with a tooth bucket. • Systematic inspection of raked surface and hand picking of visible ACM fragments. • Rake surface soils in a direction 90° perpendicular to the first raking direction, to a depth of 0.1 mBGL using an excavator fitted with a tooth bucket. • Systematic inspection of raked surface and hand picking of visible ACM fragments. • ACM fragments disposed to a suitably licensed waste receiving facility, with a waste classification.

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

	Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos. • Field screening for bonded (non-friable) ACM (>7mm). The remediation methodology for AEC15 Vegetation Scrape as per the RAP (Alliance 2023) involved the following: • Works will be undertaken in a manner that avoids further damage or burial of the asbestos-containing material (ACM) by the process. • Vegetation will be removed (i.e. stripped, tilled or grubbed), in order to facilitate clear and unobstructed visual assessment of surface soils. • A grid-based walkover assessing the presence of visible asbestos in surface soils. The walkover will be undertaken on transects spaced 5 m apart, with at least one pass in north/south direction and one in an east/west direction. • The walkover will be undertaken by a person with suitable experience in the identification of potential asbestos containing materials. • ACM fragments disposed to a suitably licensed waste receiving facility, with a waste classification. Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils and residual remediation cleared of vegetation and photographic record. Due to a large quantity of ACM fragments and building and demolition waste identified to the former house footprint, material from this area was excavated to approximately 0.1 - 0.2 mBGL and transported to the stockpile pad as B3 material requiring ex-situ treatment. Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos.

	• Field screening for bonded (non-friable) ACM (>7mm).
Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☐ Other: N/A
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	• **AEC15:** 03.08.2023 • **AEC15 Vegetation Scrape:** 04.08.2023 & 07.03.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken across the base and walls of the in-situ rake footprint to AEC15 as well as to the base and walls of the former house footprint in AEC15.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. Where bonded (non-friable) ACM was detected within the sieve, the area was retreated as per the approved RAP methodology and a visual and field screening undertaken again. No bonded (non-friable) ACM was detected during the sieve tests. Results have been summarised below.

Area	Sample ID	Location	Sample Depth	Result
AEC15 – In-situ rake footprint	AEC15-VAL-001	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
	AEC15-VAL-002	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
	AEC15-VAL-003	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
	AEC15-VAL-004	Base of in-situ rake area	0.1 mBGL	No Asbestos Detected
	AEC15-VAL-005	Western wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
	AEC15-VAL-006	Northern wall of in-situ rake area	0.1 mBGL	No Asbestos Detected
	AEC15-VAL-007	Southern wall of in-situ race area	0.1 mBGL	No Asbestos Detected
	AEC15-VAL-008	Eastern wall of excavation footprint	0.1 mBGL	No Asbestos Detected
AEC15 – Former house footprint	AEC15-VAL-009	Base of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-010	Base of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-011	Base of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-012	Base of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-013	Base of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-014	Base of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-015	Base of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-016	Base of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected

	AEC15-VAL-017	Base of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-018	Northern wall of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-019	Northern wall of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-020	Southern wall of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-021	Southern wall of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-022	Eastern wall of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-023	Eastern wall of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-024	Western wall of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected
	AEC15-VAL-025	Western wall of former house footprint	0.1 – 0.2 mBGL	No Asbestos Detected

5. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. The visual inspection was limited to surficial soils only and does not include soil beneath trees remaining in the Clearance Area. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

6. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

7. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

8. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection and sieve tests. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

9. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☐ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	24.08.2023	K. Guenther	24.08.2023	T. Chatman	24.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*24.08.2023*	*EP3244.003_ACC015_ESR_Westlink Stage 1_AEC15_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

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Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC015)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 14/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 5 10 15 20 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: HE
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 03/08/2023

Surficial soils within AEC15 subsequent to in-situ mechanical raking and emu picking of bonded (non-friable) ACM fragments.



Plate 2 – 03/08/2023

Surficial soils within AEC15 subsequent to in-situ mechanical raking and emu picking of bonded (non-friable) ACM fragments.



Plate 3 – 03/08/2023

Field screening of residual rake footprint in AEC15 following in-situ mechanical raking and emu picking of bonded (non-friable) ACM fragments.



Plate 4 – 04/08/2023

Material from the former house footprint in AEC15 observed to be contaminated with a large quantity of ACM fragments and building and demolition waste. This material was excavated to approximately 0.1 – 0.2 mBGL and transported to the stockpile pad as B3 material requiring ex-situ treatment.



Plate 5 – 07/08/2023

Surficial soils within AEC15 subsequent to vegetation scrape.



Plate 6 – 07/08/2023

Residual soils within the former house footprint in AEC15 subsequent to B3 scrape.



Plate 7 – 07/08/2023

Residual soils within the former house footprint in AEC15 subsequent to B3 scrape.



Plate 8 – 07/08/2023

Residual soils within the former house footprint in AEC15 subsequent to B3 scrape.



Asbestos Clearance Certificate (ACC016)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC016_ESR_Westlink Stage 1_UF024_v1 | 12 September 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

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Asbestos Clearance Certificate – ACC016

Westlink Stage 1 – UF024

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldginton Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462) Troy Chatman – Environmental Scientist (LAA002022) Sally Kennedy – Environmental Scientist Naomi Madigan – Graduate Environmental Scientist

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	15.08.2023 & 16.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to UF024 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. UF024 comprised of: • 3x asbestos cement (AC) conduits and associated asbestos in soils (ASBINS) located within the northern end of AEC38 Lower, covering an approximate surface area of 380 m^2 and includes soils up to a depth of 0.1 – 0.3 metres below ground level (mBGL). Due to the damaged condition of the conduits and spread of broken conduit fragments across the area, soil within this area and the 2x most western AC conduits have been classified as friable (F3) material. As the easternmost AC conduit has not been damaged, this conduit can be treated as bonded (non-friable) ACM. • 2x loads of ASBINS located south of the stockpile/treatment pad haul road covering an approximate surface area of 330 m^2 and includes the two stockpile loads, southern batter and footprint soils up to a depth of 0.1 mBGL. Due to the presence of ACM fragments related to the damaged AC conduit from the northern end of AEC38 Lower, soil within this area has also been classified as friable (F3) material.
Scope of work (as advised by client/contractor):	The remediation methodology as undertaken by TCE to manage and remove the UF was as follows: **3x AC conduits and associated ASBINS:** • Works were undertaken in a manner that avoided further damage or burial of the ACM by the process. • Soil within the 1 m of either side of the 2x most western damaged AC conduits were carefully excavated to a depth of 0.3 mBGL. • A 1 m trench on either side of the easternmost undamaged AC conduit was carefully excavated to expose the remaining length of the conduit. Once the entire length of the conduit was identified, the conduit was carefully removed from the trench wrapped in black plastic sheeting for disposal in the asbestos waste skip bin. • The remainder of the area was then subject to a surface scrape to 0.1 mBGL.

	• All material excavated was loaded out as friable (F3) material to the on-site stockpiling pad. **2x loads of ASBINS:** • Works were undertaken in a manner that avoided further damage or burial of the ACM by the process. • Initial excavation works involved removing the 2x loads of ASBINS, including the southern batter. • Following this, the footprint of the area was subject to a surface scrape to 0.1 mBGL. • All material excavated was loaded out as friable (F3) material to the on-site stockpiling pad. Following the remediation works, EP Risk adopted a validation strategy encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos. • Field screening for bonded (non-friable) ACM (>7mm). • Gravimetric asbestos samples for friable asbestos (AF/fibrous asbestos (FA)).
Type of asbestos containing material (ACM) removed:	☒ Friable. ☒ Non-friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☒ Other: AC Conduits
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.

Post removal work encapsulation:	☐ Geotextile marker layer.	☒ N/A.
	☐ PVA / Adhesive.	☐ Other.
	☐ Imported 'clean' soils.	

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	15.08.2023 & 16.08.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken across the base and walls of the excavation footprint.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. Where bonded (non-friable) ACM was detected within the sieve, the area was retreated as per the approved RAP methodology and a visual and field screening undertaken again.

5. ASBESTOS GRAVIMETRIC (AF/FA) RESULTS

In addition to on-site field screening, EP Risk collected 500 mL soil samples from the base and walls of the AF excavation footprint of UF024.

Samples were submitted to a National Association of Testing Authorities (NATA) accredited laboratory for Asbestos Gravimetric Analysis (non-NATA) for the detection of AF/FA.

6. VALIDATION RESULTS

No asbestos was detected during field screen tests and within the asbestos gravimetric samples. The results of the validation sampling have been summarised below.

Sample ID	Location	Sample Depth	Field Screening Result	Asbestos Gravimetric Result
UF024_VAL_001	Northern wall of AC conduit excavation	0.2 mBGL	No field screening was undertaken in this area due to the presence of stiff clays.	No asbestos detected
UF024_VAL_002	Eastern wall of AC conduit excavation	0.2 mBGL		No asbestos detected
UF024_VAL_003	Base of AC conduit excavation	0.3 mBGL		No asbestos detected
UF024_VAL_004	Southern wall of AC conduit excavation	0.2 mBGL		No asbestos detected
UF024_VAL_005	Western wall of AC conduit excavation	0.2 mBGL		No asbestos detected
UF024_VAL_006	Base of excavation area	0.1 mBGL		No asbestos detected
UF024_VAL_007	Base of excavation area	0.1 mBGL		No asbestos detected
UF024_VAL_008	Base of excavation area	0.1 mBGL		No asbestos detected
UF024_VAL_009	Base of excavation area	0.1 mBGL		No asbestos detected
UF024_VAL_010	Base of AC conduit excavation	0.3 mBGL		No asbestos detected
UF024_VAL_011	Southern wall of AC conduit excavation	0.2 mBGL		No asbestos detected
UF024_VAL_012	Eastern wall of AC conduit excavation	0.2 mBGL		No asbestos detected
UF024_VAL_013	Northern wall of AC conduit excavation	0.2 mBGL		No asbestos detected
UF024_VAL_014	Base of excavation area	0.1 mBGL		No asbestos detected
UF024_VAL_015	Base of excavation area	0.1 mBGL		No asbestos detected
UF024_VAL_016	Base of excavation area	0.1 mBGL		No asbestos detected
UF024_VAL_017	Base of excavation area	0.1 mBGL		No asbestos detected
UF024_VAL_018	Eastern wall of AC conduit excavation	0.2 mBGL		No asbestos detected
UF024_VAL_019	Southern wall of AC conduit excavation	0.2 mBGL		No asbestos detected
UF024_VAL_020	Base of AC conduit excavation	0.3 mBGL		No asbestos detected

UF024_VAL_021	Northern wall of AC conduit excavation	0.2 mBGL		No asbestos detected
UF024_VAL_022	Western wall of AC conduit excavation	0.2 mBGL		No asbestos detected
UF024_VAL_023	Western wall of AC conduit excavation	0.2 mBGL		No asbestos detected
UF024_VAL_024	Base of excavation area	0.1 mBGL		No asbestos detected
UF024_VAL_025	Base of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_026	Base of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_027	Base of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_028	Base of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_029	Base of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_030	Base of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_031	Base of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_032	Base of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_033	Northern wall of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_034	Eastern wall of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_035	Eastern wall of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_036	Southern wall of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_037	Western wall of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected
UF024_VAL_038	Western wall of excavation area	0.1 mBGL	No asbestos detected	No asbestos detected

7. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection.

	The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

8. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

9. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☒ Prepare Asbestos Management Plan (AMP) for the wider Site. ☒ Prepare Long Term Environmental Management Plan (LTEMP) for the wider Site. ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☐ N/A.

10. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection and within gravimetric asbestos samples. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

11. ATTACHMENTS

1. Figures	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	12.09.2023	K. Guenther	12.09.2023	J. Thompson	12.09.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*12.09.2023*	*EP3244.003_ACC016_ESR_Westlink Stage 1_UF024_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

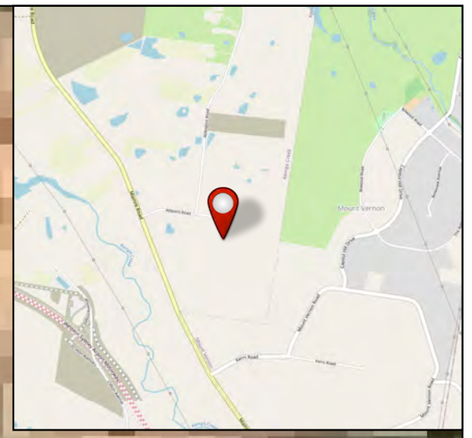
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The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figures





UF024_VAL_021
UF024_VAL_013
UF024_VAL_001
UF024_VAL_016
UF024_VAL_014
UF024_VAL_009
UF024_VAL_007
UF024_VAL_024
UF024_VAL_020
UF024_VAL_018
UF024_VAL_010
UF024_VAL_012
UF024_VAL_003
UF024_VAL_002
UF024_VAL_022
UF024
UF024_VAL_023
UF024_VAL_005
UF024_VAL_017
UF024_VAL_015
UF024_VAL_008
UF024_VAL_006
UF024_VAL_019
UF024_VAL_011
UF024_VAL_004

Legend
- Validation Samples
- UF024
- AC Conduits

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Asbestos Clearance Certificate (ACC016)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area (Conduits)

Job No: EP3244
Date: 16/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

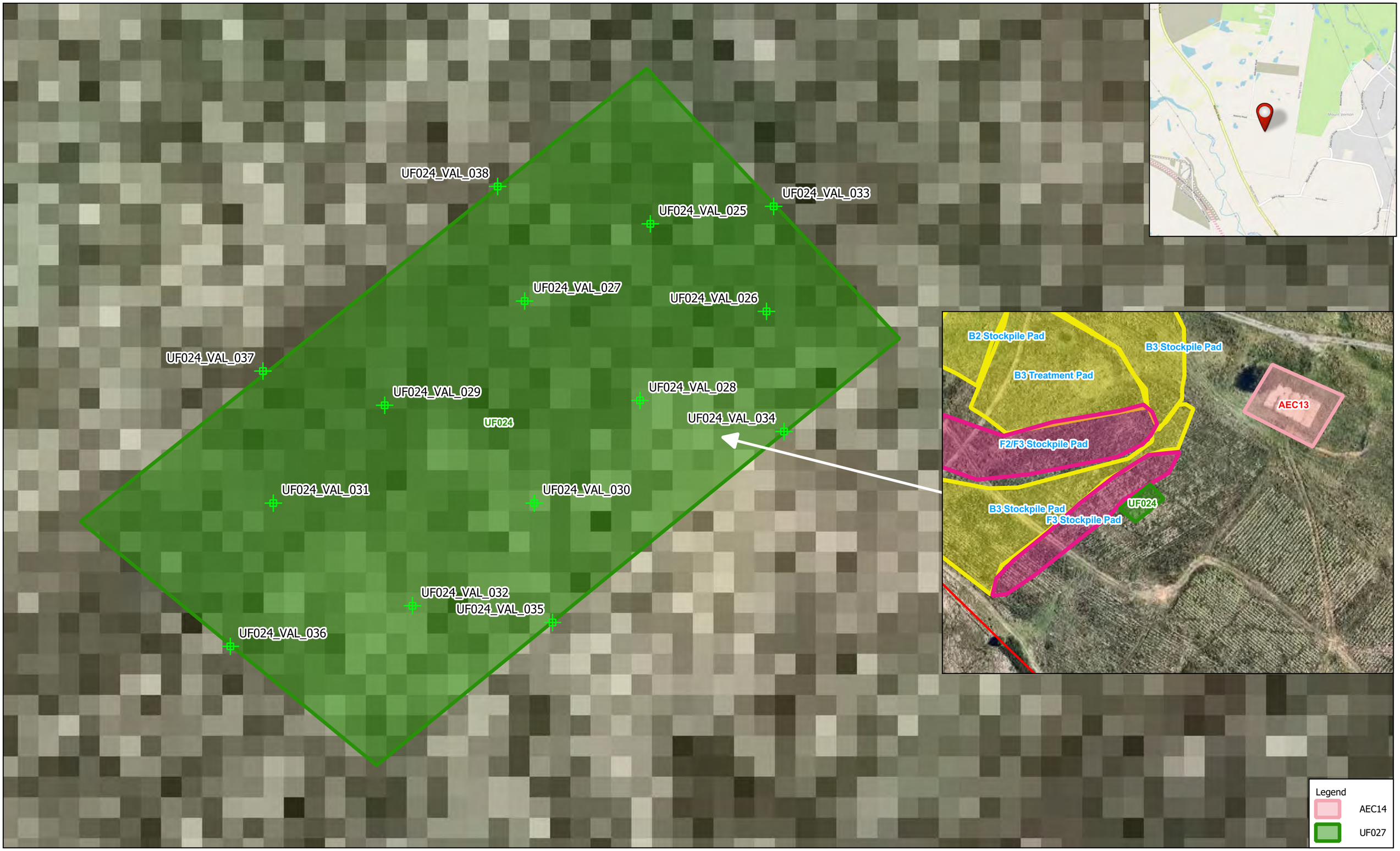
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0 3 6 9 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: KG
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 QMS Certification Services
APPROVED COMPANY ISO 45001 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services



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Asbestos Clearance Certificate (ACC016)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 2 - Clearance Area (ASBINS Loads)

Job No: EP3244
Date: 07/09/2023
Drawing Ref: EP3244.003_Fig. 1
Version No: v1

N

0 1 2 3 4 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: SK
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 14/08/2023

UF024 (conduits within AEC38 Lower) prior to remediation works.



Plate 2 – 14/08/2023

UF024 (westernmost damaged conduit within AEC38 Lower) prior to remediation works.



Plate 3 – 14/08/2023

UF024 (central damaged conduit within AEC38 Lower) prior to remediation works.



Plate 4 – 14/08/2023

UF024 (eastern undamaged conduit within AEC38 Lower) prior to remediation works.



Plate 5 – 14/08/2023

UF024 (2x loads of ASBINS) prior to remediation works.



Plate 6 – 15/08/2023

Residual excavation footprint of UF024 (conduits) subsequent to excavation of F3 material



Plate 7 – 15/08/2023

Residual excavation footprint of UF024 (conduits) subsequent to excavation of F3 material



Plate 8 – 15/08/2023

Residual excavation footprint of UF024 (conduits) subsequent to excavation of F3 material.



Plate 9 – 15/08/2023

Residual excavation footprint of UF024 (conduits) subsequent to excavation of F3 material.



Plate 10 – 15/08/2023

Residual excavation footprint of UF024 (conduits) subsequent to excavation of F3 material.



Plate 11 – 16/08/2023

Residual excavation footprint of UF024 (2x loads of ASBINS) subsequent to excavation of F3 material.



Plate 12 – 16/08/2023

Residual excavation footprint of UF024 (2x loads of ASBINS) subsequent to excavation of F3 material.



Plate 13 – 16/08/2023

Residual excavation footprint of UF024 (2x loads of ASBINS) subsequent to excavation of F3 material.



Plate 14 – 16/08/2023

Validation sampling undertaken within UF024 (2x loads of ASBINS) subsequent to excavation of F3 material.

Attachment 3 – Certificate of Analysis

Bulk Identification Report

Job No: 754-SYDEN234000 Bulk ID Report EP3244 16082023
Client: EP Risk Management Pty Ltd
Client Address: Suite 13.01, Level 13, 80 Mount Street, North Sydney, NSW

Contact: Jenny Shao
E-mail: jenny.shao@eprisk.com.au & naomi.madigan@eprisk.com.au
Date Sampled: 15 & 16/08/2023
Date Analysed: 17-08-23
Date Authorised: 17-08-23
Sampled By: As received by client (Jenny Shao)
Site: ESR

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No:2220
Corporate Site No:16909

Please note: Where you have provided the samples for analysis, Tetra Tech Coffey Pty Ltd does not take any responsibility for the quality of the such samples. This report relates exclusively to the samples analysed by Tetra Tech Coffey Pty Ltd and as such only the samples submitted or collected for analysis have been considered in presenting these results. The data and results contained in this report are not representative of the site, product or source material as a whole. Tetra Tech Coffey Pty Ltd does not make any warranty or representation in relation to the site, product or source material as a whole. If you suspect any material to contain asbestos, then you must immediately stop the works and activities at the site or in respect of the materials and engage Tetra Tech Coffey Pty Ltd or another suitably trained asbestos hygienist to sample, assess or re-assess (as the case may be) the material suspected to contain asbestos.

Test Method: **Asbestos in Bulk Samples and Non-homogenous Material**
Tetra Tech Coffey Pty Ltd analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Coffey SOP WILAB1, and Australian Standard (AS) 4964 – 2004, Method for the qualitative identification of asbestos in bulk samples (AS 4964). The detection limit for the test method as per AS 4964 is 0.1 g/kg. For non-homogenous samples a semi-quantitative aspect is adopted for the test method and is taken into account when reporting the results. As per Tetra Tech Coffey Pty Ltd's NATA approved SOP WILAB1 sample retention periods are set at 1 month for all samples from the date of analysis.

Analysed At: Tetra Tech Coffey Pty Ltd Laboratory, Level 20, Tower B, Citadel Towers 799 Pacific Highway Chatswood NSW 2067

Total Samples: 24

Approved Identifier
Panika Wongchanda

Approved Signatory
Matthew Tang

Sample No.	Location & Description	Sample Size (~)	Results
UF024_VAL_001	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 477.2 g > 2mm fraction ~ 177.7 g < 2mm fraction ~ 299.5 g < 2mm sub sample ~ 43.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_002	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 489.6 g > 2mm fraction ~ 135.3 g < 2mm fraction ~ 354.3 g < 2mm sub sample ~ 40.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_003	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 492.7 g > 2mm fraction ~ 167.6 g < 2mm fraction ~ 325.1 g < 2mm sub sample ~ 44.1 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_004	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 489.8 g > 2mm fraction ~ 64.9 g < 2mm fraction ~ 424.9 g < 2mm sub sample ~ 36.2 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_005	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 436.5 g > 2mm fraction ~ 214.6 g < 2mm fraction ~ 221.9 g < 2mm sub sample ~ 40.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Sample No.	Location & Description	Sample Size (~)	Results
UF024_VAL_006	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 550.9 g > 2mm fraction ~ 111.1 g < 2mm fraction ~ 439.8 g < 2mm sub sample ~ 40.9 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_007	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 502.9 g > 2mm fraction ~ 141.8 g < 2mm fraction ~ 361.1 g < 2mm sub sample ~ 36.3 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_008	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 477.2 g > 2mm fraction ~ 199.3 g < 2mm fraction ~ 277.9 g < 2mm sub sample ~ 40.7 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_009	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 478.9 g > 2mm fraction ~ 114.3 g < 2mm fraction ~ 364.6 g < 2mm sub sample ~ 37.5 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_010	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 549.4 g > 2mm fraction ~ 151.4 g < 2mm fraction ~ 398 g < 2mm sub sample ~ 43.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_011	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 478.9 g > 2mm fraction ~ 72.1 g < 2mm fraction ~ 406.8 g < 2mm sub sample ~ 49 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_012	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 540.6 g > 2mm fraction ~ 69.4 g < 2mm fraction ~ 471.2 g < 2mm sub sample ~ 44 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_013	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 485.2 g > 2mm fraction ~ 176.3 g < 2mm fraction ~ 308.9 g < 2mm sub sample ~ 42.2 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_014	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 475.3 g > 2mm fraction ~ 153.7 g < 2mm fraction ~ 321.6 g < 2mm sub sample ~ 39 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_015	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 555.8 g > 2mm fraction ~ 244.1 g < 2mm fraction ~ 311.7 g < 2mm sub sample ~ 45.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_016	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 529.5 g > 2mm fraction ~ 174.3 g < 2mm fraction ~ 355.2 g < 2mm sub sample ~ 37.3 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Sample No.	Location & Description	Sample Size (~)	Results
UF024_VAL_017	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 497.7 g > 2mm fraction ~ 129.3 g < 2mm fraction ~ 368.4 g < 2mm sub sample ~ 49.3 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_018	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 529.3 g > 2mm fraction ~ 259.6 g < 2mm fraction ~ 269.7 g < 2mm sub sample ~ 43.9 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_019	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 447.9 g > 2mm fraction ~ 117.9 g < 2mm fraction ~ 330 g < 2mm sub sample ~ 43.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_020	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 496.2 g > 2mm fraction ~ 105.6 g < 2mm fraction ~ 390.6 g < 2mm sub sample ~ 38.7 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_021	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 515.7 g > 2mm fraction ~ 124.8 g < 2mm fraction ~ 390.6 g < 2mm sub sample ~ 42.1 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_022	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 543.3 g > 2mm fraction ~ 95.2 g < 2mm fraction ~ 448.1 g < 2mm sub sample ~ 40.3 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_023	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 549.9 g > 2mm fraction ~ 461.9 g < 2mm fraction ~ 88 g < 2mm sub sample ~ 38.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_024	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 594 g > 2mm fraction ~ 147.3 g < 2mm fraction ~ 446.7 g < 2mm sub sample ~ 43.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Notes

Subsampling is carried out as per Coffey SOP WILAB1 using the coning and quartering method, please note subsampling may reduce the accuracy of the analytical result.

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Bulk Identification Report

Job No: 754-SYDEN234000 Bulk ID Report EP3244 18082023
Client: EP Risk Management Pty Ltd
Client Address: Suite 13.01, Level 13, 80 Mount Street,
North Sydney, NSW

Contact: Jenny Shao
E-mail: jenny.shao@eprisk.com.au & troy.chatman@eprisk.com.au
Date Sampled: 17/08/2023
Date Analysed: 18/08/2023
Date Authorised: 18/08/2023
Sampled By: As received by client (Jenny Shao)
Site: ESR

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No:2220
Corporate Site No:16909

Please note: Where you have provided the samples for analysis, Tetra Tech Coffey Pty Ltd does not take any responsibility for the quality of the such samples. This report relates exclusively to the samples analysed by Tetra Tech Coffey Pty Ltd and as such only the samples submitted or collected for analysis have been considered in presenting these results. The data and results contained in this report are not representative of the site, product or source material as a whole. Tetra Tech Coffey Pty Ltd does not make any warranty or representation in relation to the site, product or source material as a whole. If you suspect any material to contain asbestos, then you must immediately stop the works and activities at the site or in respect of the materials and engage Tetra Tech Coffey Pty Ltd or another suitably trained asbestos hygienist to sample, assess or re-assess (as the case may be) the material suspected to contain asbestos.

Test Method: **Asbestos in Bulk Samples and Non-homogenous Material**
Tetra Tech Coffey Pty Ltd analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Coffey SOP WILAB1, and Australian Standard (AS) 4964 – 2004, Method for the qualitative identification of asbestos in bulk samples (AS 4964). The detection limit for the test method as per AS 4964 is 0.1 g/kg. For non-homogenous samples a semi-quantitative aspect is adopted for the test method and is taken into account when reporting the results. As per Tetra Tech Coffey Pty Ltd's NATA approved SOP WILAB1 sample retention periods are set at 1 month for all samples from the date of analysis.

Analysed At: Tetra Tech Coffey Pty Ltd Laboratory, Level 20, Tower B, Citadel Towers 799 Pacific Highway Chatswood NSW 2067

Total Samples: 14

Approved Identifier
Panika Wongchanda

Approved Signatory
Matthew Tang

Sample No.	Location & Description	Sample Size (~)	Results
UF024_VAL_025	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 487.7 g > 2mm fraction ~ 131.8 g < 2mm fraction ~ 355.9 g < 2mm sub sample ~ 33.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_026	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 493.5 g > 2mm fraction ~ 206.7 g < 2mm fraction ~ 286.8 g < 2mm sub sample ~ 35.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_027	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 789.2 g > 2mm fraction ~ 281.7 g < 2mm fraction ~ 507.5 g < 2mm sub sample ~ 41.6 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_028	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 597.7 g > 2mm fraction ~ 205.4 g < 2mm fraction ~ 392.3 g < 2mm sub sample ~ 40.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_029	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 519.2 g > 2mm fraction ~ 184.8 g < 2mm fraction ~ 334.4 g < 2mm sub sample ~ 43.9 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Sample No.	Location & Description	Sample Size (~)	Results
UF024_VAL_030	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 449.1 g > 2mm fraction ~ 154.4 g < 2mm fraction ~ 294.7 g < 2mm sub sample ~ 45.9 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_031	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 538.1 g > 2mm fraction ~ 167 g < 2mm fraction ~ 371.1 g < 2mm sub sample ~ 38.5 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_032	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 501.1 g > 2mm fraction ~ 206 g < 2mm fraction ~ 295.1 g < 2mm sub sample ~ 38.3 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_033	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 503.7 g > 2mm fraction ~ 168.9 g < 2mm fraction ~ 334.8 g < 2mm sub sample ~ 41.1 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_034	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 481.3 g > 2mm fraction ~ 332.1 g < 2mm fraction ~ 149.2 g < 2mm sub sample ~ 37.1 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_035	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 436.3 g > 2mm fraction ~ 170.7 g < 2mm fraction ~ 265.6 g < 2mm sub sample ~ 39.1 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_036	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 569.1 g > 2mm fraction ~ 123.4 g < 2mm fraction ~ 445.7 g < 2mm sub sample ~ 42.8 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_037	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 532.5 g > 2mm fraction ~ 190.9 g < 2mm fraction ~ 341.6 g < 2mm sub sample ~ 43.6 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
UF024_VAL_038	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 535.5 g > 2mm fraction ~ 208 g < 2mm fraction ~ 327.5 g < 2mm sub sample ~ 41.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Notes

Subsampling is carried out as per Coffey SOP WILAB1 using the coning and quartering method, please note subsampling may reduce the accuracy of the analytical result.

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Asbestos Clearance Certificate (ACC017)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC017_ESR_Westlink Stage 1_AEC21_v1 | 24 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

24 August 2023
Ref: EP3244.003_ACC017_ESR_Westlink Stage 1_AEC21_v1

Asbestos Clearance Certificate – ACC017

Westlink Stage 1 – AEC21

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462) Zak Bursey – Graduate Environmental Scientist

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	31.07.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to AEC21 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. AEC21 covers an approximate surface area of 100 m^2 and includes soils up to a depth of 0.1 m below ground level (mBGL).
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], the contaminant of potential concern (CoPC) identified within AEC21 was: • Bonded asbestos in surface soils <0.1m below surface. • E.Coli and thermotolerant coliforms. The asbestos remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Works will be undertaken in a manner that avoids further damage or burial of the asbestos-containing material (ACM) by the process. • Systematic inspection of surface and hand picking of visible ACM fragments. • Rake surface soils in one direction, to a depth of 0.1 mBGL, using an excavator fitted with a tooth bucket. • Systematic inspection of raked surface and hand picking of visible ACM fragments. • Rake surface soils in a direction 90° perpendicular to the first raking direction, to a depth of 0.1 mBGL using an excavator fitted with a tooth bucket. • Systematic inspection of raked surface and hand picking of visible ACM fragments. • ACM fragments disposed to a suitably licensed waste receiving facility, with a waste classification. Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos. • Field screening for bonded (non-friable) ACM (>7 mm).

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

	The results of the E.Coli and Thermotolerant Coliforms testing will be discussed in the Validation Report for the Site.
Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☐ Other: N/A
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	31.07.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken across the base the in-situ rake footprint.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. No bonded (non-friable) ACM was detected during the sieve tests. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
AEC21_VAL_001	Eastern extent of in-situ rake footprint	0.1 mBGL	No Asbestos Detected
AEC21_VAL_002	Eastern extent of in-situ rake footprint	0.1 mBGL	No Asbestos Detected
AEC21_VAL_003	Southern extent of in-situ rake footprint	0.1 mBGL	No Asbestos Detected
AEC21_VAL_004	Northern extent of in-situ rake footprint	0.1 mBGL	No Asbestos Detected
AEC21_VAL_005	Western extent of in-situ rake footprint	0.1 mBGL	No Asbestos Detected
AEC21_VAL_006	Western extent of in-situ rake footprint	0.1 mBGL	No Asbestos Detected

5. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

6. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

7. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

8. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the in-situ rake footprint during the asbestos visual clearance inspection and sieve tests. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Zak Bursey	Signature:	Zak Bursey

9. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☐ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	24.08.2023	K. Guenther	24.08.2023	J. Thompson	24.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*24.08.2023*	*EP3244.003_ACC017_ESR_Westlink Stage 1_AEC21_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figure



EP RISK

www.eprisk.com.au

Asbestos Clearance Certificate (ACC017)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 16/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 3 6 9 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: KG
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 31/07/2023

AEC21 following in-situ mechanical rake and emu pick of surficial soils.



Plate 2 – 31/07/2023

AEC21 following in-situ mechanical rake and emu pick of surficial soils.



Plate 3 – 31/07/2023

AEC21 following in-situ mechanical rake and emu pick of surficial soils.



Asbestos Clearance Certificate (ACC019)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC019_ESR_Westlink Stage 1_UF026_v1 | 5 September 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

5 September 2023
Ref: EP3244.003_ACC019_ESR_Westlink Stage 1_UF026_v1

Asbestos Clearance Certificate – ACC019

Westlink Stage 1 – UF026

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462) Zak Bursey – Graduate Environmental Scientist (Competent Person)

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	22.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to UF026 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. UF026 comprised of soil contaminated with bonded (non-friable) asbestos containing material (ACM) fragments identified far northeast of AEC38 Lower. UF025 covers an approximate surface area of 96 m^2 and includes and in-situ soils up to a depth of 1.5 m below ground level (mBGL).
Scope of work (as advised by client/contractor):	The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Works were undertaken in a manner that avoided further damage or burial of the asbestos-containing material (ACM) by the process. • Soil within the UF extent, was carefully excavated to a depth of 1.5 mBGL and stockpiled for load out as bonded (non-friable) (B3) material to the on-site stockpiling pad for ex-situ treatment/management. Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils and residual remediation excavation footprint for visible asbestos. • Field screening for bonded (non-friable) ACM (>7mm).
Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☐ Other: N/A
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water.

	☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	22.08.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken across the base and along the northern, southern, eastern and western perimeter excavation walls of the excavation footprint.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. Bonded (non-friable) ACM was not detected during the sieve tests. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
UF026-VAL-001	Northern wall of excavation footprint	0.75 mBGL	No Asbestos Detected
UF026-VAL-002	Northern wall of excavation footprint	0.75 mBGL	No Asbestos Detected
UF026-VAL-003	Eastern wall of excavation footprint	0.75 mBGL	No Asbestos Detected
UF026-VAL-004	Southern wall of excavation footprint	0.75 mBGL	No Asbestos Detected
UF026-VAL-005	Southern wall of excavation footprint	0.75 mBGL	No Asbestos Detected
UF026-VAL-006	Western wall of excavation footprint	0.75 mBGL	No Asbestos Detected
UF026-VAL-007	Base of excavation footprint	1.5 mBGL	No Asbestos Detected

UF026-VAL-008	Base of excavation footprint	1.5 mBGL	No Asbestos Detected
UF026-VAL-009	Base of excavation footprint	1.5 mBGL	No Asbestos Detected

5. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

6. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

7. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.

Management:	☐ Prepare Asbestos Management Plan (AMP). ☒ Prepare Long Term Environmental Management Plan (LTEMP) for the wider Site. ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

8. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection and sieve tests. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

9. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☐ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	05.09.2023	L. Munnichs	05.09.2023	J. Thompson	05.09.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*05.09.2023*	*EP3244.003_ACC019_ESR_Westlink Stage 1_UF026_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC019)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 01/09/2023
Drawing Ref: EP3244.003_Fig. 1
Version No: v1

N

0 5 10 15 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 QMS Certification Services
APPROVED COMPANY ISO 45001 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 22/08/2023

Residual excavation footprint of UF026 subsequent to removal of B3 material.



Plate 2 – 22/08/2023

Residual excavation footprint of UF026 subsequent to removal of B3 material.



Plate 3 – 22/08/2023

Residual excavation footprint of UF026 subsequent to removal of B3 material.



Plate 4 – 22/08/2023

Residual excavation footprint of UF026 subsequent to removal of B3 material.

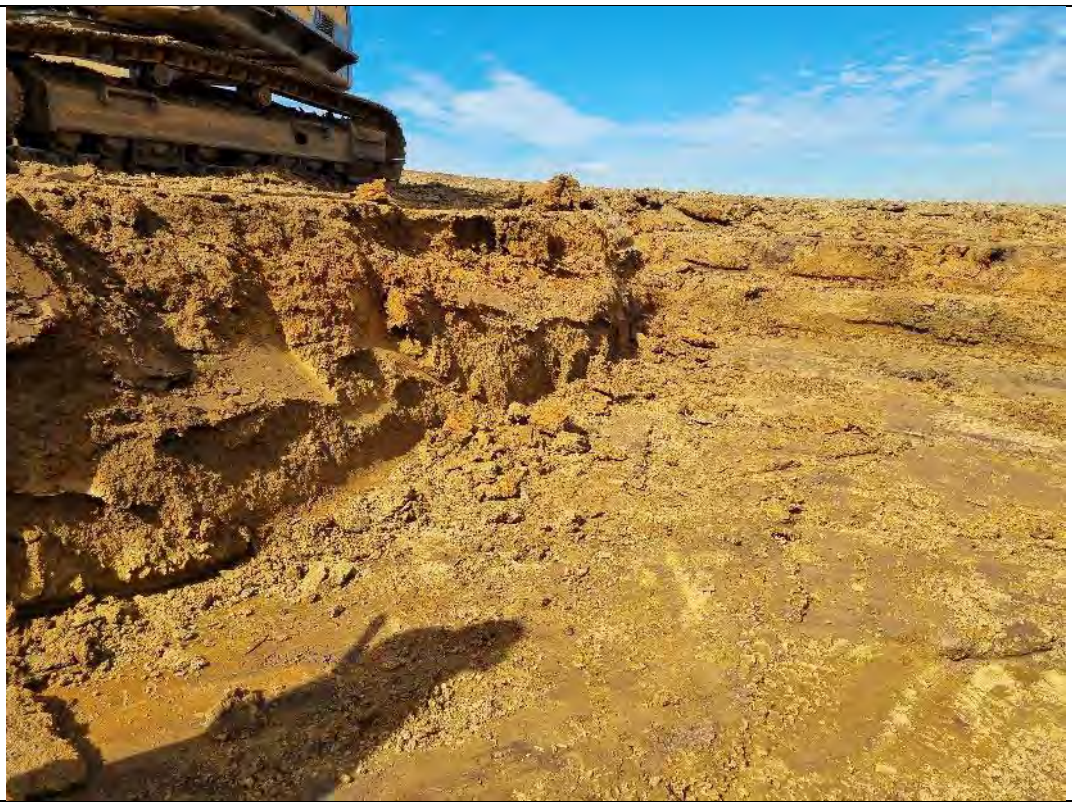


Plate 5 – 22/08/2023

Residual excavation footprint of UF026 subsequent to removal of B3 material.



Plate 6 – 2/08/2023

Residual excavation footprint of UF026 subsequent to removal of B3 material.



Plate 7 – 07/08/2023

Residual soils within the former house footprint in AEC15 subsequent to B3 scrape.



Plate 8 – 07/08/2023

Residual soils within the former house footprint in AEC15 subsequent to B3 scrape.



Asbestos Clearance Certificate (ACC020)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC020_ESR_5 Tonne Excavator_v1 | 28 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Asbestos Clearance Certificate – ACC020

Westlink Stage 1 – 5 Tonne Excavator

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – Jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW, 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
License Number:	AD213189
Class A / Class B:	Class A (Friable) and Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462)

2. DECONTAMINATION WORK DETAILS

Work Details	
Date of decontamination works:	23.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to the 5 Tonne Excavator (U55-4 / EX1314 – Rego 10804E), subject to final decontamination works prior to demobilisation off-site. It should be noted the tracks and buckets of the excavator were decontaminated several times over the course of the remediation project. These visual clearance inspections were undertaken and documented by EP Risk in the form of a photographic record.
Scope of work (as advised by client/contractor):	Asbestos remediation works were undertaken at the Site by TCE in accordance with the Alliance (2023) Remediation Action Plan (RAP)[1]. This involved the use of an excavator to excavate and treat asbestos in soils (ASBINS) at the Site. Following completion of remediation works and prior to demobilisation off-site, the interior and exterior surfaces of the excavator were washed down with water and cleaned with wet wipes as far as reasonably practicable by TCE. Subsequently, EP Risk was engaged to undertake a clearance inspection of the excavator and issue a clearance certificate verifying the excavator had been cleaned to a satisfactory standard and no visible asbestos containing material (ACM) was present on accessible surfaces.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	23.08.2023
Time of clearance inspection:	08:30 AM
Interior and exterior surfaces of the excavator are free from all dust and debris:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken:	Yes ☒ No ☐ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Specific details of limitations and/or exclusions:	This clearance certificate covers the accessible surfaces of the equipment detailed above at the time of inspection only. It is not feasible in a clearance inspection to inspect all internal components of an excavator, such as within the engine bay or voids within the structure of the mobile plant. This clearance certificate applies only to the equipment described. above and does not apply to any other Site equipment, soil or building components. The inspection does not apply to the Site in general or any other equipment not referenced in this clearance. The visual clearance was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. This Asbestos Clearance Certificate was true at the time of the inspection only.
Comments	
This Asbestos Clearance Certificate relates only to the visible and accessible surfaces of the equipment as described previously and was true at the time of the inspection.	

5. CLEARANCE DECLARATION

Visible asbestos was not identified on the internal and external accessible surfaces of the excavator and the equipment is suitable for removal off-site.

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

6. ATTACHMENTS

1. Figure(s)	Yes ☐ No ☐ N/A ☒
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Certificate of Analysis	Yes ☐ No ☐ N/A ☒
4. Air Monitoring Report	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	H. Erskine	28.08.2023	L. Munnichs	28.08.2023	T. Chatman	28.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*28.08.2023*	*EP3244.003_ACC020_ESR_5 Tonne Excavator_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

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The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Photolog



Plate 1 – 23/08/2023

Exterior side view of the 5 Tonne Excavator subsequent to final decontamination works.



Plate 2 - 23/08/2023

Exterior tracks of the 5 Tonne Excavator subsequent to final decontamination works.



Plate 3 – 23/08/2023

Exterior tracks of the 5 Tonne Excavator subsequent to final decontamination works.



Plate 4 – 23/08/2023

Exterior front side of the 5 Tonne Excavator subsequent to final decontamination works.



Plate 5 – 23/08/2023

Bucket of the 5 Tonne Excavator subsequent to final decontamination works.



Plate 6 – 23/08/2023

Bucket of the 5 Tonne Excavator subsequent to final decontamination works.



Plate 7 – 23/08/2023

Interior surfaces of the 5 Tonne Excavator subsequent to final decontamination works.



Plate 8 – 23/08/2023

Interior surfaces of the 5 Tonne Excavator subsequent to final decontamination works.

Attachment 2 – Air Monitoring Report

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM033	**Date Reported:**	23 August 2023
Shift Number:	033	**Date Analysed:**	23 August 2023
Project Reference:	EP3244	**Date Sampled:**	23 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM033_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM033_001	EPR 010	Southern boundary of AEC14, adjacent to decontamination unit - on stake	1500	1500	1500	7:24	13:30	366	0/100	<0.01
EP3244.002_AM033_002	EPR 016	Northern boundary of AEC14 - on stake	1500	1500	1500	7:25	13:32	367	0/100	<0.01
EP3244.002_AM033_003	EPR 018	Southern boundary of stockpile pad - on stake	1500	1500	1500	7:31	13:41	370	2/100	<0.01
EP3244.002_AM033_004	EPR 023	Western boundary of stockpile pad - on stake	1500	1500	1500	7:34	13:45	371	0/100	<0.01
EP3244.002_AM033_005	EPR 024	Sitex (EX1314) Excavator inside Cab	3000	3000	3000	8:30	11:19	169	1/100	<0.01
EP3244.002_AM033_006	EPR 148	P143 30T Dump Truck inside Cab	3000	3000	3000	12:00	14:30	150	3/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



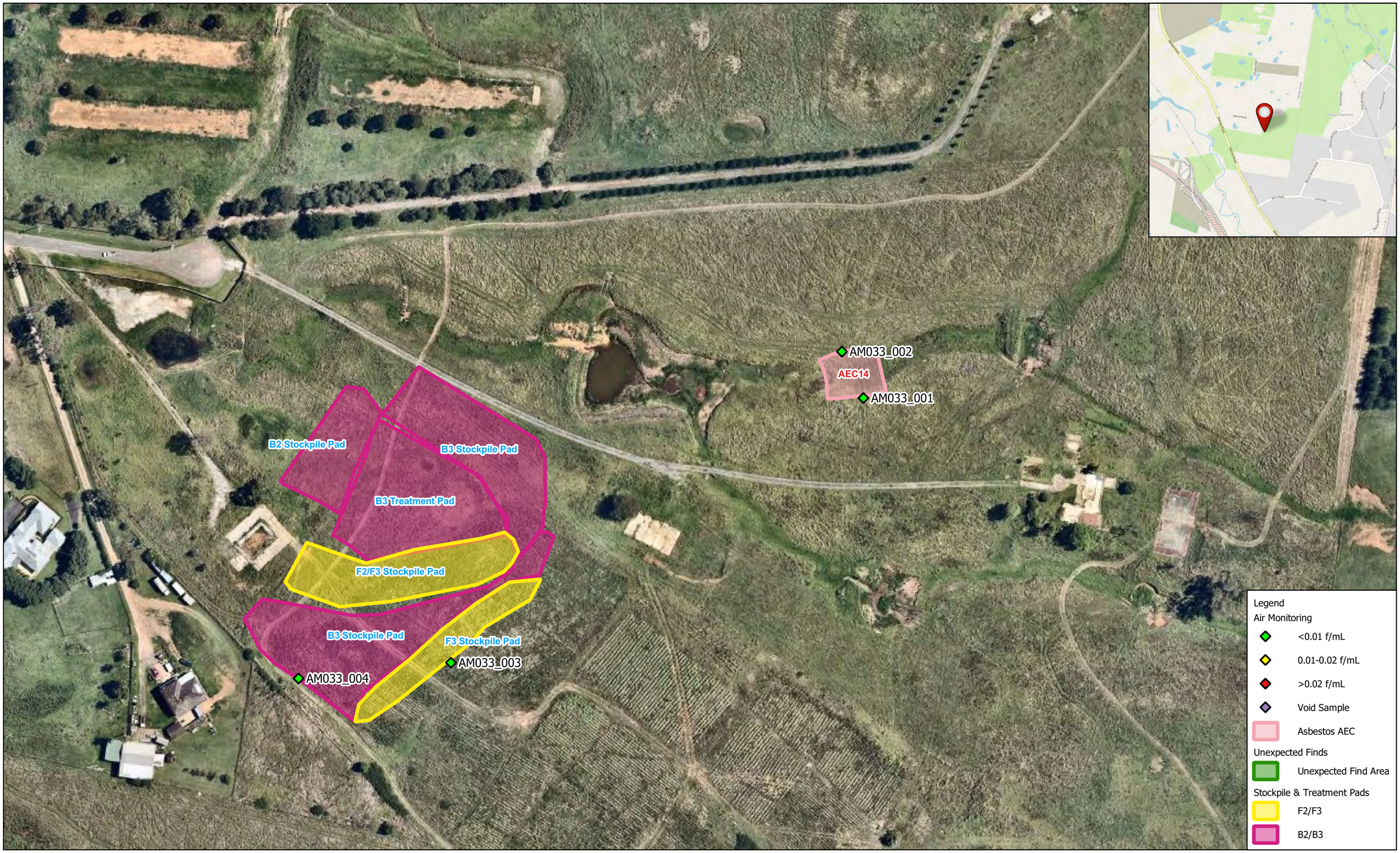
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM033
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 23/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 QMS Certification Services
APPROVED COMPANY ISO 45001 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services



Asbestos Clearance Certificate (ACC021)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC021_ESR_Westlink Stage 1_AEC24a_v1 | 14 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

14 August 2023
Ref: EP3244.003_ACC021_ESR_Westlink Stage 1_AEC24a_v1

Asbestos Clearance Certificate – ACC021

Westlink Stage 1 – AEC24a

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldginton Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462) Zak Bursey – Graduate Environmental Scientist

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	01.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to AEC24a within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. • **AEC24a:** covers an approximate surface area of 25m^2 and includes soils up to a depth of 0.1 m below ground level (mBGL). • **AEC24a Vegetation Scrape:** covers an approximate surface area of 12.5 m^2.
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], the contaminant of potential concern (CoPC) identified within AEC24a included: • **AEC24a:** Asbestos fines in surface and/or fill soils; and • **AEC24a Vegetation Scrape:** Potential visible asbestos in surface soils (subject to vegetation scrape). Following discussions with ESR and TCE, the boundary of the friable asbestos work area was extended to include the surrounding vegetation scrape area and adjusted from a circle shape to square shape for ease of excavation. The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Excavate soils and transport to the friable stockpile pad. Excavation within AEC24a was progressed until natural was intercepted (approximately 0.2 mBGL). Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the residual remediation excavation footprint and photographic record. • Field screening for bonded (non-friable) ACM (>7mm). • Collection of 500 mL asbestos gravimetric samples for friable asbestos as asbestos fines (AF) and fibrous asbestos (FA).

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

Type of asbestos containing material (ACM) removed:	☒ Friable. ☐ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☐ Other: N/A
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☒ Wet decontamination unit. ☐ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	01.08.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☒ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. FIELD SCREENING FOR BONDED (NON-FRIABLE) ACM RESULTS

Following the visual clearance inspection of the Clearance Area, on-site field screening tests were undertaken along the southern, eastern and western perimeter excavation walls. Field screening was not undertaken across the northern wall as the northern end was battered against AEC19a. Field screening was not undertaken at the base of the excavation footprint as the base comprised of natural material.

The field screening process involved the collection of known 10 L of soil using a shovel and bucket and processing the material through a 7 mm sieve for assessment of bonded (non-friable) ACM. No bonded (non-friable) ACM was detected during the sieve tests. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
AEC24a-VAL-001	Eastern wall of excavation footprint	0.2 mBGL	No Asbestos Detected
AEC24a-VAL-002	Southern wall of excavation footprint	0.2 mBGL	No Asbestos Detected
AEC24a-VAL-003	Western wall of excavation footprint	0.2 mBGL	No Asbestos Detected

5. ASBESTOS GRAVIMETRIC (AF/FA) RESULTS

Following the visual clearance inspection of the Clearance Area, EP Risk collected one (1) 500 mL sample of the residual in-situ material at the base of the excavation footprint and along the southern, eastern and western perimeter excavation walls. The samples were submitted to a National Association of Testing Authorities (NATA) accredited laboratory for Asbestos Gravimetric Analysis (non-NATA) for the detection of Asbestos Fines (AF)/Fibrous Asbestos (FA).

No asbestos was detected above the reporting limit of 0.1 g/kg. Moreover, no trace (respirable) asbestos fibres were detected. Results have been summarised below.

Sample ID	Location	Sample Depth	Result
AEC24a-VAL-001	Eastern wall of excavation footprint	0.2 mBGL	No Asbestos Detected
AEC24a-VAL-002	Southern wall of excavation footprint	0.2 mBGL	No Asbestos Detected
AEC24a-VAL-003	Western wall of excavation footprint	0.2 mBGL	No Asbestos Detected
AEC24a-VAL-004	Base of excavation footprint	0.4 mBGL	No Asbestos Detected

6. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

7. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

8. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

9. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the excavation footprint during the asbestos visual clearance inspection and sieve tests. Moreover, no asbestos was detected above the reporting limit of 0.1 g/kg and no trace (respirable) asbestos fibres were detected in the 500 mL asbestos gravimetric samples.

As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

10. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	N. Madigan	14.08.2023	K. Guenther	14.08.2023	J. Shao	14.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*14.08.2023*	*EP3244.003_ACC021_ESR_Westlink Stage 1_AEC24a_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figure



EP RISK

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Asbestos Clearance Certificate (ACC021)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 14/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 5 10 15 20 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: NM Checked by: JS
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 01/08/2023

AEC24a prior to remediation works.



Plate 2 – 01/08/2023

AEC24a prior to remediation works.



Plate 3 – 01/08/2023

Residual soils within AEC24a subsequent to excavation of friable ACM impacted soils to natural.



Plate 4 – 01/08/2023

Residual soils within AEC24a subsequent to excavation of friable ACM impacted soils to natural.



Plate 5 – 01/08/2023

Residual soils within AEC24a subsequent to excavation of friable ACM impacted soils to natural.



Plate 6 – 01/08/2023

Residual soils within AEC24a subsequent to excavation of friable ACM impacted soils to natural.

Attachment 3 – Certificate of Analysis

Bulk Identification Report

Job No: 754-SYDEN234000 Bulk ID Report EP3244 02082023
Client: EP Risk Management Pty Ltd
Client Address: Suite 13.01, Level 13, 80 Mount Street,
North Sydney, NSW

Contact: Jenny Shao
E-mail: jenny.shao@eprisk.com.au
Date Sampled: 1/08/2023
Date Analysed: 2/08/2023
Date Authorised: 2/08/2023
Sampled By: As received by client (Zak Bursey)
Site: ESR

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No:2220
Corporate Site No:16909

Please note: Where you have provided the samples for analysis, Tetra Tech Coffey Pty Ltd does not take any responsibility for the quality of the such samples. This report relates exclusively to the samples analysed by Tetra Tech Coffey Pty Ltd and as such only the samples submitted or collected for analysis have been considered in presenting these results. The data and results contained in this report are not representative of the site, product or source material as a whole. Tetra Tech Coffey Pty Ltd does not make any warranty or representation in relation to the site, product or source material as a whole. If you suspect any material to contain asbestos, then you must immediately stop the works and activities at the site or in respect of the materials and engage Tetra Tech Coffey Pty Ltd or another suitably trained asbestos hygienist to sample, assess or re-assess (as the case may be) the material suspected to contain asbestos.

Asbestos in Bulk Samples and Non-homogenous Material

Test Method: Tetra Tech Coffey Pty Ltd analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Coffey SOP WILAB1, and Australian Standard (AS) 4964 – 2004, Method for the qualitative identification of asbestos in bulk samples (AS 4964). The detection limit for the test method as per AS 4964 is 0.1 g/kg. For non-homogenous samples a semi-quantitative aspect is adopted for the test method and is taken into account when reporting the results. As per Tetra Tech Coffey Pty Ltd's NATA approved SOP WILAB1 sample retention periods are set at 1 month for all samples from the date of analysis.

Analysed At: Tetra Tech Coffey Pty Ltd Laboratory, Level 20, Tower B, Citadel Towers 799 Pacific Highway Chatswood NSW 2067

Total Samples: 4

Approved Identifier
Panika Wongchanda

Approved Signatory
Matthew Tang

Sample No.	Location & Description	Sample Size (~)	Results
AEC24a-VAL-001	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 576.1 g > 2mm fraction ~ 203.1 g < 2mm fraction ~ 373 g < 2mm sub sample ~ 35.7 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC24a-VAL-002	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 480.8 g > 2mm fraction ~ 197.2 g < 2mm fraction ~ 283.6 g < 2mm sub sample ~ 34.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC24a-VAL-003	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 486.4 g > 2mm fraction ~ 140 g < 2mm fraction ~ 346.4 g < 2mm sub sample ~ 34 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004
AEC24a-VAL-004	As received - Brown non-homogenous soil, rocks & debris	Total sample ~ 441.9 g > 2mm fraction ~ 167 g < 2mm fraction ~ 274.9 g < 2mm sub sample ~ 32.4 g	No asbestos detected above the reporting limit of 0.1 g/kg Organic fibres detected No trace (respirable) asbestos detected as per AS 4964 2004

Notes

Subsampling is carried out as per Coffey SOP WILAB1 using the coning and quartering method, please note subsampling may reduce the accuracy of the analytical result.

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Asbestos Clearance Certificate (ACC022)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC022_ESR_Westlink Stage 1_UF027_v1 | 8 September 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

8 September 2023
Ref: EP3244.003_ACC022_ESR_Westlink Stage 1_UF027_v1

Asbestos Clearance Certificate – ACC022

Westlink Stage 1 – UF027

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462)

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	04.09.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to UF027 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. UF027 comprised of an area (60m^2) contaminated with sporadic surficial bonded (non-friable) asbestos containing material (ACM) in the form of fibre cement sheet fragments identified to the east of AEC14.
Scope of work (as advised by client/contractor):	The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Works were undertaken in a manner that avoided further damage or burial of the asbestos-containing material (ACM) by the process. • Bonded (non-friable) ACM fragments were emu picked from surficial soils and disposed of within an asbestos waste bag. Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing a visual assessment of surficial soils for visible asbestos.
Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☐ Asbestos in Soil (ASBINS). ☒ Other: Bonded (non-friable) ACM fragments
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.

Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' soils.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	04.09.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of control air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

5. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

6. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☒ Prepare Long Term Environmental Management Plan (LTEMP) for the wider Site. ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

7. CLEARANCE DECLARATION

Visible ACM was not identified on surface of the Clearance Area. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

8. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☐ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	08.09.2023	L. Munnichs	08.09.2023	J. Thompson	08.09.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*08.09.2023*	*EP3244.003_ACC022_ESR_Westlink Stage 1_UF027_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

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Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC022)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 07/09/2023
Drawing Ref: EP3244.003_Fig. 1
Version No: v1

N

0 5 10 15 20 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: SK
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 04/09/2023

UF027 – Sporadic ACM fragments identified to the east of AEC14 prior to emu-picking works.



Plate 2 – 04/09/2023

UF027 – Sporadic ACM fragments identified to the east of AEC14 prior to emu picking works.



Plate 3 – 04/09/2023

UF027 – Sporadic ACM fragments identified to the east of AEC14 prior to emu picking works.



Plate 4 – 04/09/2023

UF027 – Sporadic ACM fragments identified to the east of AEC14 prior to emu picking works.



Plate 5 – 04/09/2023

UF027 – Sporadic ACM fragments identified to the east of AEC14 prior to emu picking works.



Plate 6 – 04/09/2023

UF027 – Clearance Area subsequent to emu picking works by TCE to remove sporadic ACM fragments.



Plate 7 – 04/09/2023

UF027 – Clearance Area subsequent to emu picking works by TCE to remove sporadic ACM fragments.



Plate 8 – 04/09/2023

UF027 – ACM fragments removed by TCE during emu picking works.



Asbestos Clearance Certificate (ACC023)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC023_ESR_Westlink Stage 1_AEC33_v1 | 7 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

7 August 2023
Ref: EP3244.003_ACC023_ESR_Westlink Stage 1_AEC33_v1

Asbestos Clearance Certificate – ACC023

Westlink Stage 1 – AEC33

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldginton Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Sean Kelly – Senior Occupational Hygienist (LAA001369)

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	01.08.2023 – 02.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to AEC33 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. AEC33 covers an approximate surface area of 2,000 m^2 and includes surface soils only.
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], the contaminant of potential concern (CoPC) identified within AEC33 was: Visible asbestos in surface soils. The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Works will be undertaken in a manner that avoids further damage or burial of the ACM by the process. • Vegetation will be removed (i.e. stripped, tilled or grubbed) from these AECs), in order to facilitate clear and unobstructed visual assessment of surface soils. • A grid-based walkover will then be undertaken for the purpose of assessing the presence of visible asbestos in surface soils. • The walkover will be undertaken on transects spaced 5m apart, with at least one pass in a north/south direction and one in an east/west direction, in each individual AEC. • The walkover will be undertaken by a person suitably experienced in the identification of potential asbestos containing materials. • ACM fragments disposed to a suitably licensed waste receiving facility, with a waste classification. Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils for visible asbestos.
Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS).

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

	☐ Other: N/A
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' fill.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	02.08.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area

	only was undertaken. The visual inspection was limited to surficial soils only and does not include soil beneath trees remaining in the Clearance Area. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

5. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

6. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.
Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

7. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the Clearance Area during the asbestos visual clearance inspection. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Sean Kelly	Signature:	
LAA Number:	LAA001369		

8. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☐ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	H. Erskine	07.08.2023	K. Guenther	07.08.2023	J. Shao	07.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*07.08.2023*	*EP3244.003_ACC023_ESR_Westlink Stage 1_AEC33_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

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The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC033)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 07/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 7 14 21 28 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: HE
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 02/08/2023

Surficial soils within AEC33 subsequent to vegetation scrape & emu picking of ACM fragments.



Plate 2 – 02/08/2023

Surficial soils within AEC33 subsequent to vegetation scrape & emu picking of ACM fragments.



Plate 3 – 02/08/2023

Surficial soils within AEC33 subsequent to vegetation scrape & emu picking of ACM fragments.



Plate 4 – 02/08/2023

Surficial soils within AEC33 subsequent to vegetation scrape & emu picking of ACM fragments.



Asbestos Clearance Certificate (ACC023)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC023_ESR_Westlink Stage 1_AEC33_v2 | 8 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

8 August 2023
Ref: EP3244.003_ACC023_ESR_Westlink Stage 1_AEC33_v2

Asbestos Clearance Certificate – ACC023

Westlink Stage 1 – AEC33

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldginton Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
Licence Number:	AD213189
Class A / Class B:	Class A (Friable) & Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Sean Kelly – Senior Occupational Hygienist (LAA001369)

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of removal works:	01.08.2023 – 02.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to AEC33 within the Site, as presented in **Figure 1**, is herein referred to as 'Clearance Area'. AEC33 covers an approximate surface area of 2,000 m^2 and includes surface soils only.
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], the contaminant of potential concern (CoPC) identified within AEC33 was: Visible asbestos in surface soils. The remediation methodology as undertaken by TCE in accordance with the RAP (Alliance 2023) involved the following: • Works will be undertaken in a manner that avoids further damage or burial of the ACM by the process. • Vegetation will be removed (i.e. stripped, tilled or grubbed) from these AECs), in order to facilitate clear and unobstructed visual assessment of surface soils. • A grid-based walkover will then be undertaken for the purpose of assessing the presence of visible asbestos in surface soils. • The walkover will be undertaken on transects spaced 5m apart, with at least one pass in a north/south direction and one in an east/west direction, in each individual AEC. • The walkover will be undertaken by a person suitably experienced in the identification of potential asbestos containing materials. • ACM fragments disposed to a suitably licensed waste receiving facility, with a waste classification. Prior to remediation works two (2) unexpected finds (UFs) were identified within AEC33: • UF020 – Asbestos cement (AC) conduit. • UF021 – AC sheeting. These UFs were removed as bonded (non-friable) ACM prior to commencement of the vegetation scrape.

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

	Following the remediation works, EP Risk adopted a validation strategy in line with the RAP (Alliance 2023), encompassing the following: • A visual assessment of the surface soils for visible asbestos.
Type of asbestos containing material (ACM) removed:	☐ Friable. ☒ Non-Friable. ☐ Asbestos containing dust/debris. ☒ Asbestos in Soil (ASBINS). ☒ Other: AC conduit and AC sheeting.
Asbestos controls adopted during removal works:	☒ Exclusion zone. ☒ Personal Protective Equipment (PPE). ☐ Wet decontamination unit. ☒ Dry decontamination unit or area. ☒ Dust suppression water. ☐ High efficiency particulate air (HEPA) filter vacuum. ☐ Wet wiping. ☒ Air Monitoring. ☐ N/A.
Post removal work encapsulation:	☐ Geotextile marker layer. ☒ N/A. ☐ PVA / Adhesive. ☐ Other. ☐ Imported 'clean' fill.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	02.08.2023
Asbestos Work Area	
Evidence of PVA/sealant application:	Yes ☐ No ☐ N/A ☒
Visual inspection of work area(s) satisfactory:	Yes ☒ No ☐ N/A ☐
Air monitoring undertaken during removal works:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken at the conclusion of removal works:	Yes ☐ No ☐ N/A ☒
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐
Is the work area(s) suitable for reoccupation?	Yes ☒ No ☐ N/A ☐

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Limitations:	This visual clearance certificate pertains to the Clearance Area as referenced in **Figure 1** only and does not include equipment/plant used in the process. A visual inspection of the accessible surface of the Clearance Area only was undertaken. The visual inspection was limited to surficial soils only and does not include soil beneath trees remaining in the Clearance Area. No surfaces outside of the Clearance Area as described in **Section 2** formed part of the inspection. The ACC does not encompass the whole of the Site. A separate clearance inspection should be undertaken if further ACM is identified within any other areas of the Site. The visual inspection was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. EP Risk cannot guarantee any previously buried ACM will not become exposed at the surface of the. This might be due to the action of wind, rain, weathering, and foot or vehicular/plant traffic. This ACC was true at the time of the inspection only.

5. ASBESTOS REMOVAL DOCUMENTATION

Was a copy of the asbestos removal control plan (ARCP) provided?	Yes ☒ No ☐ N/A ☐
Was a copy of the regulatory notification form provided? (SafeWork NSW)	Yes ☒ No ☐ N/A ☐
Was the removal work consistent with the above removal documents?	Yes ☒ No ☐ N/A ☐

6. RECOMMENDATIONS / MANAGEMENT

Recommendations:	☐ Continue works under Class A asbestos conditions. ☐ Continue works under Class B asbestos conditions. ☐ Provide a final clearance at the conclusion of the removal works. ☒ Continue works under Unexpected Finds Protocol. ☐ N/A.

Management:	☐ Prepare Asbestos Management Plan (AMP). ☐ Prepare Long Term Environmental Management Plan (LTEMP). ☐ Update Asbestos Register. ☐ Update ASBINS Management Plan. ☐ Provide routine inspections of capping. ☒ N/A.

7. CLEARANCE DECLARATION

Visible ACM was not identified on the surface of the Clearance Area during the asbestos visual clearance inspection. As such, the area is suitable for reoccupation without the need for asbestos related Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

Prepared by:	Sean Kelly	Signature:	
LAA Number:	LAA001369		

8. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Clearance Air Monitoring Report	Yes ☐ No ☐ N/A ☒
4. Certificate of Analysis	Yes ☐ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	H. Erskine	07.08.2023	K. Guenther	07.08.2023	J. Shao	07.08.2023
v1	H. Erskine	08.08.2023	K. Guenther	08.08.2023	J. Shao	08.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*07.08.2023*	*EP3244.003_ACC023_ESR_Westlink Stage 1_AEC33_v2*	*ESR Australia Pty Ltd*
v2	*08.08.2023*	*EP3244.003_ACC023_ESR_Westlink Stage 1_AEC33_v2*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

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The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC033)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area

Job No: EP3244
Date: 08/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v2

N

0 7 14 21 28 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: HE
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 02/08/2023

Surficial soils within AEC33 subsequent to vegetation scrape & emu picking of ACM fragments.



Plate 2 – 02/08/2023

Surficial soils within AEC33 subsequent to vegetation scrape & emu picking of ACM fragments.



Plate 3 – 02/08/2023

Surficial soils within AEC33 subsequent to vegetation scrape & emu picking of ACM fragments.



Plate 4 – 02/08/2023

Surficial soils within AEC33 subsequent to vegetation scrape & emu picking of ACM fragments.



Asbestos Clearance Certificate (ACC024)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC024_ESR_30 Tonne CAT Moxy_v1 | 28 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Asbestos Clearance Certificate – ACC024

Westlink Stage 1 – 30 Tonne CAT Moxy

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW, 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
License Number:	AD213189
Class A / Class B:	Class A (Friable) and Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Zak Bursey – Graduate Environmental Scientist

2. DECONTAMINATION WORK DETAILS

Work Details	
Date of decontamination works:	23.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to the 30 Tonne CAT Moxy (P143), subject to final decontamination works prior to demobilisation off-site.
Scope of work (as advised by client/contractor):	Asbestos remediation works were undertaken at the Site by TCE in accordance with the Alliance (2023) Remediation Action Plan (RAP)[1]. This involved the use of a Moxy to transport asbestos in soils (ASBINS) at the Site. Following completion of remediation works and prior to demobilisation off-site, the interior and exterior surfaces of the Moxy was washed down with water and cleaned with wet wipes as far as reasonably practicable by TCE. Subsequently, EP Risk was engaged to undertake a clearance inspection of the Moxy and issue a clearance certificate verifying the Moxy had been cleaned to a satisfactory standard and no visible asbestos containing material (ACM) was present on accessible surfaces.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	23.08.2023
Time of clearance inspection:	12:00 noon
Interior and exterior surfaces of the Moxy are free from all dust and debris:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken:	Yes ☒ No ☐ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Specific details of limitations and/or exclusions:	This clearance certificate covers the accessible surfaces of the equipment detailed above at the time of inspection only. It is not feasible in a clearance inspection to inspect all internal components of a Moxy, such as within the engine bay or voids within the structure of the mobile plant. This clearance certificate applies only to the equipment described. above and does not apply to any other Site equipment, soil or building components. The inspection does not apply to the Site in general or any other equipment not referenced in this clearance. The visual clearance was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. This Asbestos Clearance Certificate was true at the time of the inspection only.
Comments	
This Asbestos Clearance Certificate relates only to the visible and accessible surfaces of the equipment as described previously and was true at the time of the inspection.	

5. CLEARANCE DECLARATION

Visible asbestos was not identified on the internal and external accessible surfaces of the Moxy and the equipment is suitable for removal off-site.

Prepared by:	Zak Bursey	Signature:	Zak Bursey

6. ATTACHMENTS

1. Figure(s)	Yes ☐ No ☐ N/A ☒
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Certificate of Analysis	Yes ☐ No ☐ N/A ☒
4. Air Monitoring Report	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	H. Erskine	28.08.2023	L. Munnichs	28.08.2023	T. Chatman	28.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*28.08.2023*	*EP3244.003_ACC024_ESR_30 Tonne CAT Moxy_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

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Attachment 1 – Photolog



Plate 1 – 23/08/2023

Exterior side view of the CAT 30T Moxy subsequent to final decontamination works.



Plate 2 - 23/08/2023

Exterior side view of the CAT 30T Moxy subsequent to final decontamination works.



Plate 3 – 23/08/2023

Rear tub of the 30T CAT Moxy subsequent to final decontamination works.



Plate 4 – 23/08/2023

Rear tub of the 30T CAT Moxy subsequent to final decontamination works.



Plate 5 – 23/08/2023

Interior surfaces of the 30T CAT Moxy subsequent to final decontamination works.

Attachment 2 – Air Monitoring Report

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM033	**Date Reported:**	23 August 2023
Shift Number:	033	**Date Analysed:**	23 August 2023
Project Reference:	EP3244	**Date Sampled:**	23 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

This test report shall not be reproduced except in full, without written approval from EP Risk.

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM033_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM033_001	EPR 010	Southern boundary of AEC14, adjacent to decontamination unit - on stake	1500	1500	1500	7:24	13:30	366	0/100	<0.01
EP3244.002_AM033_002	EPR 016	Northern boundary of AEC14 - on stake	1500	1500	1500	7:25	13:32	367	0/100	<0.01
EP3244.002_AM033_003	EPR 018	Southern boundary of stockpile pad - on stake	1500	1500	1500	7:31	13:41	370	2/100	<0.01
EP3244.002_AM033_004	EPR 023	Western boundary of stockpile pad - on stake	1500	1500	1500	7:34	13:45	371	0/100	<0.01
EP3244.002_AM033_005	EPR 024	Sitex (EX1314) Excavator inside Cab	3000	3000	3000	8:30	11:19	169	1/100	<0.01
EP3244.002_AM033_006	EPR 148	P143 30T Dump Truck inside Cab	3000	3000	3000	12:00	14:30	150	3/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



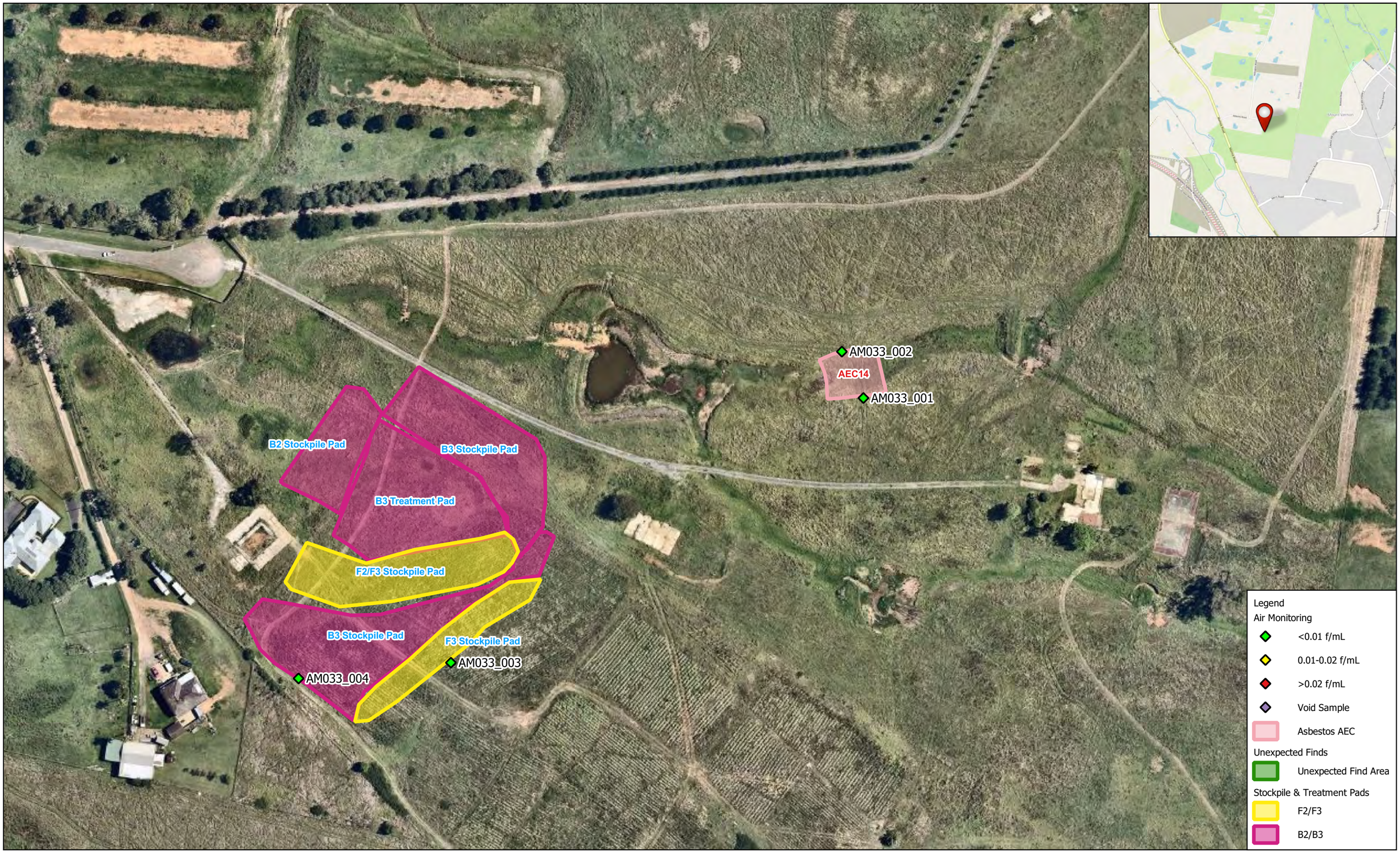
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM033
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 23/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

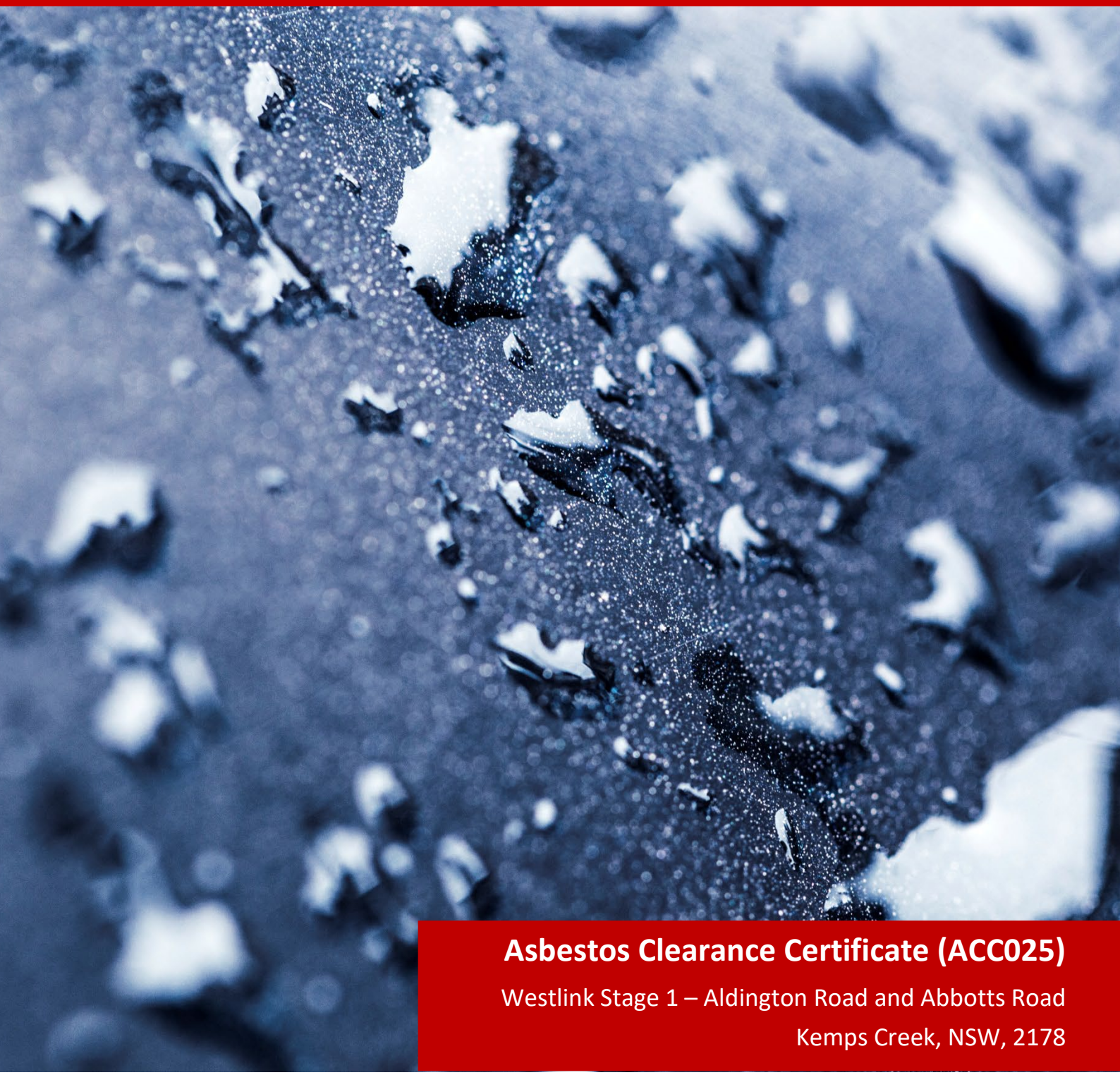
N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 QMS Certification Services
APPROVED COMPANY ISO 45001 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services



Asbestos Clearance Certificate (ACC025)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC025_ESR_Westlink Stage 1_Decontamination Unit_v1 | 2 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Asbestos Clearance Certificate – ACC025

Westlink Stage 1 – Decontamination Unit

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – Jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW, 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
License Number:	AD213189
Class A / Class B:	Class A (Friable) and Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462)

2. ASBESTOS REMOVAL WORK DETAILS

Work Details	
Date of asbestos removal works:	01.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to the trailer-mounted decontamination unit (VIN: W09484253GHD36287), located at the northern end of AEC19a, as presented in **Figure 1.**
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], one of the contaminants of potential concern (CoPCs) identified within AEC19a was friable asbestos as asbestos fines (AF) and fibrous asbestos (FA) in soil. During remediation works, an asbestos exclusion zone was established with a portable trailer-mounted asbestos wet decontamination unit (VIN: W09484253GHD36287) was set up on the boundary of the exclusion zone used for entry and egress into the exclusion zone by TCE. Following the remediation works, the interior and exterior surfaces of the decontamination unit were washed down with water and cleaned with isopropyl alcohol as far as reasonably practicable by TCE. Subsequently, EP Risk was engaged to undertake a clearance inspection of the decontamination unit and issue a clearance inspection verifying the equipment had been cleaned to a satisfactory standard and no visible asbestos containing material (ACM) was present on accessible surfaces.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	1.08.2023
Time of clearance inspection:	10:40
Interior and exterior surfaces inside the decontamination unit are free from all dust and debris:	Yes ☒ No ☐ N/A ☐

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Specific details of limitations and/or exclusions:	This clearance certificate covers the accessible surfaces of the equipment detailed above at the time of inspection only. The inspection does not apply to the Site in general or any other equipment not referenced in this clearance. The visual clearance was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. This Asbestos Clearance Certificate was true at the time of the inspection only.
Comments	
This Asbestos Clearance Certificate relates only to the visible and accessible surfaces of the equipment as described previously and was true at the time of the inspection.	

5. CLEARANCE DECLARATION

Visible asbestos was not identified on the surface within the Clearance Area and the area is suitable for reoccupation without the need for asbestos related personal protective equipment (PPE) and Respiratory Protective Equipment (RPE).

All asbestos in the scope of the removal work has been removed and any known asbestos is intact.

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

6. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Certificate of Analysis	Yes ☐ No ☐ N/A ☒
4. Air Monitoring Report (Friable)	Yes ☐ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	H. Erskine	02.08.2023	K. Guenther	02.08.2023	J. Shao	02.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*02.08.2023*	*EP3244.003_ACC025_ESR_Decontamination Unit_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC025)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Clearance Area and Sampling Locations

Job No: EP3244
Date: 01/08/2023
Drawing Ref: EP3244.003 Fig. 1
Version No: v1

N

0 2 4 6 8 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 01/08/2023

Exterior front/side view of decontamination unit at time of inspection.



Plate 2 – 01/08/2023

Exterior, rear view of decontamination unit at time of inspection.



Plate 3 – 01/08/2023

Interior, first chamber – dirty room, of decontamination unit at time of inspection

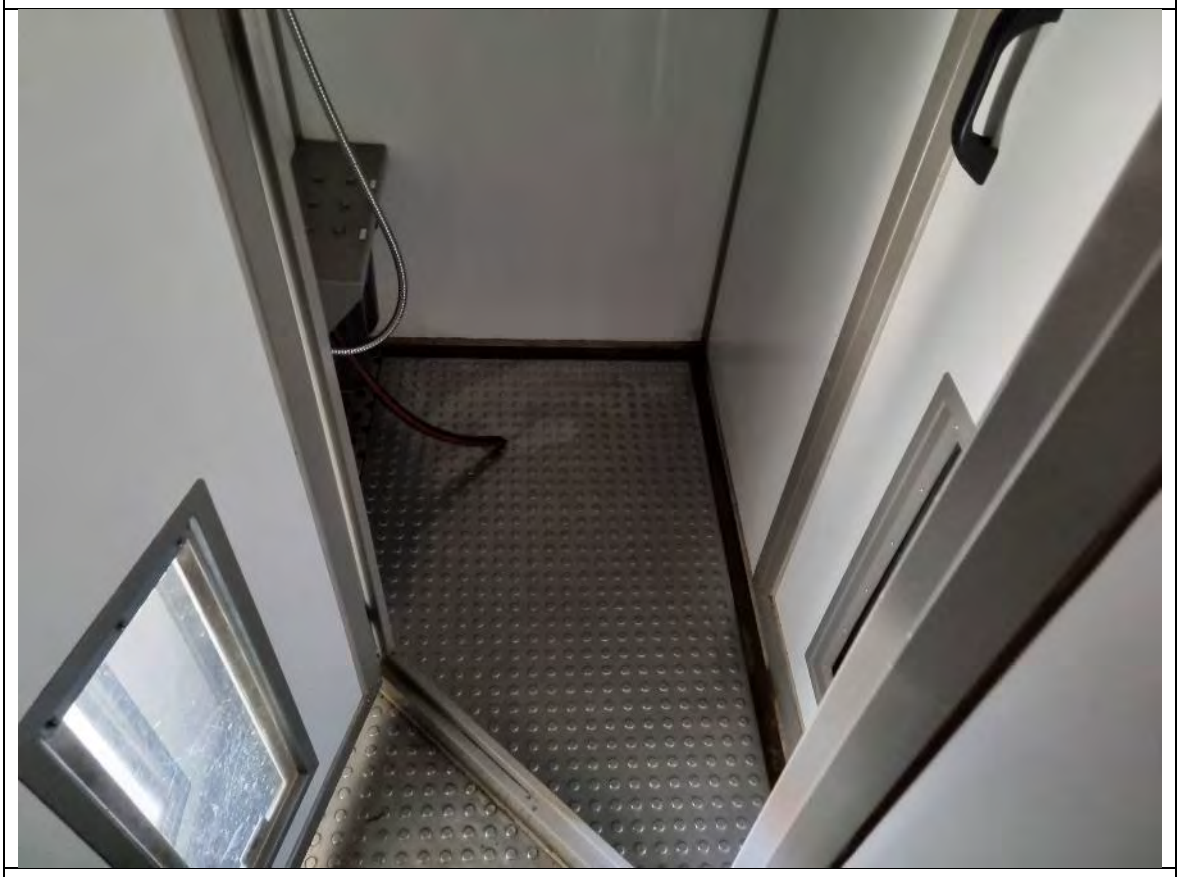


Plate 4 – 01/08/2023

Interior, second chamber – shower room of decontamination unit at time of inspection



Plate 5 – 01/08/2023

Interior, third chamber – shower room, of decontamination unit at time of inspection



Plate 6 – 01/08/2023

Interior, fourth chamber –clean room, of decontamination unit at time of inspection



Asbestos Clearance Certificate (ACC026)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC026_ESR_25 Tonne Moxy_v1 | 28 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Asbestos Clearance Certificate – ACC026

Westlink Stage 1 – 25 Tonne Volvo Moxy

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – Jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW, 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
License Number:	AD213189
Class A / Class B:	Class A (Friable) and Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462)

2. DECONTAMINATION WORK DETAILS

Work Details	
Date of decontamination works:	24.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to the 25 Tonne Volvo Moxy (P13), subject to final decontamination works prior to demobilisation off-site.
Scope of work (as advised by client/contractor):	Asbestos remediation works were undertaken at the Site by TCE in accordance with the Alliance (2023) Remediation Action Plan (RAP)[1]. This involved the use of a Moxy to transport asbestos in soils (ASBINS) at the Site. Following completion of remediation works and prior to demobilisation off-site, the interior and exterior surfaces of the Moxy was washed down with water and cleaned with wet wipes as far as reasonably practicable by TCE. Subsequently, EP Risk was engaged to undertake a clearance inspection of the Moxy and issue a clearance certificate verifying the Moxy had been cleaned to a satisfactory standard and no visible asbestos containing material (ACM) was present on accessible surfaces.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	24.08.2023
Time of clearance inspection:	8:00 AM
Interior and exterior surfaces of the Moxy are free from all dust and debris:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken:	Yes ☒ No ☐ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Specific details of limitations and/or exclusions:	This clearance certificate covers the accessible surfaces of the equipment detailed above at the time of inspection only. It is not feasible in a clearance inspection to inspect all internal components of a Moxy, such as within the engine bay or voids within the structure of the mobile plant. This clearance certificate applies only to the equipment described. above and does not apply to any other Site equipment, soil or building components. The inspection does not apply to the Site in general or any other equipment not referenced in this clearance. The visual clearance was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. This Asbestos Clearance Certificate was true at the time of the inspection only.
Comments	
This Asbestos Clearance Certificate relates only to the visible and accessible surfaces of the equipment as described previously and was true at the time of the inspection.	

5. CLEARANCE DECLARATION

Visible asbestos was not identified on the internal and external accessible surfaces of the Moxy and the equipment is suitable for removal off-site.

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

6. ATTACHMENTS

1. Figure(s)	Yes ☐ No ☐ N/A ☒
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Certificate of Analysis	Yes ☐ No ☐ N/A ☒
4. Air Monitoring Report	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	H. Erskine	28.08.2023	L. Munnichs	28.08.2023	T. Chatman	28.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*28.08.2023*	*EP3244.003_ACC026_ESR_25 Tonne Moxy_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

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Attachment 1 – Photolog



Plate 1 – 24/08/2023

Exterior side view of the Volvo 25T Moxy subsequent to final decontamination works.



Plate 2 - 24/08/2023

Exterior side view of the Volvo 25T Moxy subsequent to final decontamination works.



Plate 3 – 24/08/2023

Rear tub of the 25T Volvo Moxy subsequent to final decontamination works.



Plate 4 – 24/08/2023

Interior surfaces of the 25T Volvo Moxy subsequent to final decontamination works.



Plate 5 – 24/08/2023
Interior surfaces of the 25T Volvo Moxy subsequent to final decontamination works.

Attachment 2 – Air Monitoring Report

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM033	**Date Reported:**	23 August 2023
Shift Number:	033	**Date Analysed:**	23 August 2023
Project Reference:	EP3244	**Date Sampled:**	23 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

This test report shall not be reproduced except in full, without written approval from EP Risk.

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM033_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM033_001	EPR 010	Southern boundary of AEC14, adjacent to decontamination unit - on stake	1500	1500	1500	7:24	13:30	366	0/100	<0.01
EP3244.002_AM033_002	EPR 016	Northern boundary of AEC14 - on stake	1500	1500	1500	7:25	13:32	367	0/100	<0.01
EP3244.002_AM033_003	EPR 018	Southern boundary of stockpile pad - on stake	1500	1500	1500	7:31	13:41	370	2/100	<0.01
EP3244.002_AM033_004	EPR 023	Western boundary of stockpile pad - on stake	1500	1500	1500	7:34	13:45	371	0/100	<0.01
EP3244.002_AM033_005	EPR 024	Sitex (EX1314) Excavator inside Cab	3000	3000	3000	8:30	11:19	169	1/100	<0.01
EP3244.002_AM033_006	EPR 148	P143 30T Dump Truck inside Cab	3000	3000	3000	12:00	14:30	150	3/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



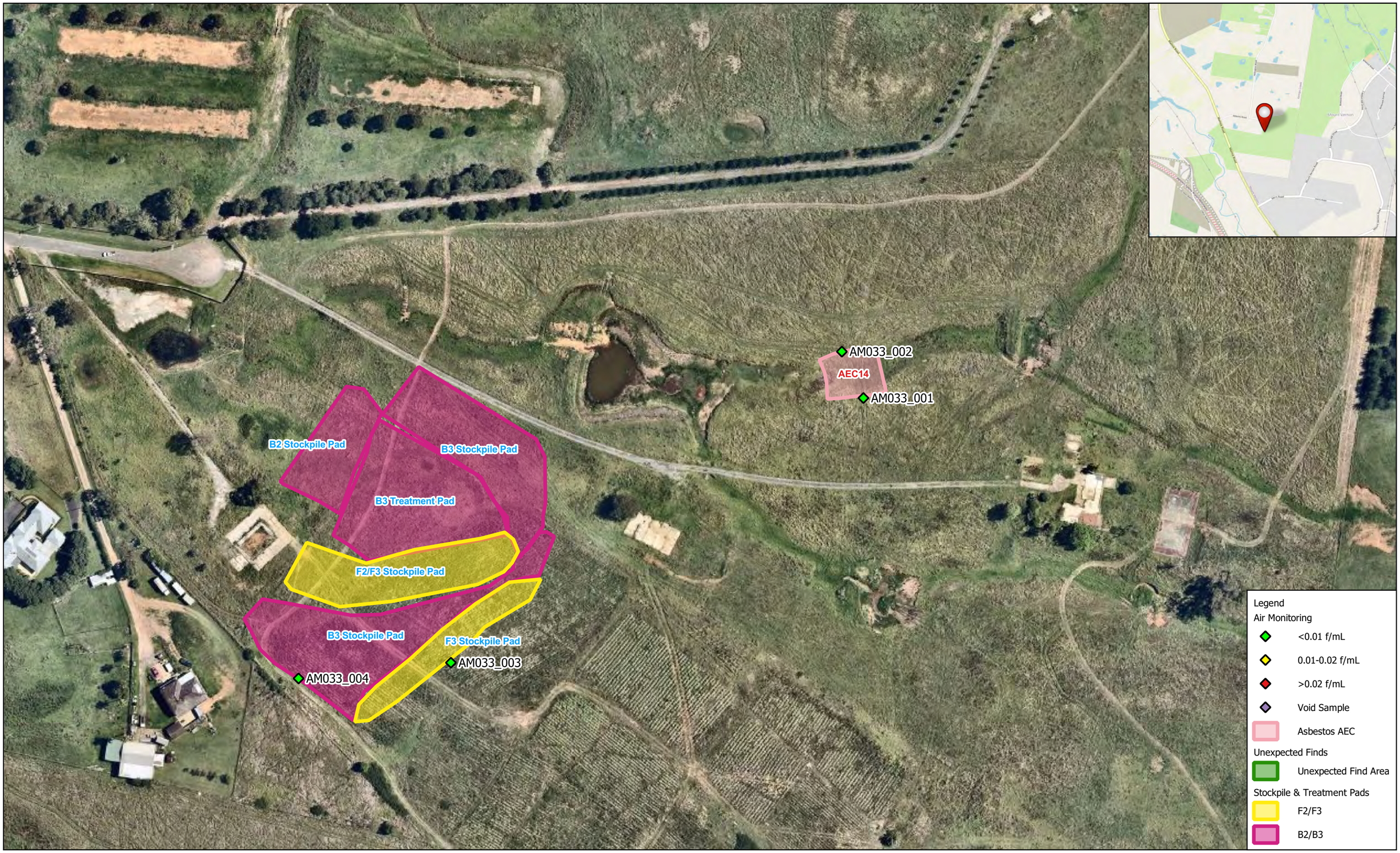
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM033
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 23/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 QMS Certification Services
APPROVED COMPANY ISO 45001 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services



Asbestos Clearance Certificate (ACC027)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC027_ESR _48 Tonne Kobelco Excavator_v1 | 28 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Asbestos Clearance Certificate – ACC027

Westlink Stage 1 – 48 Tonne Kobelco Excavator

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – Jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW, 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
License Number:	AD213189
Class A / Class B:	Class A (Friable) and Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462)

2. DECONTAMINATION WORK DETAILS

Work Details	
Date of decontamination works:	24.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to the 48 Tonne Kobelco Excavator (SK480LC), subject to final decontamination works prior to demobilisation off-site. It should be noted the tracks and buckets of the excavator were decontaminated several times over the course of the remediation project. These visual clearance inspections were undertaken and documented by EP Risk in the form of a photographic record.
Scope of work (as advised by client/contractor):	Asbestos remediation works were undertaken at the Site by TCE in accordance with the Alliance (2023) Remediation Action Plan (RAP)[1]. This involved the use of an excavator to excavate and treat asbestos in soils (ASBINS) at the Site. Following completion of remediation works and prior to demobilisation off-site, the interior and exterior surfaces of the excavator was washed down with water and cleaned with wet wipes as far as reasonably practicable by TCE. Subsequently, EP Risk was engaged to undertake a clearance inspection of the excavator and issue a clearance certificate verifying the excavator had been cleaned to a satisfactory standard and no visible asbestos containing material (ACM) was present on accessible surfaces.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	24.08.2023
Time of clearance inspection:	16:00
Interior and exterior surfaces of the excavator are free from all dust and debris:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken:	Yes ☒ No ☐ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Specific details of limitations and/or exclusions:	This clearance certificate covers the accessible surfaces of the equipment detailed above at the time of inspection only. It is not feasible in a clearance inspection to inspect all internal components of an excavator, such as within the engine bay or voids within the structure of the mobile plant. This clearance certificate applies only to the equipment described. above and does not apply to any other Site equipment, soil or building components. The inspection does not apply to the Site in general or any other equipment not referenced in this clearance. The visual clearance was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. This Asbestos Clearance Certificate was true at the time of the inspection only.
Comments	
This Asbestos Clearance Certificate relates only to the visible and accessible surfaces of the equipment as described previously and was true at the time of the inspection.	

5. CLEARANCE DECLARATION

Visible asbestos was not identified on the internal and external accessible surfaces of the excavator and the equipment is suitable for removal off-site.

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

6. ATTACHMENTS

1. Figure(s)	Yes ☐ No ☐ N/A ☒
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Certificate of Analysis	Yes ☐ No ☐ N/A ☒
4. Air Monitoring Report	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	H. Erskine	28.08.2023	L. Munnichs	28.08.2023	T. Chatman	28.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*28.08.2023*	*EP3244.003_ACC027_ESR_48 Tonne Kobelco Excavator_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Photolog



Plate 1 – 24/08/2023

Exterior side view of the 48 Tonne Kobelco Excavator subsequent to final decontamination works.



Plate 2 - 24/08/2023

Exterior tracks of the 48 Tonne Kobelco Excavator subsequent to final decontamination works.



Plate 3 – 24/08/2023

Exterior tracks of the 48 Tonne Kobelco Excavator subsequent to final decontamination works.



Plate 4 – 24/08/2023

Exterior tracks of the 48 Tonne Kobelco Excavator subsequent to final decontamination works.



Plate 5 – 24/08/2023

Bucket of the 48 Tonne Kobelco Excavator subsequent to final decontamination works.



Plate 6 – 24/08/2023

Interior surfaces of the 48 Tonne Kobelco Excavator subsequent to final decontamination works.



Plate 7 – 24/08/2023

Interior surfaces of the 48 Tonne Kobelco Excavator subsequent to final decontamination works.

Attachment 2 – Air Monitoring Report

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM035	**Date Reported:**	25 August 2023
Shift Number:	035	**Date Analysed:**	25 August 2023
Project Reference:	EP3244	**Date Sampled:**	25 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Hayley Erskine
Email:	jacob.dickson@esr.com	**Analysed By:**	Hayley Erskine
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	4

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 4 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

Melbourne
Unit 22/1 Ricketts Road
Mount Waverley, Vic, 3149
T 03 8540 7300

Sydney
Suite 13.01, 80 Mount Street
North Sydney, NSW, 2060
T 02 9922 5021

Newcastle
3/19 Bolton Street
Newcastle, NSW, 2300
T 02 4048 2845

W www.eprisk.com.au ABN 81 147 147 591

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25 August 2023

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1] [2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM035_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM035_001	EPR 010	Eastern boundary of stockpile area - on picket	1500	1500	1500	7:20	14:55	455	0/100	<0.01
EP3244.002_AM035_002	EPR 018	Western boundary of stockpile area - on picket	1500	1500	1500	7:26	15:01	455	0/100	<0.01
EP3244.002_AM035_003	EPR 021	48 T Kobelco Excavator - Inside Cab	3000	3000	3000	7:34	10:10	156	0/100	<0.01
EP3244.002_AM035_004	EPR 023	Volvo Excavator (95380D) - Inside Cab	3000	3000	3000	13:30	16:10	160	1/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



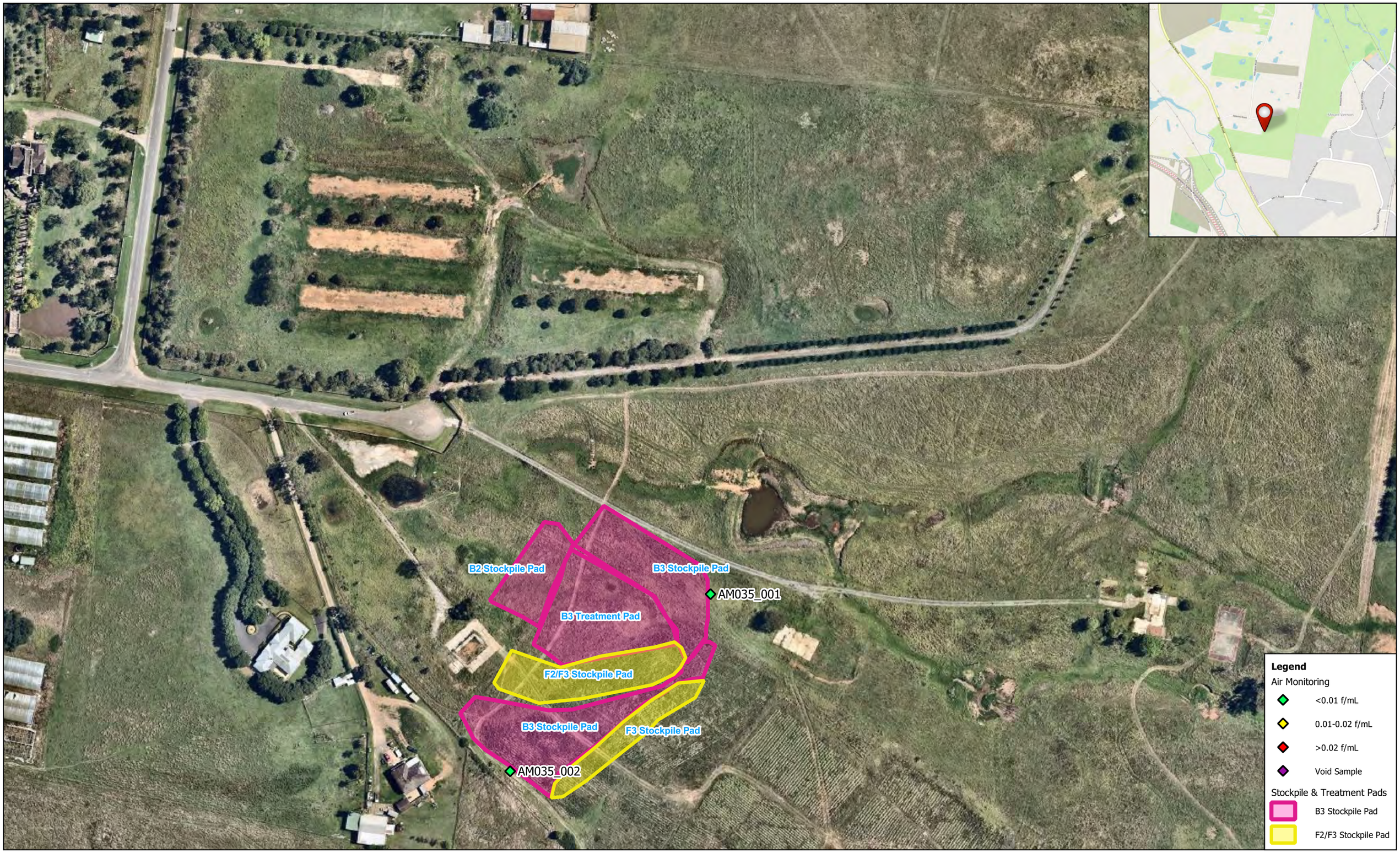
Troy Chatman
Approved Signatory
Environmental Scientist
SafeWork NSW Licenced Asbestos Assessor LAA002022

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM035
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 25/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

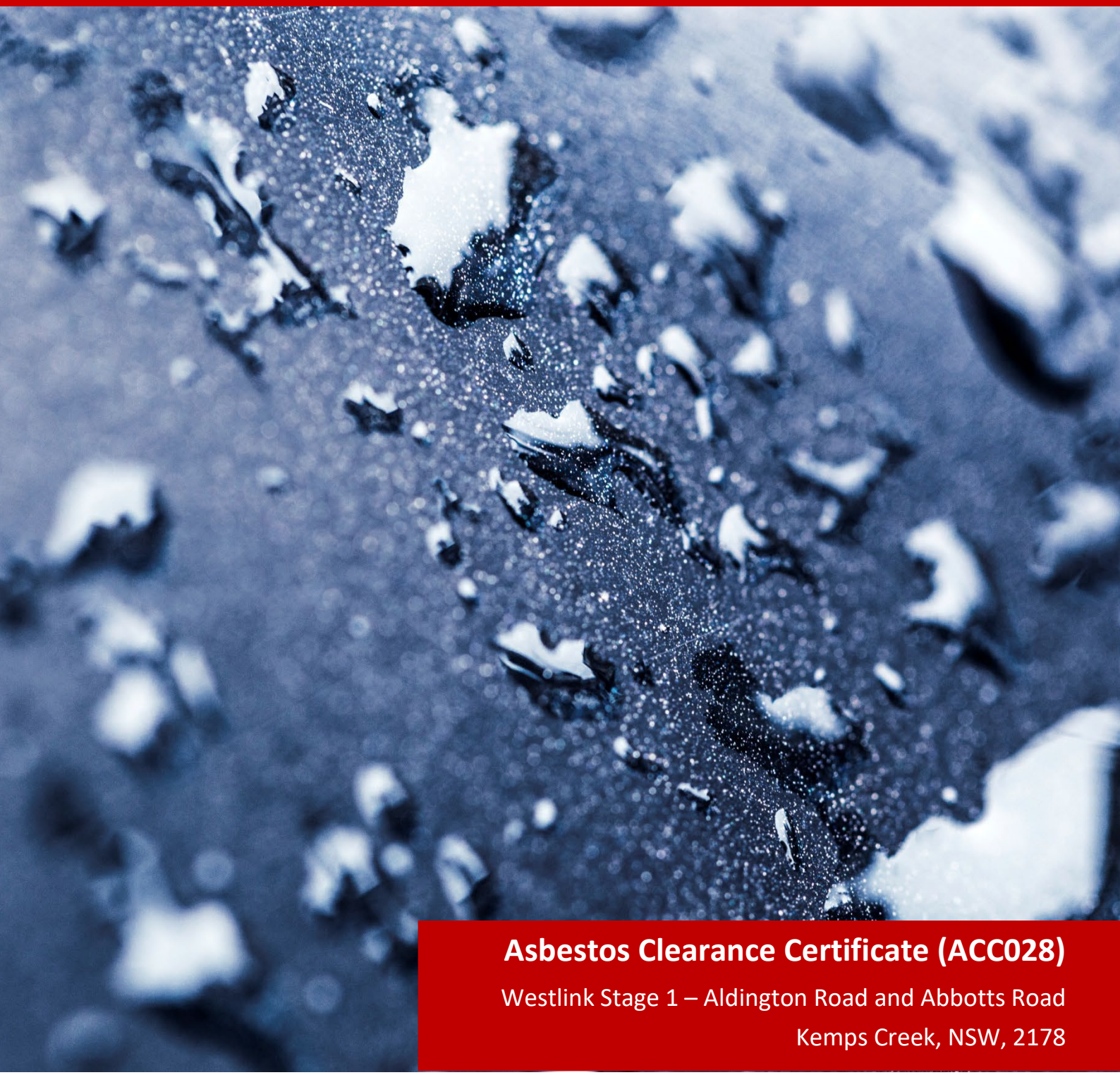
N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HE Checked by: TC
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 QMS Certification Services
APPROVED COMPANY ISO 45001 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services



Asbestos Clearance Certificate (ACC028)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC028_ESR_30 Tonne Volvo Excavator_v1 | 31 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Asbestos Clearance Certificate – ACC028

Westlink Stage 1 – 30 Tonne Volvo Excavator

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – Jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW, 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
License Number:	AD213189
Class A / Class B:	Class A (Friable) and Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Hayley Erskine – Graduate Environmental Scientist

2. DECONTAMINATION WORK DETAILS

Work Details	
Date of decontamination works:	25.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to the 30 Tonne Volvo Excavator (3792, EC350D2), subject to final decontamination works prior to demobilisation off-site. It should be noted the tracks and buckets of the excavator were decontaminated several times over the course of the remediation project. These visual clearance inspections were undertaken and documented by EP Risk in the form of a photographic record.
Scope of work (as advised by client/contractor):	Asbestos remediation works were undertaken at the Site by TCE in accordance with the Alliance (2023) Remediation Action Plan (RAP)[1]. This involved the use of an excavator to excavate and treat asbestos in soils (ASBINS) at the Site. Following completion of remediation works and prior to demobilisation off-site, the interior and exterior surfaces of the excavator was washed down with water and cleaned with wet wipes as far as reasonably practicable by TCE. Subsequently, EP Risk was engaged to undertake a clearance inspection of the excavator and issue a clearance certificate verifying the excavator had been cleaned to a satisfactory standard and no visible asbestos containing material (ACM) was present on accessible surfaces.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	25.08.2023
Time of clearance inspection:	16:00
Interior and exterior surfaces of the excavator are free from all dust and debris:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken:	Yes ☒ No ☐ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Specific details of limitations and/or exclusions:	This clearance certificate covers the accessible surfaces of the equipment detailed above at the time of inspection only. It is not feasible in a clearance inspection to inspect all internal components of an excavator, such as within the engine bay or voids within the structure of the mobile plant. This clearance certificate applies only to the equipment described. above and does not apply to any other Site equipment, soil or building components. The inspection does not apply to the Site in general or any other equipment not referenced in this clearance. The visual clearance was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. This Asbestos Clearance Certificate was true at the time of the inspection only.
Comments	
This Asbestos Clearance Certificate relates only to the visible and accessible surfaces of the equipment as described previously and was true at the time of the inspection.	

5. CLEARANCE DECLARATION

Visible asbestos was not identified on the internal and external accessible surfaces of the excavator and the equipment is suitable for removal off-site.

Prepared by:	Hayley Erskine	Signature:	
LAA Number:	N/A – Competent Person		

6. ATTACHMENTS

1. Figure(s)	Yes ☐ No ☐ N/A ☒
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Certificate of Analysis	Yes ☐ No ☐ N/A ☒
4. Air Monitoring Report	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	31.08.2023	L. Munnichs	31.08.2023	J. Thompson	31.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*31.08.2023*	*EP3244.003_ACC028_ESR_30 Tonne Volvo Excavator_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

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Attachment 1 – Photolog



Plate 1 – 25/08/2023

Exterior rear view of the 30 Tonne Volvo Excavator subsequent to final decontamination works.



Plate 2 - 25/08/2023

Exterior side view of the 30 Tonne Volvo Excavator subsequent to final decontamination works.



Plate 3 – 25/08/2023

Exterior front view of the 30 Tonne Volvo Excavator subsequent to final decontamination works.



Plate 4 – 25/08/2023

Exterior tracks of the 30 Tonne Volvo Excavator subsequent to final decontamination works.



Plate 5 – 25/08/2023

Exterior tracks of the 30 Tonne Volvo Excavator subsequent to final decontamination works.



Plate 6 – 25/08/2023

Exterior tracks of the 30 Tonne Volvo Excavator subsequent to final decontamination works.



Plate 7 – 25/08/2023

Bucket of the 30 Tonne Volvo Excavator subsequent to final decontamination works.



Plate 9 – 25/08/2023

Interior surfaces of the 30 Tonne Volvo Excavator subsequent to final decontamination works.

Attachment 2 – Air Monitoring Report

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM036	**Date Reported:**	28 August 2023
Shift Number:	036	**Date Analysed:**	28 August 2023
Project Reference:	EP3244	**Date Sampled:**	25 August 2023 & 28 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Jenny Shao
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	4

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 4 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM036_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM036_001	EPR 030	30T Volvo Excavator (3792, EC350D2) - inside cab	3000	3000	3000	16:34	19:04	150	0/100	<0.01
EP3244.002_AM036_002	EPR 010	Western boundary of stockpile area - on picket	1500	1500	1500	7:08	14:46	458	0/100	<0.01
EP3244.002_AM036_003	EPR 018	Eastern boundary of stockpile area - on picket	1500	1500	1500	7:11	14:42	451	0/100	<0.01
EP3244.002_AM036_004	EPR 030	Trailer mounted decontamination unit (18423) - inside dirty zone	3000	3000	3000	11:58	14:39	161	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



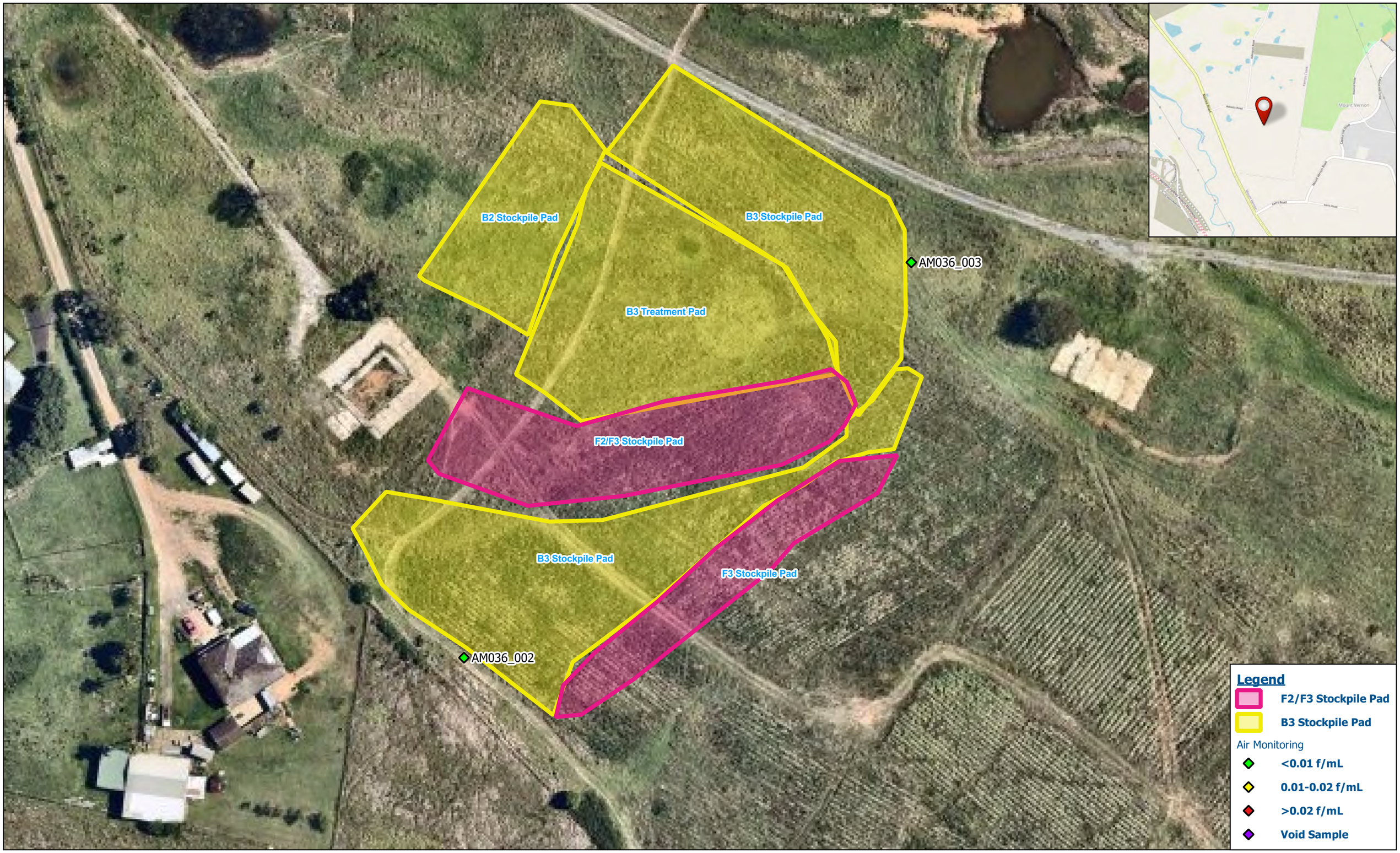
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM036
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitor Locations

Job No: EP3244
Date: 28/08/2023
Drawing Ref: EP3244.001 Fig. 1
Version No: v1

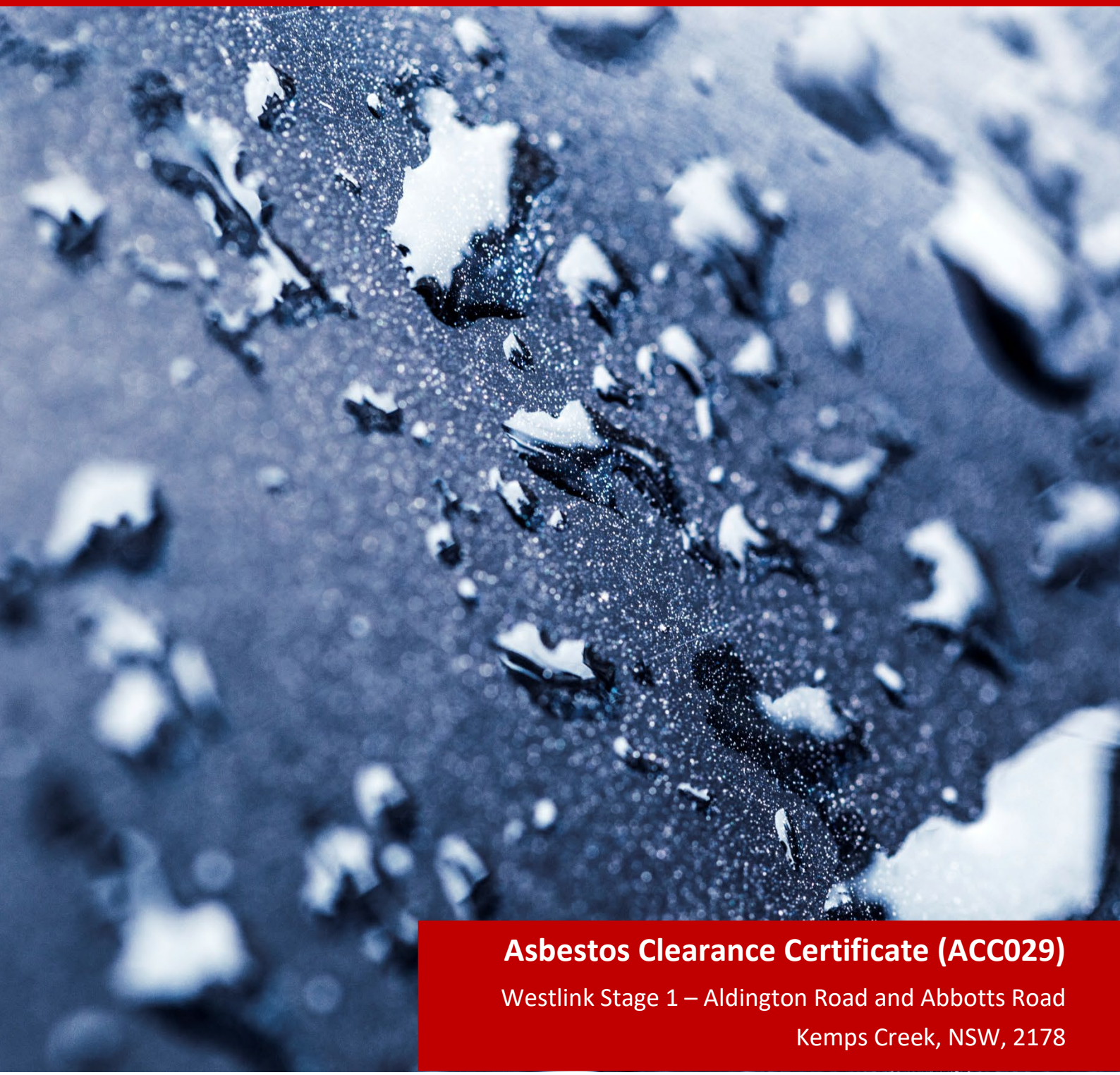
N

0 15 30 45 60 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: JT
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 QMS Certification Services
APPROVED COMPANY AS/NZS 4801 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services



Asbestos Clearance Certificate (ACC029)

Westlink Stage 1 – Aldington Road and Abbotts Road

Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC029_ESR_35 Tonne Volvo Excavator_v1 | 30 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Asbestos Clearance Certificate – ACC029

Westlink Stage 1 – 35 Tonne Volvo Excavator

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – Jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW, 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
License Number:	AD213189
Class A / Class B:	Class A (Friable) and Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (NSW LAA001462) Troy Chatman – Environmental Scientist (NSW LAA02022) Hayley Erskine – Graduate Environmental Scientist

2. DECONTAMINATION WORK DETAILS

Work Details	
Date of decontamination works:	21.08.2023 – Tracks and Bucket 25.08.2023 – Bucket and Interior Surfaces
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to the 5 T Volvo Excavator (Rego: 95380-D), subject to final decontamination works prior to demobilisation off-site. The tracks and bucket of this excavator were initially decontaminated and cleared by EP Risk on 21.08.2023. The buckets of the excavator were then used for additional asbestos remediation works, with the excavator positioned outside of the asbestos work zones. As such, the final decontamination undertaken on 25.08.2023 entailed a general clean of the tracks, with a full decontamination of the buckets and interior surfaces. It should be noted the tracks and buckets of the excavator were decontaminated several times over the course of the remediation project. These visual clearance inspections were undertaken and documented by EP Risk in the form of a photographic record.
Scope of work (as advised by client/contractor):	Asbestos remediation works were undertaken at the Site by TCE in accordance with the Alliance (2023) Remediation Action Plan (RAP)[1]. This involved the use of an excavator to excavate and treat asbestos in soils (ASBINS) at the Site. Following completion of remediation works and prior to demobilisation off-site, the interior and exterior surfaces of the excavator was washed down with water and cleaned with wet wipes as far as reasonably practicable by TCE. Subsequently, EP Risk was engaged to undertake a clearance inspection of the excavator and issue a clearance certificate verifying the excavator had been cleaned to a satisfactory standard and no visible asbestos containing material (ACM) was present on accessible surfaces.

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Dates of clearance inspection:	21.08.2023 – Tracks and Bucket 25.08.2023 & 28.08.2023 – Bucket and Interior Surfaces
Time of clearance inspection:	21.08.2023 – 11:00 AM 25.08.2023 – 4:00 PM 28.08.2023 – 10:00 AM
Interior and exterior surfaces of the excavator are free from all dust and debris:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken:	Yes ☒ No ☐ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Specific details of limitations and/or exclusions:	This clearance certificate covers the accessible surfaces of the equipment detailed above at the time of inspection only. It is not feasible in a clearance inspection to inspect all internal components of an excavator, such as within the engine bay or voids within the structure of the mobile plant. This clearance certificate applies only to the equipment described. above and does not apply to any other Site equipment, soil or building components. The inspection does not apply to the Site in general or any other equipment not referenced in this clearance. The visual clearance was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. This Asbestos Clearance Certificate was true at the time of the inspection only.
Comments	
This Asbestos Clearance Certificate relates only to the visible and accessible surfaces of the equipment as described previously and was true at the time of the inspection.	

5. CLEARANCE DECLARATION

Visible asbestos was not identified on the internal and external accessible surfaces of the excavator and the equipment is suitable for removal off-site.

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

6. ATTACHMENTS

1. Figure(s)	Yes ☐ No ☐ N/A ☒
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Certificate of Analysis	Yes ☐ No ☐ N/A ☒
4. Air Monitoring Report	Yes ☒ No ☐ N/A ☐

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	30.08.2023	L. Munnichs	30.08.2023	T. Chatman	30.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*30.08.2023*	*EP3244.003_ACC029_ESR_35 Tonne Volvo Excavator_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in an Asbestos Clearance Certificate to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted, and reports produced by EP Risk are based on a specific scope and have been prepared for the Client and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

Attachment 1 – Photolog



Plate 1 – 21/08/2023

Exterior side view of the 35 Tonne Volvo Excavator subsequent to Stage 1 decontamination works.



Plate 2 - 21/08/2023

Exterior view of the tracks of the 35 Tonne Volvo Excavator subsequent to Stage 1 decontamination works.



Plate 3 – 21/08/2023

Exterior view of the tracks of the 35 Tonne Volvo Excavator subsequent to Stage 1 decontamination works.



Plate 4 – 21/08/2023

Exterior view of the tracks of the 35 Tonne Volvo Excavator subsequent to Stage 1 decontamination works.



Plate 5 – 28/08/2023

Buckets of the 35 Tonne Volvo Excavator subsequent to Stage 2 decontamination works.

Attachment 2 – Air Monitoring Report

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM035	**Date Reported:**	25 August 2023
Shift Number:	035	**Date Analysed:**	25 August 2023
Project Reference:	EP3244	**Date Sampled:**	25 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Hayley Erskine
Email:	jacob.dickson@esr.com	**Analysed By:**	Hayley Erskine
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	4

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 4 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

Melbourne
Unit 22/1 Ricketts Road
Mount Waverley, Vic, 3149
T 03 8540 7300

Sydney
Suite 13.01, 80 Mount Street
North Sydney, NSW, 2060
T 02 9922 5021

Newcastle
3/19 Bolton Street
Newcastle, NSW, 2300
T 02 4048 2845

W www.eprisk.com.au **ABN** 81 147 147 591

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25 August 2023

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1] [2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM035_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM035_001	EPR 010	Eastern boundary of stockpile area - on picket	1500	1500	1500	7:20	14:55	455	0/100	<0.01
EP3244.002_AM035_002	EPR 018	Western boundary of stockpile area - on picket	1500	1500	1500	7:26	15:01	455	0/100	<0.01
EP3244.002_AM035_003	EPR 021	48 T Kobelco Excavator - Inside Cab	3000	3000	3000	7:34	10:10	156	0/100	<0.01
EP3244.002_AM035_004	EPR 023	Volvo Excavator (95380D) - Inside Cab	3000	3000	3000	13:30	16:10	160	1/100	<0.01

CONCLUSION

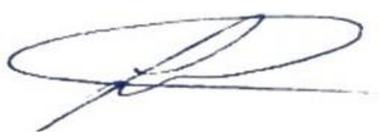
The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



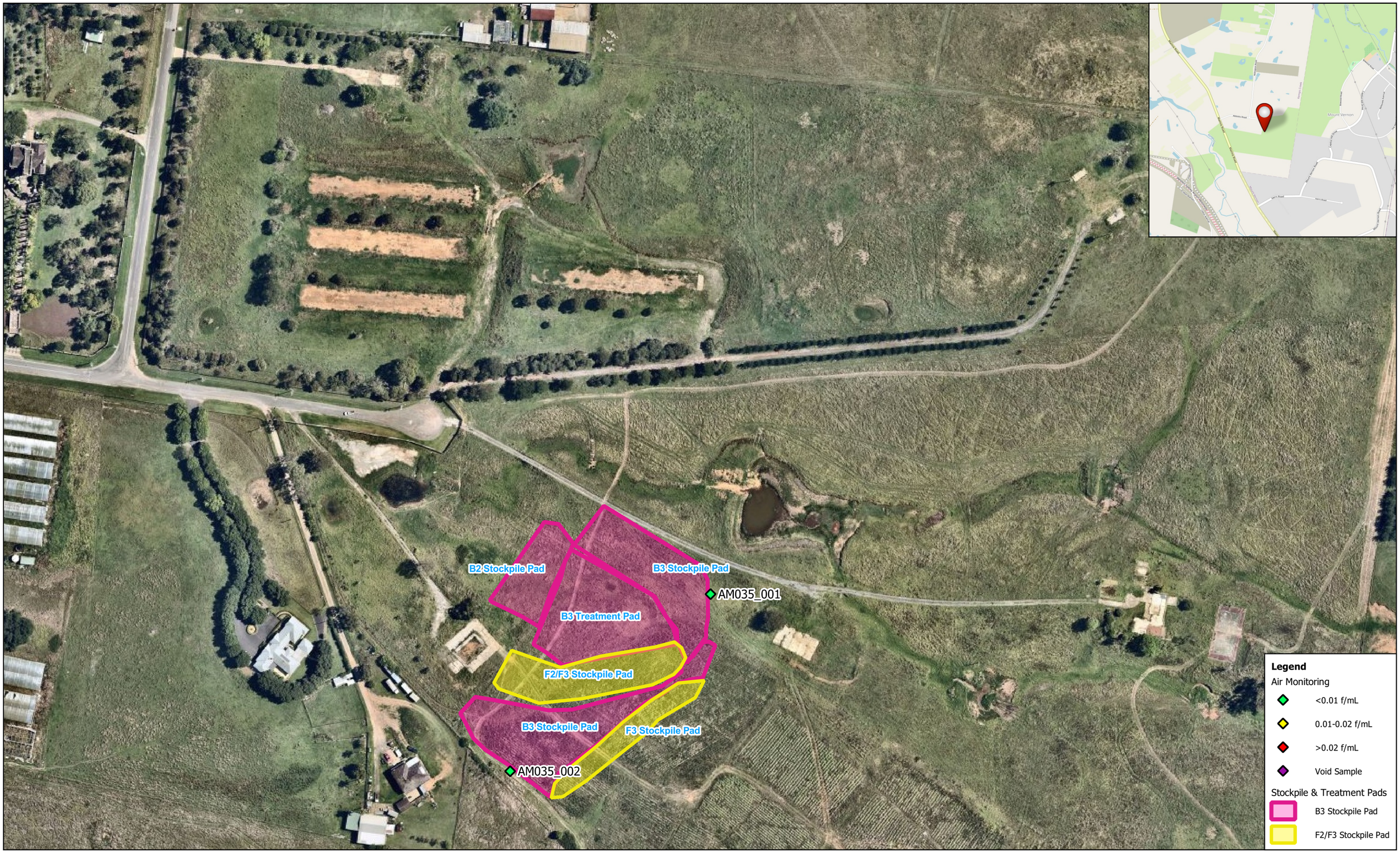
Troy Chatman
Approved Signatory
Environmental Scientist
SafeWork NSW Licenced Asbestos Assessor LAA002022

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM035
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 25/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HE Checked by: TC
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services



Asbestos Clearance Certificate (ACC030)

Westlink Stage 1 – Aldington Road and Abbotts Road Kemps Creek, NSW, 2178

Prepared for: ESR Australia

EP3244.003_ACC030_ESR_Decontamination Unit_v1 | 31 August 2023

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Asbestos Clearance Certificate – ACC030

Westlink Stage 1 – Decontamination Unit

Compliant with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011

1. PROJECT DETAILS

Client Details	
Name of Client:	ESR Australia (ESR)
Client Contact Details:	Jacob Dickson – Jacob.dickson@esr.com
Client Address:	Level 24, 88 Phillip Street, Sydney, NSW, 2000
Project and Site Address	
Project:	Westlink Stage 1 (the Site)
Address:	209-308 Aldington Road, Kemps Creek, NSW, 2178 59-63 Abbotts Road, Kemps Creek, NSW, 2178
Asbestos Removal Contractor (ARC) Details	
Name of Contractor:	TCE Contracting
Contractor Contact Details:	Muhammad Fahmi Reza – mreza@tcecontracting.com.au George Chedraoui – gchedraoui@tcecontracting.com.au Chris Chen – cchen@tcecontracting.com.au Yousef Elomar – yelomar@tcecontracting.com.au
License Number:	AD213189
Class A / Class B:	Class A (Friable) and Class B (Bonded – Non-Friable)
EP Risk Details	
Name:	Jenny Shao – Occupational Hygienist (LAA001462)

2. DECONTAMINATION WORK DETAILS

Work Details	
Date of decontamination works:	28.08.2023
Specific work area(s) / location(s):	This Asbestos Clearance Certificate (ACC) pertains to the trailer-mounted decontamination unit (VIN: SA9DDDTG2ME158178, serial no.: 18423), located at the southern end of AEC14, as presented in **Figure 1.**
Scope of work (as advised by client/contractor):	As per the Alliance (2023) Remediation Action Plan (RAP)[1], one of the contaminants of potential concern (CoPCs) identified within AEC14 was friable asbestos as asbestos fines (AF) and fibrous asbestos (FA) in soil. During remediation works, an asbestos exclusion zone was established with a portable trailer-mounted asbestos wet decontamination unit (VIN: SA9DDDTG2ME158178, serial no.: 18423) was set up on the boundary of the exclusion zone used for entry and egress into the exclusion zone by TCE. Following the remediation works, the interior and exterior surfaces of the decontamination unit were washed down with water and cleaned with isopropyl alcohol as far as reasonably practicable by TCE. Subsequently, EP Risk was engaged to undertake a clearance inspection of the decontamination unit and issue a clearance inspection verifying the equipment had been cleaned to a satisfactory standard and no visible asbestos containing material (ACM) was present on accessible surfaces.

3. CLEARANCE INSPECTION DETAILS

Non-Friable and Friable Works	
Date of clearance inspection:	28.08.2023
Time of clearance inspection:	12:00 PM
Interior and exterior surfaces inside the decontamination unit were free from visible dust and debris:	Yes ☒ No ☐ N/A ☐
Clearance Air monitoring undertaken:	Yes ☒ No ☐ N/A ☐
Results of air monitoring satisfactory (< 0.01 f/mL of air):	Yes ☒ No ☐ N/A ☐

[1] Alliance Geotechnical & Environmental Solutions Pty Ltd (Alliance), *Remedial Action Plan (RAP), 290-308 Aldington Road and 59-63 Abbotts Road, Kemps Creek NSW*, ref: 13546-ER-2-2_Rev1, dated 02 May 2023 (Alliance 2023).

4. LIMITATIONS

Limitations and Exclusions	
Are there limitations to the clearance?	Yes ☒ No ☐
Specific details of limitations and/or exclusions:	This clearance certificate covers the accessible surfaces of the equipment detailed above at the time of inspection only. The inspection does not apply to the Site in general or any other equipment not referenced in this clearance. The visual clearance was conducted in accordance with Part 3.10 of SafeWork NSW Code of Practice: *How to Safely Remove Asbestos* (2022) as approved under s.274 of the NSW *Work Health and Safety Act* 2011. This Asbestos Clearance Certificate was true at the time of the inspection only.
Comments	
This Asbestos Clearance Certificate relates only to the visible and accessible surfaces of the equipment as described previously and was true at the time of the inspection.	

5. CLEARANCE DECLARATION

Visible asbestos was not identified on the internal and external accessible surfaces of the decontamination unit and the equipment is suitable for removal off-site.

Prepared by:	Jenny Shao	Signature:	
LAA Number:	LAA001462		

6. ATTACHMENTS

1. Figure(s)	Yes ☒ No ☐ N/A ☐
2. Photolog	Yes ☒ No ☐ N/A ☐
3. Certificate of Analysis	Yes ☐ No ☐ N/A ☒
4. Air Monitoring Report (Friable)	Yes ☒ No ☐ N/A ☒

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	J. Shao	31.08.2023	L. Munnichs	31.08.2023	J. Thompson	31.08.2023

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*31.08.2023*	*EP3244.003_ACC030_ESR_Decontamination Unit_v1*	*ESR Australia Pty Ltd*

LIMITATIONS

This Asbestos Clearance Certificate was conducted on the behalf of ESR Australia Pty Ltd for the purpose/s stated in **Section 2**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were not reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

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Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

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Attachment 1 – Figure



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Asbestos Clearance Certificate (ACC030)
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Location of Decontamination Unit

Job No: EP3244
Date: 28/08/2023
Drawing Ref: EP3244.003_Fig. 1
Version No: v1

N

0 10 20 30 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HE Checked by: JS
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems

QMS Certification Services QMS Certification Services QMS Certification Services

Attachment 2 – Photolog



Plate 1 – 28/08/2023

Interior surfaces of the 1st chamber (clean change room) from clean end subsequent to decontamination works.



Plate 2 – 28/08/2023

Interior surfaces of the 1st chamber (change room) from clean end subsequent to decontamination works.



Plate 3 – 28/08/2023

Interior surfaces of the 2nd chamber (shower) from clean end subsequent to decontamination works.



Plate 4 – 28/08/2023

Interior surfaces of the 2nd chamber (shower) from clean end subsequent to decontamination works.



Plate 5 – 28/08/2023
Interior surfaces of the 3rd chamber (interlock) from clean end subsequent to decontamination works.



Plate 6 – 28/08/2023
Interior surfaces of the 4th chamber (shower) from clean end subsequent to decontamination works.



Plate 7 – 28/08/2023

Interior surfaces of the 4th chamber (shower) from clean end subsequent to decontamination works.



Plate 8 – 28/08/2023

Interior surfaces of the 5th chamber (dirty change room) from clean end subsequent to decontamination works.

Attachment 3 – Air Monitoring Report

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM036	**Date Reported:**	28 August 2023
Shift Number:	036	**Date Analysed:**	28 August 2023
Project Reference:	EP3244	**Date Sampled:**	25 August 2023 & 28 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Jenny Shao
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	4

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 4 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM036_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM036_001	EPR 030	30T Volvo Excavator (3792, EC350D2) - inside cab	3000	3000	3000	16:34	19:04	150	0/100	<0.01
EP3244.002_AM036_002	EPR 010	Western boundary of stockpile area - on picket	1500	1500	1500	7:08	14:46	458	0/100	<0.01
EP3244.002_AM036_003	EPR 018	Eastern boundary of stockpile area - on picket	1500	1500	1500	7:11	14:42	451	0/100	<0.01
EP3244.002_AM036_004	EPR 030	Trailer mounted decontamination unit (18423) - inside dirty zone	3000	3000	3000	11:58	14:39	161	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



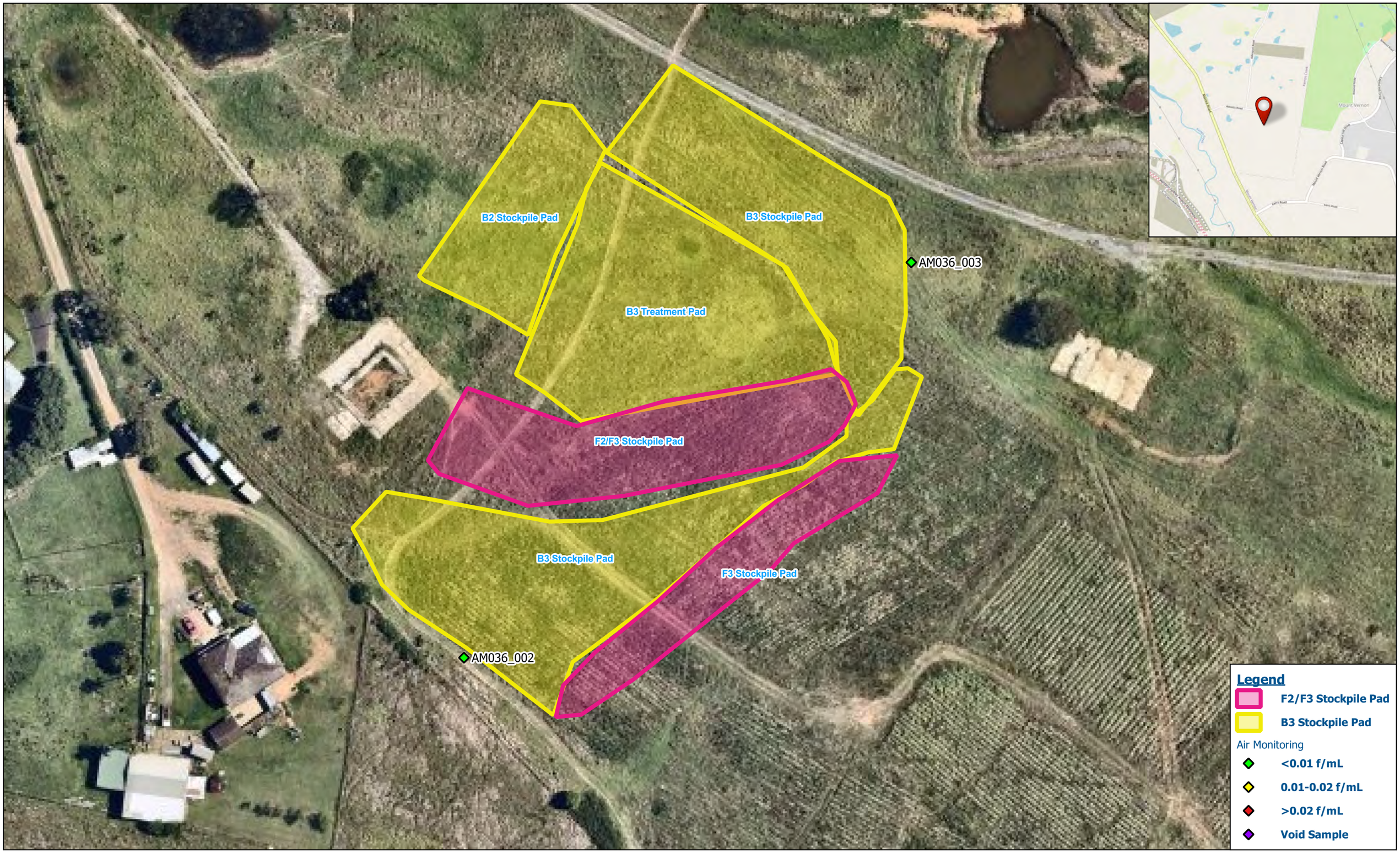
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM036
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitor Locations

Job No: EP3244
Date: 28/08/2023
Drawing Ref: EP3244.001 Fig. 1
Version No: v1

N

0 15 30 45 60 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: JT
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 QMS Certification Services
APPROVED COMPANY AS/NZS 4801 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services

Appendix H

AIRBORNE ASBESTOS AIR MONITORING REPORTS

FOUNDATION EARTH SCIENCES

2nd November 2023 Rev 1

Ground King Civil Pty Ltd
1/15-17 Hallstrom Pl,
Wetherill Park NSW 2164

Dear Sir/ Madam

Air Monitoring Report

The following air monitoring certificate is provided in accordance with *Guidance Note on the Membrane Filter Method for the Estimation of Airborne Asbestos Fibres* (NOHSC:3003, April 2005).

1.0 Site Identification and Location

Site Identifier	Site Details
Site Location	290-308 Aldington Rd & 59-62 Abbotts Rd, Kemps Creek NSW 2178 (see plan)
Local Government Area (LGA)	Penrith
Current Site Use/Status	Vacant/ Construction Zone
Surrounding Land Uses	Residential/ Rural Residential
Previous Land Use	Residential/ Rural Residential

The following table outlines the removal and inspection works undertaken on site:

2.0 Site Review

Removal Work	
Date Removal Work Undertaken	23-27/11/2023
Asbestos Removal Contractor and License Number	Penny Green Pty Ltd Licence # AD212030
Contact Details	Penny Green Pty Ltd NSW 2166 Phone – 0449 069 330 Fax – N/A
Details of specific asbestos removal work areas.	Asbestos was removed from the following areas: - Soil surface of the dedicated asbestos removal zone to a depth of 0.01m bgl. No other areas were undertaken for asbestos removal however, asbestos may be present in these areas.
Samples Collected by	Ben Buckley #LAA001012

Results				
Sample Location ID	**Date**	**Flow Rate (L/min)**	**Sampling Period Start/Finish***	**Results (Fibres/mL)**
Blank	23/10/24	1.50	700-1.10	<0.01
AM1		1.50	700-1.10	<0.01
AM2		1.50	700-1.10	<0.01
AM3		1.50	700-1.10	<0.01
AM4		1.50	700-1.10	<0.01
Blank	24/10/24	1.50	700-1.10	<0.01
AM1		1.50	700-1.10	<0.01
AM2		1.50	700-1.10	<0.01
AM3		1.50	700-1.10	<0.01
AM4		1.50	700-1.10	<0.01
Blank	25/10/24	1.50	700-1.10	<0.01
AM1		1.50	700-1.10	<0.01
AM2		1.50	700-1.10	<0.01
AM3		1.50	700-1.10	<0.01
AM4		1.50	700-1.10	<0.01
Blank	26/10/24	1.50	700-1.10	<0.01
AM1		1.50	700-1.10	<0.01
AM2		1.50	700-1.10	<0.01
AM3		1.50	700-1.10	<0.01

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AM4		1.50	700-1.10	<0.01
Blank	27/10/24	1.50	700-1.10	<0.01
AM1		1.50	700-1.10	<0.01
AM2		1.50	700-1.10	<0.01
AM3		1.50	700-1.10	<0.01
AM4		1.50	700-1.10	<0.01

- Note - *AirCheck Touch Pump is automatically set on timer to specific pump time (hence readings same time period everyday). Assessor manually confirms working order everyday after changing cannister and that pumps are running in morning.

Based on the above assessment, it can be seen that asbestos controls were effective at minimising the risk for airborne asbestos contamination.

It is recommended that any works be undertaken carefully, and should the discovery of any contamination be identified, works should cease immediately for further assessment. An *unexpected finds protocol has been developed* as prudent planning in case of such an event.

We would be pleased to provide further information on any aspects of this report.

For and behalf of
Foundation Earth Sciences

Ben Buckley

Ben Buckley
Director

Environmental Forensic Scientist

Asbestos Assessor Licence #-LAA001012

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3.0 Limitations of Assessment

Whilst to the best of our knowledge, information contained in this report is accurate at the date of issue, although subsurface conditions, including groundwater levels and contaminant concentrations, can change in a limited time. This should be borne in mind if the report is used after a protracted delay.

There is always some disparity in subsurface conditions across a site that cannot be fully defined by investigation. Hence it is unlikely that measurements and values obtained from sampling and testing during environmental works carried out at a site will characterise the extremes of conditions that exist within the site.

There is no investigation that is thorough enough to preclude the presence of material that presently or in the future, may be considered hazardous at the site. Since regulatory criteria are constantly changing, concentrations of contaminants presently considered low may, in the future, fall under different regulatory standards that require remediation.

Opinions are judgements, which are based on our understanding and interpretation of current regulatory standards, and should not be construed as legal opinions. This clearance does not include the interior/underlying soils of any stockpiles within the site.

Where relevant soils that are to be excavated below the identified investigation levels (0.01m) have not being visually assessed and while it is not likely contamination will be discovered based on the site history, excavations should proceed with care below this depth and further assessment should be undertaken immediately if indicators of contamination are identified. Where asbestos removal work requires a Class A licence, a licensed asbestos assessor must carry out the clearance inspection and complete an asbestos removal clearance certificate if satisfied that the area is safe to reoccupy.

© Foundation Earth Sciences

Site Location

© Foundation Earth Sciences

Air Monitor Location



Key			
Site Boundary & Location		DRAWN DG	**Site Plan**
Testing Locations		**Figure** 1	Asbestos Clearance Certificate
Asbestos Removal Zone		**Job #** **E3116-2**	290-380 Aldington Rd & 59-63 Abbotts Rd, Kemps Creek NSW 2178
Waste and Transit Routes			
Machinery Cleaning Zone			

FOUNDATION EARTH SCIENCES

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customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 335975

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley
Address	PO Box 4405, East Gosford, NSW, 2250

Sample Details

Your Reference	**E3116-2, Kemps Creek**
Number of Samples	5 Filter
Date samples received	23/10/2023
Date completed instructions received	23/10/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	24/10/2023
Date of Issue	24/10/2023

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Asbestos Count Approved Signatory: Lucy Zhu
Analysed by Approved Counter: Lucy Zhu
Results Approved By
Lucy Zhu, Asbestos Supervisor

Authorised By
Nancy Zhang, Laboratory Manager

Fibre Counting						
Our Reference		335975-1	335975-2	335975-3	335975-4	335975-5
Your Reference	UNITS	AM1	AM2	AM3	AM4	Analytical Blank
Date Sampled		23/10/2023	23/10/2023	23/10/2023	23/10/2023	-
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	24/10/2023	24/10/2023	24/10/2023	24/10/2023	24/10/2023
Fibres	-	0.0	0.0	0.0	1.0	0.0
Fields	-	100	100	100	100	100

Method ID	Methodology Summary
ASB-002	Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002. The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 50176. The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981. These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters. If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005). Note - air volume measurements are not covered by Envirolab's NATA accreditation.

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Sample 335975-5; Field blank not received from client. Analytical blank analysed.

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CERTIFICATE OF ANALYSIS 336069

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley
Address	PO Box 4405, East Gosford, NSW, 2250

Sample Details

Your Reference	**E3116-2, Kemps Creek**
Number of Samples	5 Filter
Date samples received	24/10/2023
Date completed instructions received	24/10/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	25/10/2023
Date of Issue	25/10/2023

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Asbestos Approved By
Analysed by Asbestos Count Approved Signatory: Lucy Zhu
Analysed by Approved Counter: Lucy Zhu
Results Approved By
Lucy Zhu, Asbestos Supervisor

Authorised By
Nancy Zhang, Laboratory Manager

Fibre Counting						
Our Reference		336069-1	336069-2	336069-3	336069-4	336069-5
Your Reference	UNITS	AM1	AM2	AM3	AM4	Analytical Blank
Type of sample		Filter	Filter	Filter	Filter	Filter
Date Sampled		24/10/2023	24/10/2023	24/10/2023	24/10/2023	25/10/2023
Date analysed	-	25/10/2023	25/10/2023	25/10/2023	25/10/2023	25/10/2023
Fibres	-	0.0	1.0	1.0	0.0	0.0
Fields	-	100	100	100	100	100

Method ID	Methodology Summary
ASB-002	Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002. The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 50176. The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981. These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters. If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005). Note - air volume measurements are not covered by Envirolab's NATA accreditation.

Result Definitions

NT	Not tested
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INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
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>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
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Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

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Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

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

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For VOCs in water samples, three vials are required for duplicate or spike analysis.

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Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Sample 336069-5; Field blank not received from client. Analytical blank analysed.

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CERTIFICATE OF ANALYSIS 336177

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley
Address	PO Box 4405, East Gosford, NSW, 2250

Sample Details

Your Reference	**E3116-2, Kemps Creek**
Number of Samples	5 Filter
Date samples received	25/10/2023
Date completed instructions received	25/10/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

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Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	26/10/2023
Date of Issue	26/10/2023

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Asbestos Approved By
Analysed by Asbestos Count Approved Signatory: Lucy Zhu
Analysed by Approved Counter: Lucy Zhu
Results Approved By
Lucy Zhu, Asbestos Supervisor

Authorised By
Nancy Zhang, Laboratory Manager

Fibre Counting						
Our Reference		336177-1	336177-2	336177-3	336177-4	336177-5
Your Reference	UNITS	AM1	AM2	AM3	AM4	Analytical Blank
Type of sample		Filter	Filter	Filter	Filter	Filter
Date Sampled		25/10/2023	25/10/2023	25/10/2023	25/10/2023	25/10/2023
Date analysed	-	26/10/2023	26/10/2023	26/10/2023	26/10/2023	26/10/2023
Fibres	-	1.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100

Method ID	Methodology Summary
ASB-002	Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002. The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 50176. The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981. These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters. If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005). Note - air volume measurements are not covered by Envirolab's NATA accreditation.

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Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

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Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Sample 336177-5; Field blank not received from client. Analytical blank analysed.

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CERTIFICATE OF ANALYSIS 336261

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley
Address	PO Box 4405, East Gosford, NSW, 2250

Sample Details

Your Reference	**E3116-2 Kemps Creek**
Number of Samples	5 Cowl
Date samples received	26/10/2023
Date completed instructions received	26/10/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Report Details

Date results requested by	27/10/2023
Date of Issue	27/10/2023

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Asbestos Approved By
Analysed by Approved Counter: Lucy Zhu
Analysed by Asbestos Count Approved Signatory: Nyovan Moonean
Results Approved By
Nyovan Moonean, Asbestos Approved Identifier/Counter

Authorised By
Nancy Zhang, Laboratory Manager

Fibre Counting					
Our Reference	336261-1	336261-2	336261-3	336261-4	336261-5
Your Reference	AM1	AM2	AM3	AM4	AM5_Blank
Date Sampled	26/10/2023	26/10/2023	26/10/2023	26/10/2023	26/10/2023
Type of sample	Cowl	Cowl	Cowl	Cowl	Cowl
Date analysed	27/10/2023	27/10/2023	27/10/2023	27/10/2023	27/10/2023
Fibres	0.0	0.0	0.0	2.0	0.0
Fields	100	100	100	100	100

Method ID	Methodology Summary
ASB-002	Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002. The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 50176. The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981. These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters. If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005). Note - air volume measurements are not covered by Envirolab's NATA accreditation.

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CERTIFICATE OF ANALYSIS 336416

Client Details

Client	Foundation Earth Sciences Pty Ltd
Attention	Ben Buckley
Address	PO Box 4405, East Gosford, NSW, 2250

Sample Details

Your Reference	**E3116-2 Kemps Creek**
Number of Samples	5 Cowl
Date samples received	27/10/2023
Date completed instructions received	27/10/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	30/10/2023
Date of Issue	30/10/2023

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Approved Counter: Lucy Zhu
Analysed by Asbestos Count Approved Signatory: Lucy Zhu
Results Approved By
Lucy Zhu, Asbestos Supervisor

Authorised By
Nancy Zhang, Laboratory Manager

Fibre Counting					
Our Reference	336416-1	336416-2	336416-3	336416-4	336416-5
Your Reference	AM1	AM2	AM3	AM4	Analytical Blank
Date Sampled	27/10/2023	27/10/2023	27/10/2023	27/10/2023	27/10/2023
Type of sample	Cowl	Cowl	Cowl	Cowl	Cowl
Date analysed	30/10/2023	30/10/2023	30/10/2023	30/10/2023	30/10/2023
Fibres	1.0	0.0	1.5	0.0	0.0
Fields	100	100	100	100	100

Method ID	Methodology Summary
ASB-002	Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002. The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 50176. The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981. These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters. If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005). Note - air volume measurements are not covered by Envirolab's NATA accreditation.

Report Comments

Sample 336416-5; Field blank not received from client. Analytical blank analysed.

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM001	**Date Reported:**	10 July 2023
Shift Number:	001	**Date Analysed:**	10 July 2023
Project Reference:	EP3244	**Date Sampled:**	10 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Jenny Shao
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	4

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 4 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM001_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM001_001	EPR 145	West of AEC18 - on stake	2000	2000	2000	10:23	15:20	297	0/100	<0.01
EP3244.002_AM001_002	EPR 146	Southeast of AEC18 - on boundary flagging	2000	2000	2000	10:24	15:21	297	1.5/100	<0.01
EP3244.002_AM001_003	EPR 147	Northeast of AEC18 - on stake	2000	2000	2000	10:25	15:22	297	0/100	<0.01
EP3244.002_AM001_004	EPR 148	East of AEC18 - on boundary fencing	2000	2000	2000	10:28	15:23	295	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM001
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Sampling Locations

Job No: EP3244
Date: 10/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 5 10 15 20 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: AT
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM002	**Date Reported:**	11 July 2023
Shift Number:	002	**Date Analysed:**	11 July 2023
Project Reference:	EP3244	**Date Sampled:**	11 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Jenny Shao
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM002_FB	-	-	-	-	-	-	-	-	1/100	-
EP3244.002_AM002_001	EPR 006	Southern boundary of AEC38 - on stake	2000	2000	2000	10:15	16:41	386	2/100	<0.01
EP3244.002_AM002_002	EPR 010	Western boundary of AEC38 - on stake	2000	2000	2000	10:20	16:42	382	0/100	<0.01
EP3244.002_AM002_003	EPR 018	North western corner of AEC38 - on stake	2000	2000	2000	11:31	16:40	309	0/100	<0.01
EP3244.002_AM002_004	EPR 145	Eastern boundary of AEC38/AEC01a - on stake	2000	2000	2000	12:15	16:44	269	0/100	<0.01
EP3244.002_AM002_005	EPR 149	Northern entry point of AEC19a - on stake	2000	2000	2000	11:00	16:31	331	1/100	<0.01
EP3244.002_AM002_006	EPR 148	Western boundary of AEC19a - on stake	2000.0	2000.0	2000.0	11:15	16:35	320	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM002
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 11/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: AT
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM003	**Date Reported:**	12 July 2023
Shift Number:	003	**Date Analysed:**	12 July 2023
Project Reference:	EP3244	**Date Sampled:**	12 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [2][3] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM003_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM003_001	EPR 010	Northern boundary of AEC38 - on stake	1500	1500	1500	7:49	16:00	491	0/100	<0.01
EP3244.002_AM003_002	EPR 145	Western boundary of AEC38 - on stake	1500	1500	1500	7:54	16:03	489	0/100	<0.01
EP3244.002_AM003_003	EPR 147	Southern boundary of AEC38 - on stake	1500	1500	1500	7:57	16:06	489	0/100	<0.01
EP3244.002_AM003_004	EPR 146	Eastern boundary of AEC38/AEC01a - on stake	1500	1500	1500	8:01	16:09	488	0/100	<0.01
EP3244.002_AM003_005	EPR 006	North boundary of Treatment Pad - on stake	1500	1500	1500	12:20	16:12	232	0/100	<0.01
EP3244.002_AM003_006	EPR 018	South boundary of Treatment Pad - on stake	1500.0	1500.0	1500.0	12:25	16:15	230	0/100	<0.01
EP3244.002_AM003_007	EPR 148	Southwest boundary of AEC19a - on stake	1500.0	1500.0	1500.0	12:30	16:18	228	0/100	<0.01
EP3244.002_AM003_008	EPR 149	Eastern boundary of AEC19a - on stake	1500.0	1500.0	1500.0	12:33	16:21	228	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:

Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM003
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 12/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: AT
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM004	**Date Reported:**	13 July 2023
Shift Number:	004	**Date Analysed:**	13 July 2023
Project Reference:	EP3244	**Date Sampled:**	13 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Zak Bursey
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM004_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM004_001	EPR 006	Southwest of AEC19a - on stake	1500	1500	1500	7:08	15:50	522	0/100	<0.01
EP3244.002_AM004_002	EPR 018	East of AEC19a - on stake	1500	1500	1500	7:16	15:53	517	0/100	<0.01
EP3244.002_AM004_003	EPR 028	Adjacent to Decon unit - on stake	1500	1500	1500	7:57	15:56	479	0/100	<0.01
EP3244.002_AM004_004	EPR 030	North of AEC19a - on stake	1500	1500	1500	11:30	15:59	269	0/100	<0.01
EP3244.002_AM004_005	EPR 145	North of bonded ACM treatment pad - on stake	1500	1500	1500	7:32	16:02	510	1/100	<0.01
EP3244.002_AM004_006	EPR 146	South of bonded ACM treatment pad - on stake	1500	1500	1500	7:34	16:05	511	0/100	<0.01
EP3244.002_AM004_007	EPR 148	Northern boundary of AEC38 - on stake	1500	1500	1500	7:40	16:08	508	0/100	<0.01
EP3244.002_AM004_008	EPR 149	Eastern boundary of AEC38/AEC01a - on stake	1500	1500	1500	7:43	16:11	508	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:

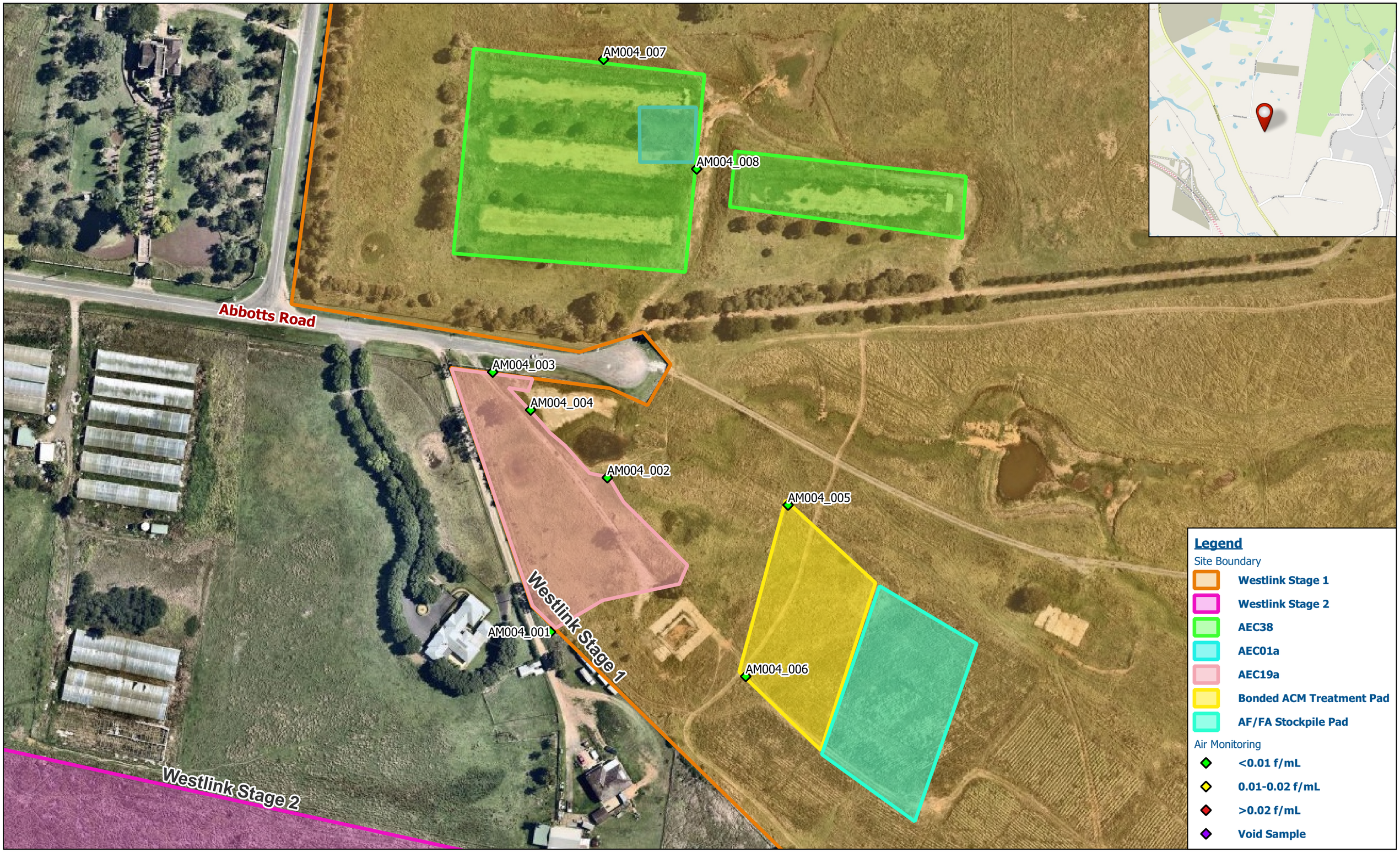
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
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Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM004
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 13/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems

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Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM005	**Date Reported:**	16 July 2023
Shift Number:	005	**Date Analysed:**	14 July 2023
Project Reference:	EP3244	**Date Sampled:**	14 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Zak Bursey
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [2],[3] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM005_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM005_001	EPR 006	Southwestern boundary of AEC19a - on stake	1500	1500	1500	7:29	16:00	511	0/100	<0.01
EP3244.002_AM005_002	EPR 018	Eastern boundary of AEC19a - on stake	1500	1500	1500	7:30	15:59	509	0/100	<0.01
EP3244.002_AM005_003	EPR 028	Northern boundary of AEC19a - on stake	1500	1500	1500	7:32	15:55	503	0/100	<0.01
EP3244.002_AM005_004	EPR 030	Adjacent to Decon unit to AEC19a - on stake	1500	1500	1500	7:34	15:54	500	0/100	<0.01
EP3244.002_AM005_005	EPR 145	Northern boundary of B3 Treatment Area & F2/F3 Stockpile Area	1500	1500	1500	7:36	15:52	496	0/100	<0.01
EP3244.002_AM005_006	EPR 146	Southern boundary of B3 Treatment Area & F2/F3 Stockpile Area	1500	1500	1500	7:38	15:49	491	0/100	<0.01
EP3244.002_AM005_007	EPR 148	North of AEC38/AEC01a, adjacent to property within AEC33 - on tree	1500	1500	1500	7:44	15:47	483	1/100	<0.01
EP3244.002_AM005_008	EPR 149	Eastern boundary of AEC38/AEC01a - on stake	1500	1500	1500	7:46	15:45	479	1/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



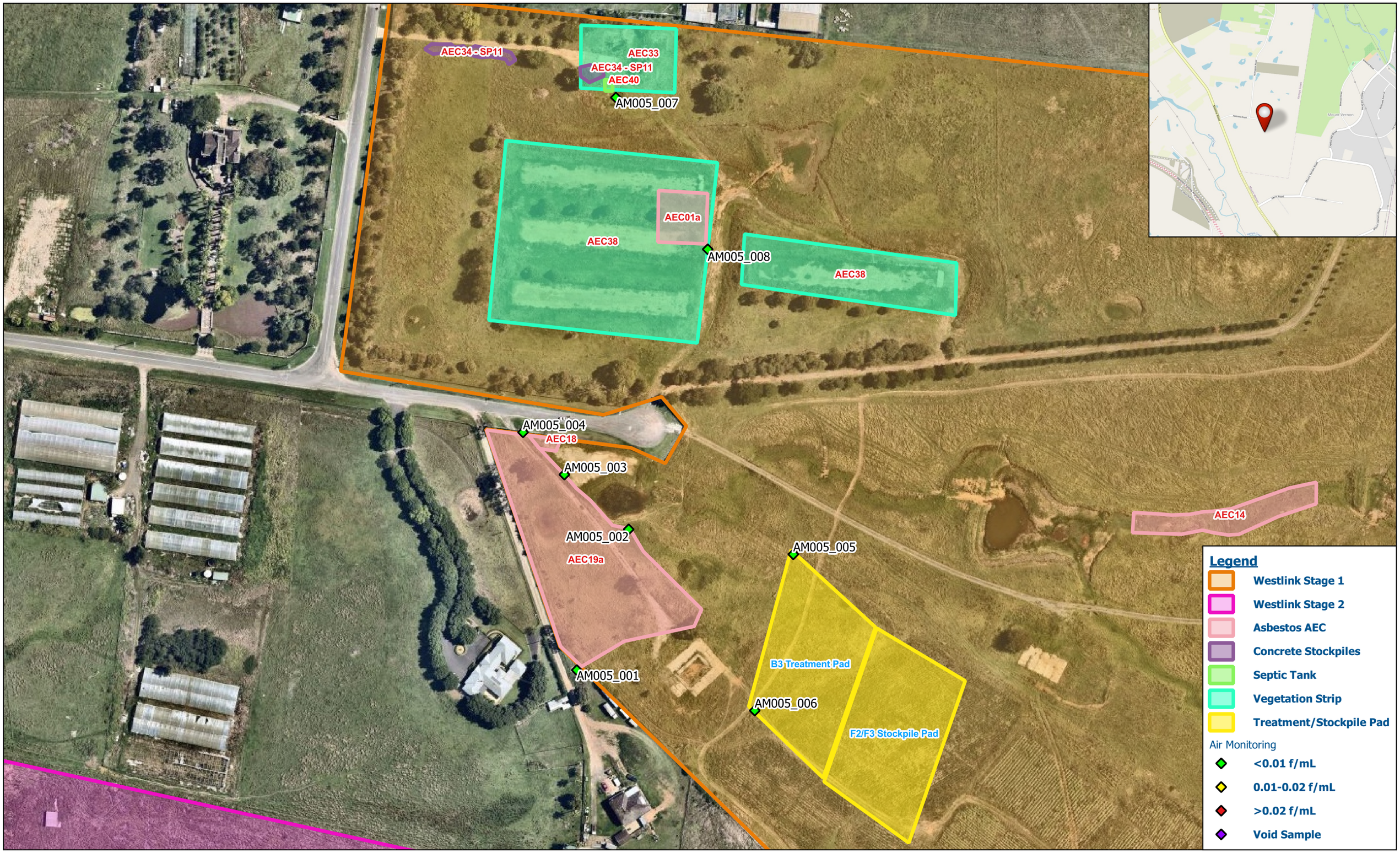
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM005
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 16/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM006	**Date Reported:**	17 July 2023
Shift Number:	006	**Date Analysed:**	17 July 2023
Project Reference:	EP3244	**Date Sampled:**	17 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Zak Bursey
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM006_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM006_001	EPR 006	Southwest boundary of AEC19a - on stake	1500	1500	1500	7:14	16:02	528	0/100	<0.01
EP3244.002_AM006_002	EPR 018	Eastern boundary of AEC19a - on stake	1500	1500	1500	7:15	16:00	525	1/100	<0.01
EP3244.002_AM006_003	EPR 028	Northern boundary of AEC19a - on stake	1500	1500	1500	7:17	15:57	520	0/100	<0.01
EP3244.002_AM006_004	EPR 030	Adjacent to Decon unit to AEC19a - on stake	1500	1500	1500	7:18	15:55	517	0/100	<0.01
EP3244.002_AM006_005	EPR 145	Northern boundary of B3 Treatment Pad/F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:20	15:53	513	2/100	<0.01
EP3244.002_AM006_006	EPR 146	Southern boundary of B3 Treatment Pad/F2/F3 Stockpile Pad	1500	1500	1500	7:21	15:50	509	0/100	<0.01
EP3244.002_AM006_007	EPR 148	Western boundary of B3 Treatment Pad	1500	1500	1500	7:23	15:48	505	0/100	<0.01
EP3244.002_AM006_008	EPR 149	Eastern boundary of AEC38/AEC01a - on stake	1500	1500	1500	7:31	VOID*	VOID*	VOID*	VOID*

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL with the exception of Sample ID AM006_008, which was void due to deviation of the end flow rate from the start flow rate by 10%.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



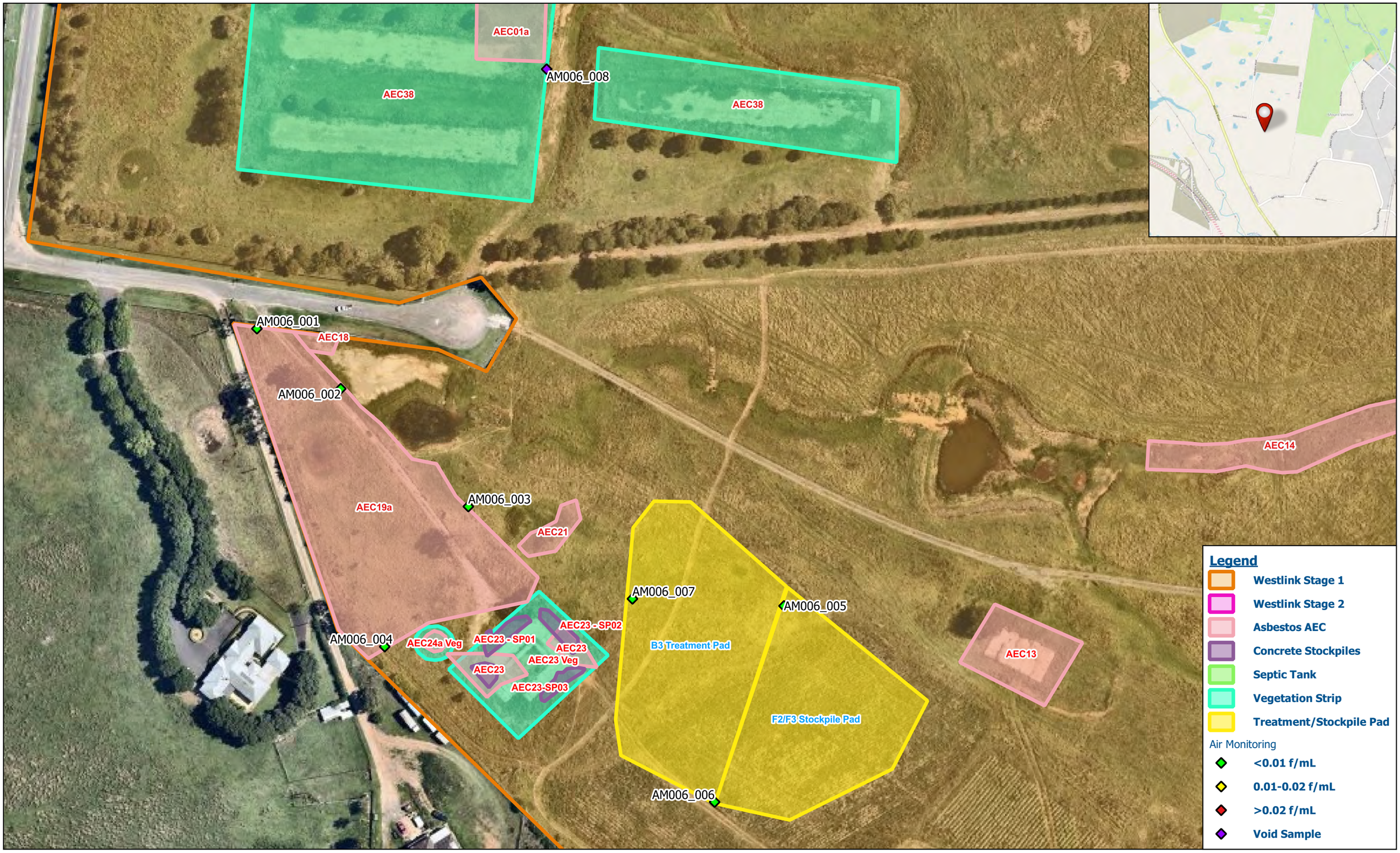
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM006
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 17/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM007	**Date Reported:**	18 July 2023
Shift Number:	007	**Date Analysed:**	18 July 2023
Project Reference:	EP3244	**Date Sampled:**	18 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Zak Bursey
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM007_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM007_001	EPR 006	Southwest boundary of AEC19a - on stake	1500	1500	1500	7:08	15:01	473	0/100	<0.01
EP3244.002_AM007_002	EPR 018	Eastern boundary of AEC19a - on stake	1500	1500	1500	7:09	15:03	474	0/100	<0.01
EP3244.002_AM007_003	EPR 028	Northern boundary of AEC19a - on stake	1500	1500	1500	7:11	15:05	474	0/100	<0.01
EP3244.002_AM007_004	EPR 030	Adjacent to Decon unit to AEC19a - on stake	1500	1500	1500	7:22	15:07	465	0/100	<0.01
EP3244.002_AM007_005	EPR 145	Northern boundary of B3 Treatment Pad/F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:14	15:09	475	0/100	<0.01
EP3244.002_AM007_006	EPR 146	Southern boundary of B3 Treatment Pad/F2/F3 Stockpile Pad	1500	1500	1500	7:16	15:11	475	0/100	<0.01
EP3244.002_AM007_007	EPR 148	Western boundary of B3 Treatment Pad	1500	1500	1500	7:17	VOID*	VOID*	VOID*	VOID*
EP3244.002_AM007_008	EPR 147	Eastern boundary of B3 Treatment Pad	1500	1500	1500	7:19	15:15	476	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL. with the exception of Sample ID AM007_007, which was void due to deviation of the end flow rate from the start flow rate by 10%.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:

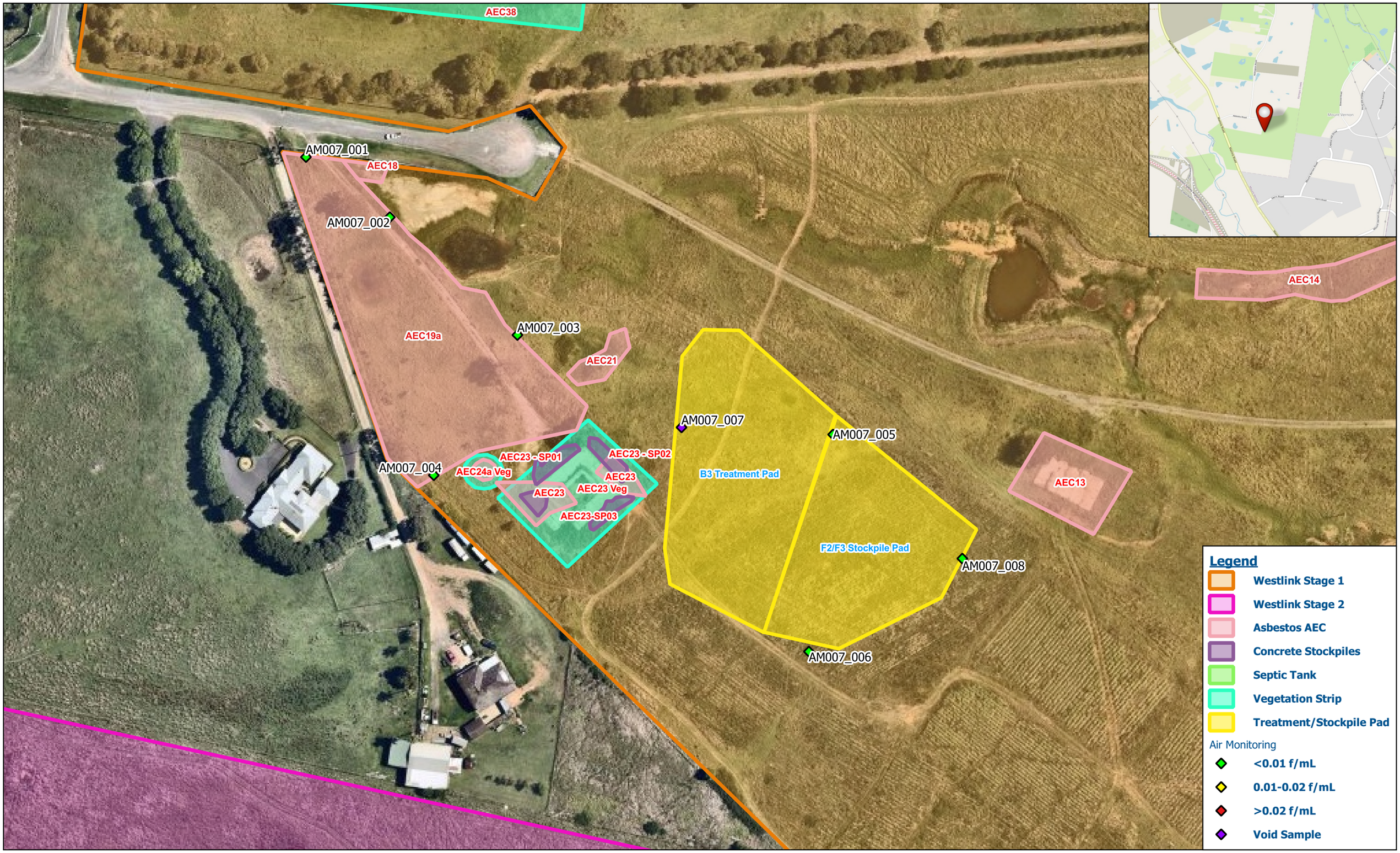
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM007
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 18/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems

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Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM008	**Date Reported:**	19 July 2023
Shift Number:	008	**Date Analysed:**	19 July 2023
Project Reference:	EP3244	**Date Sampled:**	19 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	7

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 7 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM008_FB	-	-	-	-	-	-	-	-	2/100	-
EP3244.002_AM008_001	EPR 006	Adjacent to Decon unit to AEC19a - on stake	1500	1500	1500	7:37	15:13	456	5/100	-
EP3244.002_AM008_002	EPR 018	Northern boundary of AEC19a - on stake	1500	1500	1500	7:39	15:14	455	2/100	-
EP3244.002_AM008_003	EPR 028	Eastern boundary of AEC19a - on stake	1500	1500	1500	7:42	15:32	470	0/100	-
EP3244.002_AM008_004	EPR 030	Northern boundary of B3 Treatment Pad/F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:45	15:17	452	2/100	-
EP3244.002_AM008_005	EPR 145	Southern boundary of B3 Treatment Pad/F2/F3 Stockpile Pad	1500	1500	1500	7:50	15:20	450	0/100	-
EP3244.002_AM008_006	EPR 146	Western boundary of B3 Treatment Pad	1500	1500	1500	7:52	15:27	455	0/100	-
EP3244.002_AM008_007	EPR 148	Southwest boundary of AEC19a - on stake	1500	1500	1500	7:55	15:24	449	1/100	-

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



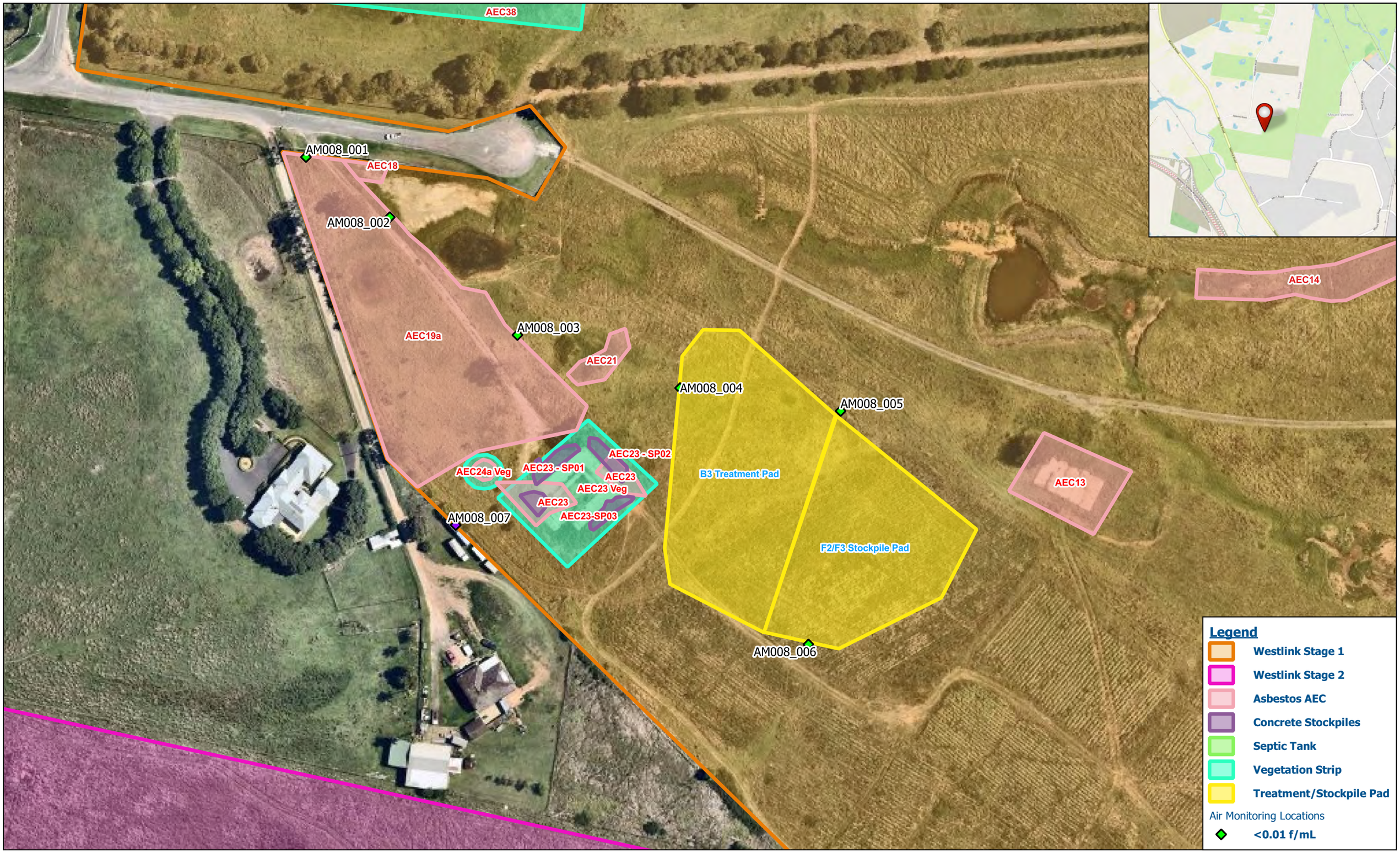
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

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Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM008
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 19/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: NM Checked by: JS
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QHS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM009	**Date Reported:**	20 July 2023
Shift Number:	009	**Date Analysed:**	20 July 2023
Project Reference:	EP3244	**Date Sampled:**	20 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Troy Chatman
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM009_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM009_001	EPR 006	Southwest boundary of AEC19a - on stake	1500	1500	1500	7:18	15:24	486	0/100	<0.01
EP3244.002_AM009_002	EPR 010	Eastern boundary of AEC19a - on stake	1500	1500	1500	7:20	15:26	486	0/100	<0.01
EP3244.002_AM009_003	EPR 018	North eastern boundary of AEC19a - on temporary fence	1500	1500	1500	7:25	15:21	476	0/100	<0.01
EP3244.002_AM009_004	EPR 028	Adjacent to Decon unit to AEC19a - on stake	1500	1500	1500	7:27	15:17	470	0/100	<0.01
EP3244.002_AM009_005	EPR 030	Northern boundary of B3 Treatment Pad/F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:29	15:15	466	0/100	<0.01
EP3244.002_AM009_006	EPR 145	Southern boundary of B3 Treatment Pad/F2/F3 Stockpile Pad	1500	1500	1500	7:30	15:10	460	0/100	<0.01
EP3244.002_AM009_007	EPR 146	Western boundary of B3 Treatment Pad	1500	1500	1500	7:32	15:08	456	0/100	<0.01
EP3244.002_AM009_008	EPR 148	Eastern boundary of B3 Treatment Pad	1500	1500	1500	7:47	15:13	446	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL. with the exception of Sample ID AM007_007, which was void due to deviation of the end flow rate from the start flow rate by 10%.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:

Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM010	**Date Reported:**	21 July 2023
Shift Number:	010	**Date Analysed:**	21 July 2023
Project Reference:	EP3244	**Date Sampled:**	21 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Zak Bursey
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	7

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 7 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM010_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM010_001	EPR 006	Northern boundary of AEC19a - on stake	1500	1500	1500	7:15	15:04	469	0/100	<0.01
EP3244.002_AM010_002	EPR 010	Southwestern boundary of AEC19a - on boundary fencing	1500	1500	1500	7:16	15:06	470	0/100	<0.01
EP3244.002_AM010_003	EPR 018	Northeast of AEC19a, adjacent to site compound - on temporary fencing	1500	1500	1500	7:18	15:07	469	3/100	<0.01
EP3244.002_AM010_004	EPR 028	Western boundary of B3 Treatment/Stockpile Pad, adjacent to decontamination area - on stake	1500	1500	1500	7:19	15:09	470	0/100	<0.01
EP3244.002_AM010_005	EPR 030	Nothern boundary of B3 Treatment/Stockpile Pad and F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:23	15:10	467	0/100	<0.01
EP3244.002_AM010_006	EPR 145	Southern boundary of B3 Treatment/Stockpile Pad - on stake	1500	1500	1500	7:28	15:01	453	2/100	<0.01
EP3244.002_AM010_007	EPR 146	Eastern boundary of F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:40	15:14	454	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



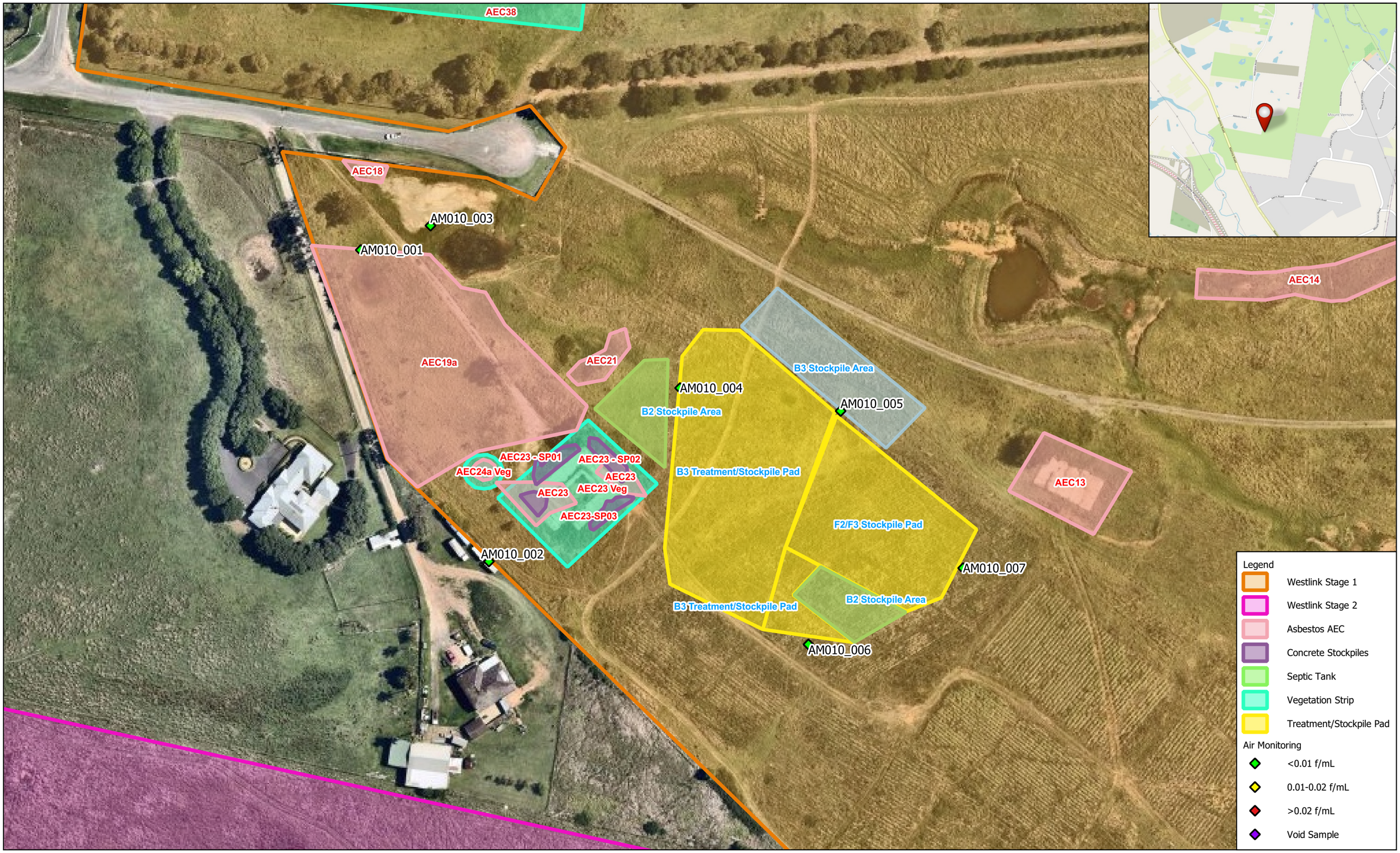
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM010
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 21/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM011	**Date Reported:**	24 July 2023
Shift Number:	011	**Date Analysed:**	24 July 2023
Project Reference:	EP3244	**Date Sampled:**	24 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Zak Bursey
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	7

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 7 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM011_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM011_001	EPR 006	Northern boundary of AEC19a - on stake	1500	1500	1500	7:31	15:10	459	0/100	<0.01
EP3244.002_AM011_002	EPR 010	Southwestern boundary of AEC19a - on boundary fencing	1500	1500	1500	7:33	15:12	459	0/100	<0.01
EP3244.002_AM011_003	EPR 018	Northeast of AEC19a, adjacent to site compound - on temporary fencing	1500	1500	1500	7:34	15:13	459	0/100	<0.01
EP3244.002_AM011_004	EPR 028	Western boundary of B3 Treatment/Stockpile Pad, adjacent to decontamination area - on stake	1500	1500	1500	7:35	15:17	462	0/100	<0.01
EP3244.002_AM011_005	EPR 030	Nothern boundary of B3 Treatment/Stockpile Pad and F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:38	15:19	461	0/100	<0.01
EP3244.002_AM011_006	EPR 145	Southern boundary of B3 Treatment/Stockpile Pad - on stake	1500	1500	1500	7:39	15:22	463	0/100	<0.01
EP3244.002_AM011_007	EPR 146	Eastern boundary of F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:42	15:25	463	0/100	<0.01

CONCLUSION

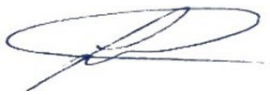
The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



Troy Chatman
Approved Signatory
Environmental Scientist
SafeWork NSW Licenced Asbestos Assessor LAA002022

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM012	**Date Reported:**	25 July 2023
Shift Number:	012	**Date Analysed:**	25 July 2023
Project Reference:	EP3244	**Date Sampled:**	25 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Zak Bursey
Email:	jacob.dickson@esr.com	**Analysed By:**	Sally Kennedy
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM012_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM012_001	EPR 005	Northern boundary of AEC19a - on stake	1500	1500	1500	7:35	15:30	475	0/100	<0.01
EP3244.002_AM012_002	EPR 006	Northeast of AEC19a, adjacent to site compound - on temporary fencing	1500	1500	1500	7:37	15:33	476	0/100	<0.01
EP3244.002_AM012_003	EPR 010	Southwestern boundary of AEC19a - on boundary fencing	1500	1500	1500	7:39	15:36	477	1/100	<0.01
EP3244.002_AM012_004	EPR 028	Northern boundary of B3 Treatment/Stockpile Pad, adjacent to decontamination area - on stake	1500	1500	1500	7:41	15:39	478	0/100	<0.01
EP3244.002_AM012_005	EPR 030	Western boundary of B3 Treatment/Stockpile Pad and F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:43	15:42	479	0/100	<0.01
EP3244.002_AM012_006	EPR 145	Southern boundary of B3 Treatment/Stockpile Pad - on stake	1500	1500	1500	7:45	15:45	480	0/100	<0.01
EP3244.002_AM012_007	EPR 146	North East of AEC40 on metal post	1500	1500	1500	7:47	15:48	481	1/100	<0.01
EP3244.002_AM012_008	EPR 148	Northwest of AEC40 on tree.	1500	1500	1500	7:49	15:51	482	2/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



Sean Kelly
Approved Signatory
Senior Occupational Hygienist
SafeWork NSW Licenced Asbestos Assessor LAA001369

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM013	**Date Reported:**	26 July 2023
Shift Number:	013	**Date Analysed:**	26 July 2023
Project Reference:	EP3244	**Date Sampled:**	26 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Zak Bursey
Email:	jacob.dickson@esr.com	**Analysed By:**	Sally Kennedy
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM013_FB	-	-	-	-	-	-	-	-	2/100	-
EP3244.002_AM013_001	EPR 005	Northern boundary of AEC19a - on stake	1500	1500	1500	7:17	15:01	464	3/100	<0.01
EP3244.002_AM013_002	EPR 006	Northeast of AEC19a, adjacent to site compound - on temporary fencing	1500	1500	1500	7:18	15:08	470	0/100	<0.01
EP3244.002_AM013_003	EPR 010	Southwestern boundary of AEC19a - on boundary fencing	1500	1500	1500	7:27	15:10	463	0/100	<0.01
EP3244.002_AM013_004	EPR 018	Northern boundary of B3 Treatment/Stockpile Pad, adjacent to decontamination area - on stake	1500	1500	1500	7:24	15:12	468	0/100	<0.01
EP3244.002_AM013_005	EPR 028	Western boundary of B3 Treatment/Stockpile Pad and F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:25	15:15	470	2/100	<0.01
EP3244.002_AM013_006	EPR 030	Southern boundary of B3 Treatment/Stockpile Pad - on stake	1500	1500	1500	7:26	15:16	470	0/100	<0.01
EP3244.002_AM013_007	EPR 146	South of AEC32 - on Stake	1500	1500	1500	7:33	15:26	473	0/100	<0.01
EP3244.002_AM013_008	EPR 148	North of AEC32- on stake	1500	1500	1500	7:35	15:29	474	2/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM013
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 26/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: ZB Checked by: JS
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems

QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM014	**Date Reported:**	27 July 2023
Shift Number:	014	**Date Analysed:**	27 July 2023
Project Reference:	EP3244	**Date Sampled:**	27 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Troy Chatman
Email:	jacob.dickson@esr.com	**Analysed By:**	James Thompson
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	9

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 9 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM014_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM014_001	EPR 006	Northeast of AEC19a, adjacent to site compound - on temporary fencing	1500	1500	1500	7:10	15:01	471	2/100	<0.01
EP3244.002_AM014_002	EPR 010	Northern boundary AEC19A - on fence	1500	1500	1500	7:17	15:08	471	0/100	<0.01
EP3244.002_AM014_003	EPR 018	Northern boundary of B3 Treatment/Stockpile Pad, adjacent to decontamination area - on stake	1500	1500	1500	7:20	15:10	470	1/100	<0.01
EP3244.002_AM014_004	EPR 028	Western boundary of B3 Treatment/Stockpile Pad and F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:22	15:12	470	0/100	<0.01
EP3244.002_AM014_005	EPR 030	Southern boundary of B3 Treatment/Stockpile Pad - on stake	1500	1500	1500	7:26	15:15	469	0/100	<0.01
EP3244.002_AM014_006	EPR 145	Southern boundary of B3 Treatment/Stockpile Pad - on stake	1500	1500	1500	7:28	15:16	468	0/100	<0.01
EP3244.002_AM014_007	EPR 146	North of AEC38 - on stake	1500	1500	1500	7:38	13:15	337	0/100	<0.01
EP3244.002_AM014_008	EPR 148	East of AEC38 - on stake	1500	1500	1500	7:41	14:31	410	0/100	<0.01
EP3244.002_AM014_009	EPR 146	South of AEC32 - on Stake	3000.0	3000.0	3000.0	13:20	16:17	177	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



James Thompson
Approved Signatory
Senior Associate | Occupational Hygienist
SafeWork NSW Licenced Asbestos Assessor LAA000192

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM014
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 27/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: TC Checked by: SK
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM015	**Date Reported:**	28 July 2023
Shift Number:	015	**Date Analysed:**	28 July 2023
Project Reference:	EP3244	**Date Sampled:**	28 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Troy Chatman
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM015_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM015_001	EPR 006	Northeast of AEC19a, adjacent to site compound - on temporary fencing	1500	1500	1500	7:20	15:18	478	0/100	<0.01
EP3244.002_AM015_002	EPR 010	Northern boundary AEC19A - on fence	1500	1500	1500	7:52	15:45	473	1/100	<0.01
EP3244.002_AM015_003	EPR 018	Northern boundary of B3 Treatment/Stockpile Pad, adjacent to decontamination area - on stake	1500	1500	1500	7:28	15:26	478	0/100	<0.01
EP3244.002_AM015_004	EPR 028	Western boundary of B3 Treatment/Stockpile Pad and F2/F3 Stockpile Pad - on stake	1500	1500	1500	7:33	15:33	480	0/100	<0.01
EP3244.002_AM015_005	EPR 030	Southern boundary of B3 Treatment/Stockpile Pad - on stake	1500	1500	1500	7:36	15:36	480	0/100	<0.01
EP3244.002_AM015_006	EPR 145	Southern boundary of B3 Treatment/Stockpile Pad - on stake	1500	1500	1500	7:37	15:38	481	0/100	<0.01
EP3244.002_AM015_007	EPR 005	western boundary of AEC32 - on stake	1500	1500	1500	7:46	15:45	479	0/100	<0.01
EP3244.002_AM015_008	EPR 148	Eastern boundary of AEC32 - on stake	1500	1500	1500	7:48	15:46	478	0/100	<0.01

CONCLUSION

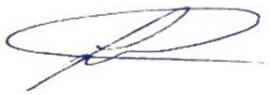
The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



Troy Chatman
Approved Signatory
Environmental Scientist
SafeWork NSW Licenced Asbestos Assessor LAA002022

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM015
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 28/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: NM Checked by: TC
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM016	**Date Reported:**	31 July 2023
Shift Number:	016	**Date Analysed:**	31 July 2023
Project Reference:	EP3244	**Date Sampled:**	31 July 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM016_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM016_001	EPR 005	North-eastern boundary of AEC19A	1500	1500	1500	7:40	15:22	462	0/100	<0.01
EP3244.002_AM016_002	EPR 006	Northern boundary of B3 Treatment/Stockpile Pad, adjacent to decontamination area - on stake	1500	1500	1500	7:48	15:30	462	0/100	<0.01
EP3244.002_AM016_003	EPR 010	Southern boundary of B3 Treatment/Stockpile Pad, adjacent to decontamination area - on stake	1500	1500	1500	7:50	15:32	462	0/100	<0.01
EP3244.002_AM016_004	EPR 018	Western area of site boundary	1500	1500	1500	7:54	15:36	462	0/100	<0.01
EP3244.002_AM016_005	EPR 028	Northern boundary of AEC38 - on stake	1500	1500	1500	8:05	15:45	460	1/100	<0.01
EP3244.002_AM016_006	EPR 145	Eastern boundary of AEC38 - on stake	1500	1500	1500	8:10	15:50	460	0/100	<0.01
EP3244.002_AM016_007	EPR 146	Northern boundary of AEC32 - on stake	1500	1500	1500	8:15	15:55	460	0/100	<0.01
EP3244.002_AM016_008	EPR 148	Southern boundary of AEC32 - on stake	1500	1500	1500	8:17	15:57	460	1/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:

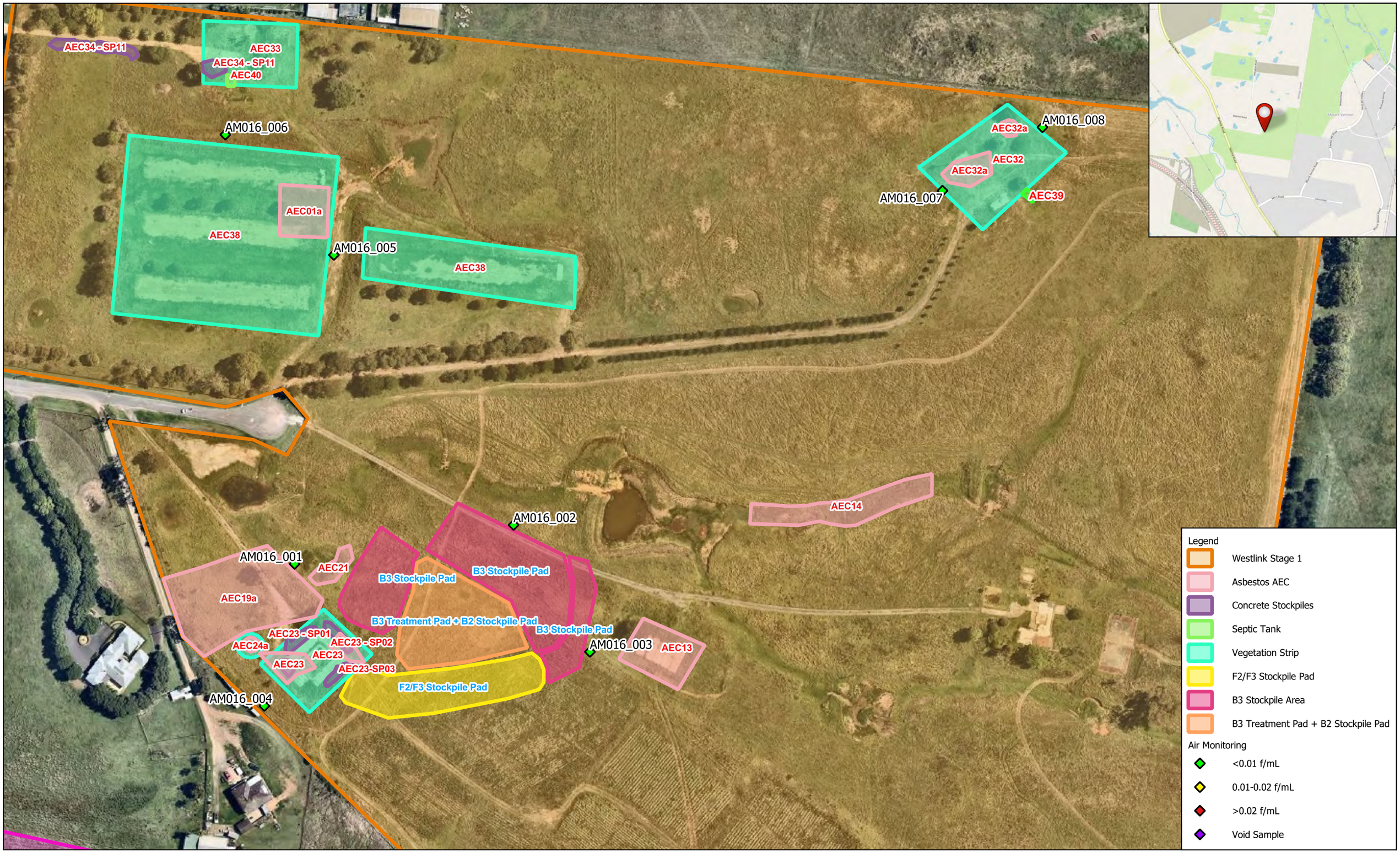
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM016
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 31/07/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: NM Checked by: JS
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM017	**Date Reported:**	01 August 2023
Shift Number:	AM017	**Date Analysed:**	01 August 2023
Project Reference:	EP3244	**Date Sampled:**	01 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM017_FB	-	-	-	-	-	-	-	-	1/100	-
EP3244.002_AM017_001	EPR 005	North-eastern boundary of AEC23/AEC24, adjacent to wet decontamination unit	1500	1500	1500	7:15	15:18	483	0/100	<0.01
EP3244.002_AM017_002	EPR 010	Northern boundary of B3 Treatment/Stockpile Pad, adjacent to decontamination area - on stake	1500	1500	1500	7:20	15:22	482	0/100	<0.01
EP3244.002_AM017_003	EPR 018	Southern boundary of B3 Treatment/Stockpile Pad, adjacent to decontamination area - on stake	1500	1500	1500	7:23	15:25	482	0/100	<0.01
EP3244.002_AM017_004	EPR 025	Western site boundary	1500	1500	1500	7:26	15:28	482	0/100	<0.01
EP3244.002_AM017_005	EPR 028	Eastern boundary of AEC38 - on stake	1500	1500	1500	7:30	15:32	482	1/100	<0.01
EP3244.002_AM017_006	EPR 146	Northern boundary of AEC38 - on stake	1500	1500	1500	7:34	15:36	482	0/100	<0.01
EP3244.002_AM017_007	EPR 145	Southern boundary of AEC32 - on stake	1500	1500	1500	7:41	15:44	483	0/100	<0.01
EP3244.002_AM017_008	EPR 148	Northern boundary of AEC32 - on stake	1500	1500	1500	7:43	15:48	485	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:

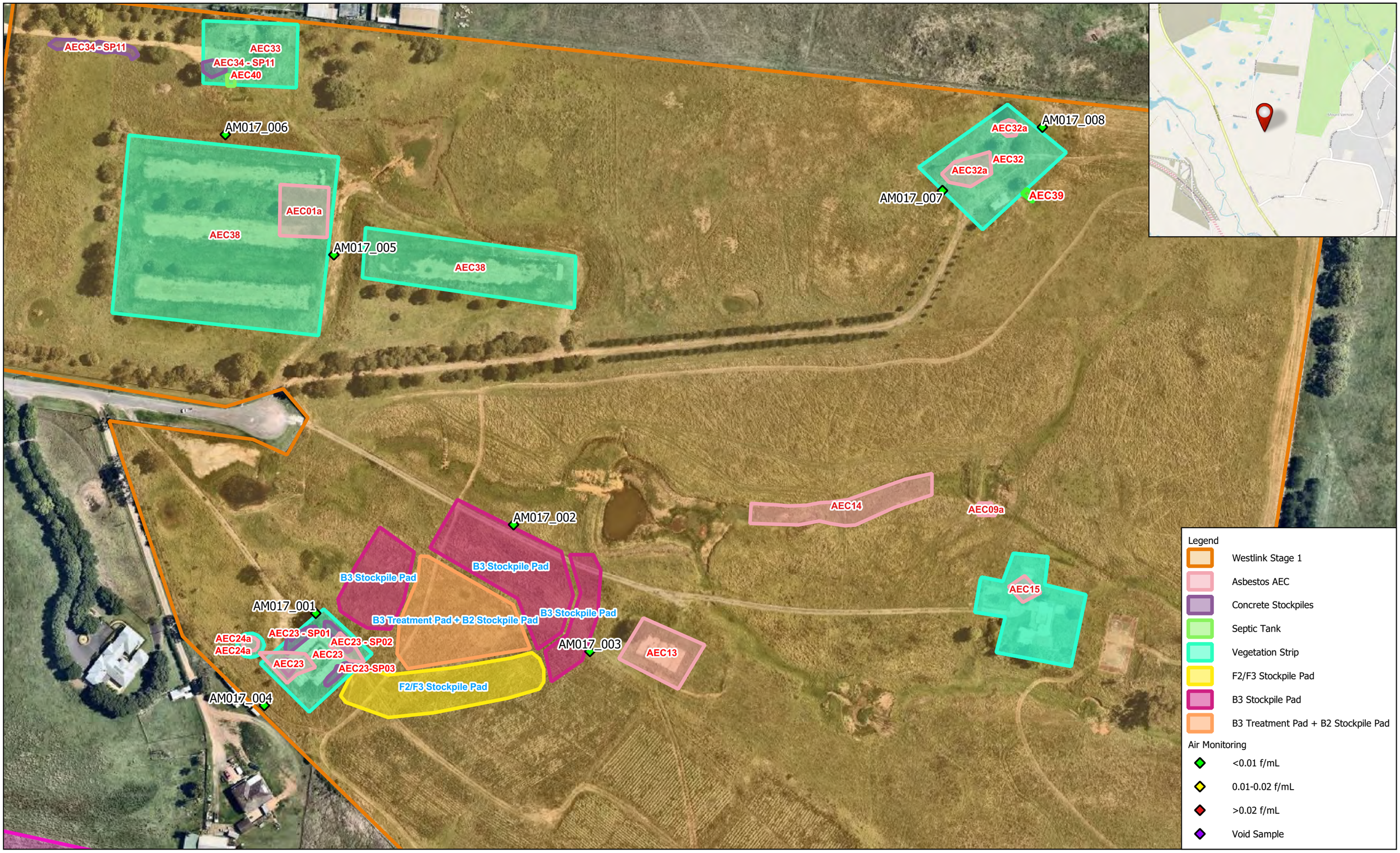
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM017
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 01/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: NM Checked by: JS
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM018	**Date Reported:**	02 August 2023
Shift Number:	AM018	**Date Analysed:**	02 August 2023
Project Reference:	EP3244	**Date Sampled:**	02 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Zak Bursey
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Type of Monitoring:	Control	**Number of Samples:**	8

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 8 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM018_FB	-	-	-	-	-	-	-	-	1/100	-
EP3244.002_AM018_001	EPR 005	Northern boundary of B3 Treatment/Stockpile Pad, adjacent to decontamination area - on stake	1500	1500	1500	7:13	15:05	472	3/100	<0.01
EP3244.002_AM018_002	EPR 010	Eastern boundary of B3 Treatment/Stockpile pad	1500	1500	1500	7:15	15:07	472	0/100	<0.01
EP3244.002_AM018_003	EPR 018	Southern boundary of property adjacent to AEC23	1500	1500	1500	7:21	15:13	472	0/100	<0.01
EP3244.002_AM018_004	EPR 025	Northern boundary of AEC13 on Stake	1500	1500	1500	7:16	15:10	474	0/100	<0.01
EP3244.002_AM018_005	EPR 028	Western boundary of AEC13 on Stake	1500	1500	1500	7:17	15:11	474	0/100	<0.01
EP3244.002_AM018_006	EPR 146	Northern boundary of AEC33 on permanent fence	1500	1500	1500	7:30	15:20	470	0/100	<0.01
EP3244.002_AM018_007	EPR 145	Eastern boundary of AEC 33/38 - on stake	1500	1500	1500	7:33	15:22	469	0/100	<0.01
EP3244.002_AM018_008	EPR 148	Southern Boundary of AEC 38 - on stake	1500	1500	1500	7:34	15:23	469	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
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SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM018
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 01/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: ZB Checked by: JS
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.019_AM019	**Date Reported:**	03 August 2023
Shift Number:	019	**Date Analysed:**	03 August 2023
Project Reference:	EP3244	**Date Sampled:**	03 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	10

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 10 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.019_AM019_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.019_AM019_001	EPR 010	North-eastern boundary of AEC23	1500	1500	1500	7:29	15:00	451	1/100	<0.01
EP3244.019_AM019_002	EPR 018	Northern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:33	15:05	452	0/100	<0.01
EP3244.019_AM019_003	EPR 121	Southern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:35	15:25	470	1/100	<0.01
EP3244.019_AM019_004	EPR 122	Western site boundary - on stake	1500	1500	1500	7:37	15:30	473	0/100	<0.01
EP3244.019_AM019_005	EPR 124	Eastern boundary of AEC38 - on stake	1500	1500	1500	7:44	15:43	479	2/100	<0.01
EP3244.019_AM019_006	EPR 125	Northern boundary of AEC38 - on stake	1500	1500	1500	7:46	15:41	475	0/100	<0.01
EP3244.019_AM019_007	EPR 147	Western boundary of AEC13 - on stake	1500	1500	1500	7:54	15:37	463	VOID*	VOID*
EP3244.019_AM019_008	EPR 148	Eastern boundary of AEC13, adjacent to wet decontamination unit - on stake	1500	1500	1500	7:52	15:35	463	0/100	<0.01
EP3244.019_AM019_009	EPR 203	Western boundary of AEC15 - on stake	1500	1500	1500	8:13	15:15	422	0/100	<0.01
EP3244.019_AM019_010	EPR 204	Northern boundary of AEC15 - on stake	1500	1500	1500	8:14	15:15	421	3/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL with the exception of Sample ID EP3244.002_AM019_007, which was void due to pump malfunction.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



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ABN: 81 147 147 591

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Accreditation Number: 20264
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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM019
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 03/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: NM Checked by: JS
Scale of regional map not shown
Source: Nearmap

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APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.020_AM020	**Date Reported:**	04 August 2023
Shift Number:	020	**Date Analysed:**	04 August 2023
Project Reference:	EP3244	**Date Sampled:**	04 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Philip Street, Sydney, NSW, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	9

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 9 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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04 August 2023

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1] [2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.020_AM020_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.020_AM020_001	EPR 010	Northern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:33	15:01	448	0/100	<0.01
EP3244.020_AM020_002	EPR 018	Southern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:43	15:15	452	0/100	<0.01
EP3244.020_AM020_003	EPR 121	Western site boundary - on stake	1500	1500	1500	7:47	15:20	453	0/100	<0.01
EP3244.020_AM020_004	EPR 122	Western boundary of AEC15 - on stake	1500	1500	1500	8:06	15:07	421	0/100	<0.01
EP3244.020_AM020_005	EPR 124	Northern boundary of AEC15 - on stake	1500	1500	1500	8:10	15:10	420	0/100	<0.01
EP3244.020_AM020_006	EPR 147	Western boundary of AEC13 - on stake	1500	1500	1500	7:38	15:02	444	0/100	<0.01
EP3244.020_AM020_007	EPR 149	Eastern boundary of AEC13, adjacent to wet decontamination unit - on stake	1500	1500	1500	7:53	15:05	432	1/100	<0.01
EP3244.020_AM020_008	EPR 203	Western boundary of AEC38 - on stake	1500	1500	1500	7:29	14:54	445	2/100	<0.01
EP3244.020_AM020_009	EPR 204	Southern boundary of AEC38 - on stake	1500	1500	1500	7:27	14:52	445	2/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



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Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM020
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 04/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HE Checked by: JS
Scale of regional map not shown
Source: Nearmap

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Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM021	**Date Reported:**	07 August 2023
Shift Number:	021	**Date Analysed:**	07 August 2023
Project Reference:	EP3244	**Date Sampled:**	07 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	9

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 9 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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07 August 2023

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1] [2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM021_FB	-	-	-	-	-	-	-	-	0/0	-
EP3244.002_AM021_001	EPR 010	Northern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:34	15:04	450	1/100	<0.01
EP3244.002_AM021_002	EPR 018	Southern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:51	15:16	445	1/100	<0.01
EP3244.002_AM021_003	EPR 121	Western boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:55	15:19	444	0/100	<0.01
EP3244.002_AM021_004	EPR 122	Northern boundary of AEC15 - on stake	1500	1500	1500	7:45	15:11	446	0/100	<0.01
EP3244.002_AM021_005	EPR 124	Western boundary of AEC15 - on stake	1500	1500	1500	7:41	15:13	452	1/100	<0.01
EP3244.002_AM021_006	EPR 125	Western boundary of AEC13 - on stake	1500	1500	1500	7:35	15:02	447	2/100	<0.01
EP3244.002_AM021_007	EPR 147	Eastern boundary of AEC13, adjacent to wet decontamination unit - on stake	1500	1500	1500	7:38	15:08	450	0/100	<0.01
EP3244.002_AM021_008	EPR 148	Western boundary of AEC38 - on stake	1500	1500	1500	7:24	14:58	454	1/100	<0.01
EP3244.002_AM021_009	EPR 149	Southern boundary of AEC38 - on stake	1500	1500	1500	7:22	14:57	455	1/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM021
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 07/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HE Checked by: JS
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
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Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM022	**Date Reported:**	08 August 2023
Shift Number:	022	**Date Analysed:**	08 August 2023
Project Reference:	EP3244	**Date Sampled:**	08 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	9

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 9 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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08 August 2023

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1] [2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM022_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM022_001	EPR 010	Northern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:51	15:02	431	0/100	<0.01
EP3244.002_AM022_002	EPR 018	Southern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:59	15:25	446	0/100	<0.01
EP3244.002_AM022_003	EPR 121	Western boundary of B3 Stockpile Pad - on stake	1500	1500	1500	8:03	15:28	445	3/100	<0.01
EP3244.002_AM022_004	EPR 122	Eastern boundary of AEC13, adjacent to wet decontamination unit - on stake	1500	1500	1500	7:56	-	VOID*	VOID*	VOID*
EP3244.002_AM022_005	EPR 124	Western boundary of AEC13 - on stake	1500	1500	1500	7:54	15:04	430	1/100	<0.01
EP3244.002_AM022_006	EPR 125	Northern boundary of AEC14 - on stake	1500	1500	1500	7:32	15:10	458	0/100	<0.01
EP3244.002_AM022_007	EPR 147	Southern boundary of AEC14 - on stake	1500	1500	1500	7:34	15:08	454	1/100	<0.01
EP3244.002_AM022_008	EPR 148	Northern boundary of AEC09b - on stake	1500	1500	1500	7:42	15:17	455	1/100	<0.01
EP3244.002_AM022_009	EPR 149	Southern boundary of AEC09b - on stake	1500	1500	1500	7:44	15:15	451	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/Ml with the exception of Sample ID EP3244.002_AM022_004, which was void due to pump malfunction.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM023	**Date Reported:**	09 August 2023
Shift Number:	023	**Date Analysed:**	09 August 2023
Project Reference:	EP3244	**Date Sampled:**	09 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	7

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 7 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM023_FB	-	-	-	-	-	-	-	-	0/0	-
EP3244.002_AM023_001	EPR 010	Northern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:31	15:22	471	1/100	<0.01
EP3244.002_AM023_002	EPR 018	Southern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:53	15:27	454	0/100	<0.01
EP3244.002_AM023_003	EPR 121	Western boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:56	15:32	456	0/100	<0.01
EP3244.002_AM023_004	EPR 122	Western boundary of AEC13 - on stake	1500	1500	1500	7:34	15:20	466	0/100	<0.01
EP3244.002_AM023_005	EPR 125	Eastern boundary of AEC13, adjacent to wet decontamination unit - on stake	1500	1500	1500	7:37	15:18	461	0/100	<0.01
EP3244.002_AM023_006	EPR 147	Northern boundary of AEC14 - on stake	1500	1500	1500	7:47	15:15	448	0/100	<0.01
EP3244.002_AM023_007	EPR 149	Southern boundary of AEC14 - on stake	1500	1500	1500	7:44	15:13	449	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



Sean Kelly
Approved Signatory
Senior Occupational Hygienist
SafeWork NSW Licenced Asbestos Assessor LAA001369

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ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM023
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 09/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HE Checked by: JS
Scale of regional map not shown
Source: Nearmap

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APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM024	**Date Reported:**	10 August 2023
Shift Number:	024	**Date Analysed:**	10 August 2023
Project Reference:	EP3244	**Date Sampled:**	10 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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10 August 2023

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [#1][#2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM024_FB	-	-	-	-	-	-	-	-	0/0	-
EP3244.002_AM024_001	EPR 010	Northern boundary of AEC14 - on stake	1500	1500	1500	7:33	15:16	463	0/100	<0.01
EP3244.002_AM024_002	EPR 016	Southern boundary of AEC14 - on stake	1500	1500	1500	7:35	15:18	463	0/100	<0.01
EP3244.002_AM024_003	EPR 018	Northern boundary of AEC13	1500	1500	1500	7:39	15:22	463	0/100	<0.01
EP3244.002_AM024_004	EPR 023	Eastern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:41	15:24	463	0/100	<0.01
EP3244.002_AM024_005	EPR 024	Southern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:43	15:26	463	1/100	<0.01
EP3244.002_AM024_006	EPR 148	Western boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:45	15:28	463	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



Troy Chatman
Approved Signatory
Environmental Scientist
SafeWork NSW Licenced Asbestos Assessor LAA002022

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM024
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 10/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HE Checked by: TC
Scale of regional map not shown
Source: Nearmap

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APPROVED COMPANY ISO 45001 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM025	**Date Reported:**	11 August 2023
Shift Number:	025	**Date Analysed:**	11 August 2023
Project Reference:	EP3244	**Date Sampled:**	11 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM025_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM025_001	EPR 010	Northern boundary of AEC14 - on stake	1500	1500	1500	7:19	15:16	477	0/100	<0.01
EP3244.002_AM025_002	EPR 016	Southern boundary of AEC14 - on stake	1500	1500	1500	7:21	15:18	477	0/100	<0.01
EP3244.002_AM025_003	EPR 018	Western boundary of AEC13	1500	1500	1500	7:25	15:22	477	0/100	<0.01
EP3244.002_AM025_004	EPR 023	Eastern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:26	15:24	478	0/100	<0.01
EP3244.002_AM025_005	EPR 024	Southern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:28	15:26	478	0/100	<0.01
EP3244.002_AM025_006	EPR 148	Western boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:32	15:28	476	0/100	<0.01

CONCLUSION

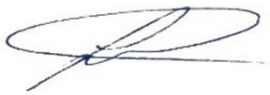
The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



Troy Chatman
Approved Signatory
Environmental Scientist
SafeWork NSW Licenced Asbestos Assessor LAA002022

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM025
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 11/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: NM Checked by: TC
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems

QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM026	**Date Reported:**	14 August 2023
Shift Number:	026	**Date Analysed:**	14 August 2023
Project Reference:	EP3244	**Date Sampled:**	14 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	4

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 4 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM026_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM026_001	EPR 010	Southern boundary of AEC14 - on stake	1500	1500	1500	7:22	14:56	454	0/100	<0.01
EP3244.002_AM026_002	EPR 016	Eastern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:24	14:51	447	0/100	<0.01
EP3244.002_AM026_003	EPR 018	Western boundary of AEC13 - on stake	1500	1500	1500	7:24	14:48	444	0/100	<0.01
EP3244.002_AM026_004	EPR 023	Eastern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:27	14:43	436	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM026
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 11/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 10 20 30 40 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: NM Checked by: TC
Scale of regional map not shown
Source: Nearmap

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APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM027	**Date Reported:**	15 August 2023
Shift Number:	027	**Date Analysed:**	15 August 2023
Project Reference:	EP3244	**Date Sampled:**	15 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Naomi Madigan
Email:	jacob.dickson@esr.com	**Analysed By:**	Naomi Madigan
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	5

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 5 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM027_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM027_001	EPR 010	Western boundary of B3 Stockpile Pad - on stae	1500	1500	1500	7:25	13:50	385	1.5/100	<0.01
EP3244.002_AM027_002	EPR 016	Southern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:27	13:52	385	2.5/100	<0.01
EP3244.002_AM027_003	EPR 018	Eastern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:31	13:54	383	0/100	<0.01
EP3244.002_AM027_004	EPR 024	Southern boundary of AEC38/UF024 - on stake	1500	1500	1500	8:28	14:04	336	0/100	<0.01
EP3244.002_AM027_005	EPR 148	Western boundary of AEC38/UF024 - on stake	1500	1500	1500	8:30	14:06	336	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM027
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 15/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: NM Checked by: JS
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 QMS Certification Services
APPROVED COMPANY ISO 45001 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM028	**Date Reported:**	16 August 2023
Shift Number:	028	**Date Analysed:**	16 August 2023
Project Reference:	EP3244	**Date Sampled:**	16 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Sally Kennedy
Email:	jacob.dickson@esr.com	**Analysed By:**	Sally Kennedy
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002.002_AM028_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002.002_AM028_001	EPR 010	Western boundary of B3 stockpile pad - on stake	1500	1500	1500	7:15	15:14	479	1/100	<0.01
EP3244.002.002_AM028_002	EPR 016	Southern boundary of B3 stockpile pad and adjacent to UF024 - on stake	1500	1500	1500	7:20	15:11	471	2/100	<0.01
EP3244.002.002_AM028_003	EPR 018	Eastern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:22	15:09	467	0/100	<0.01
EP3244.002.002_AM028_004	EPR 023	Northern boundary of AEC13 - on stake	1500	1500	1500	7:24	15:08	464	1/100	<0.01
EP3244.002.002_AM028_005	EPR 024	Southern boundary of AEC14 - on stake	1500	1500	1500	7:27	15:06	459	0/100	<0.01
EP3244.002.002_AM028_006	EPR 148	Eastern boundary of UF025 - on stake	1500	1500	1500	7:33	14:58	445	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM028
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 16/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: SK
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM029	**Date Reported:**	17 August 2023
Shift Number:	029	**Date Analysed:**	17 August 2023
Project Reference:	EP3244	**Date Sampled:**	17 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Sally Kennedy
Email:	jacob.dickson@esr.com	**Analysed By:**	Sally Kennedy
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	5

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 5 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM029_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM029_001	EPR 010	Western boundary of B3 stockpile pad - on stake	1500	1500	1500	7:16	15:00	464	1/100	<0.01
EP3244.002_AM029_002	EPR 016	Southern boundary of B3 stockpile pad and adjacent to UF024 - on stake	1500	1500	1500	7:21	15:01	460	4/100	<0.01
EP3244.002_AM029_003	EPR 018	Eastern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:23	15:03	460	0/100	<0.01
EP3244.002_AM029_004	EPR 023	Southern boundary of AEC14 - on stake	1500	1500	1500	7:27	15:05	458	2/100	<0.01
EP3244.002_AM029_005	EPR 024	Northern boundary of AEC14 - on stake	1500	1500	1500	7:38	15:06	448	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



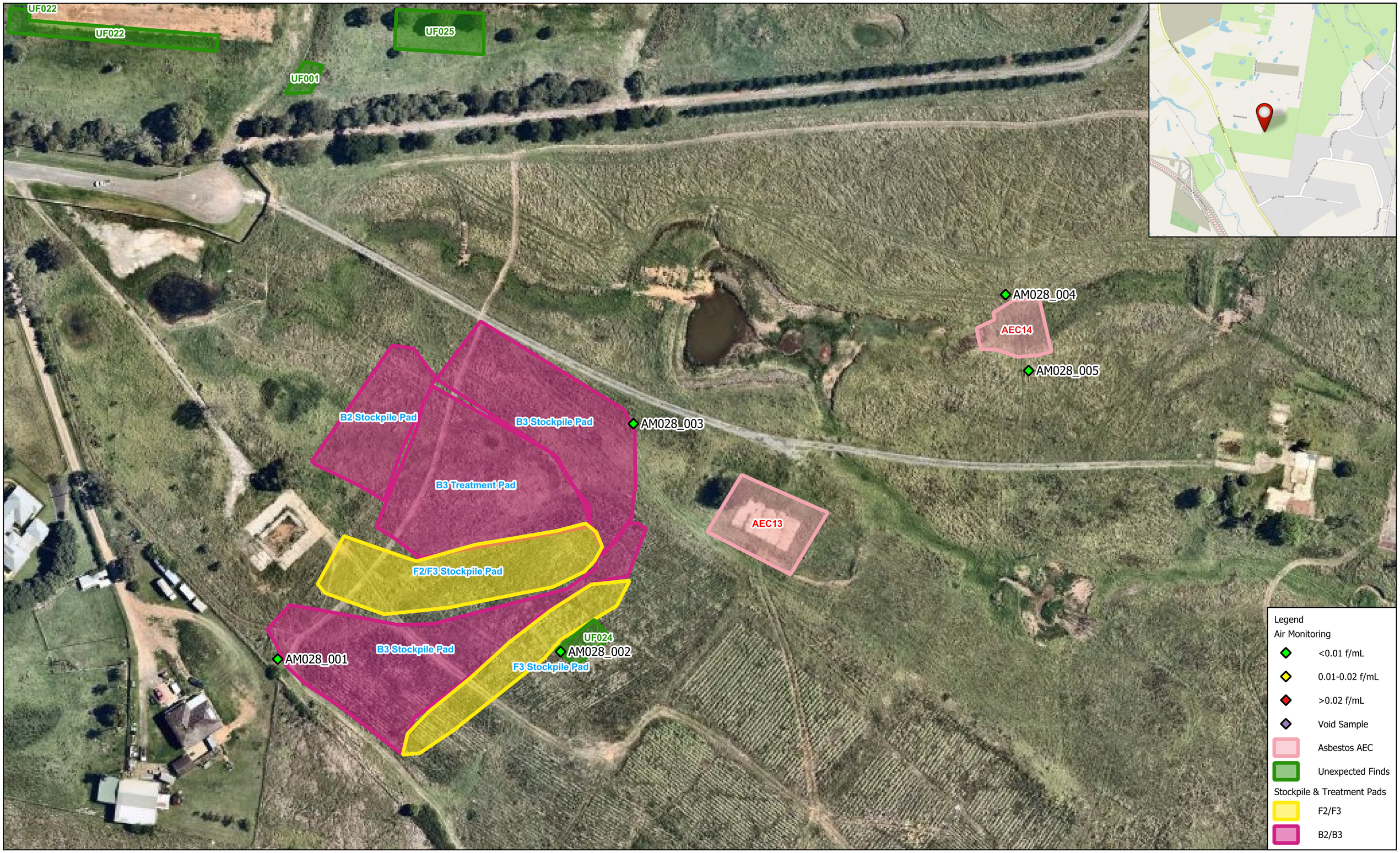
Troy Chatman
Approved Signatory
Environmental Scientist
SafeWork NSW Licenced Asbestos Assessor LAA002022

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM029
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 17/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: TC Checked by: SK
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM030	**Date Reported:**	18 August 2023
Shift Number:	030	**Date Analysed:**	18 August 2023
Project Reference:	EP3244	**Date Sampled:**	18 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Zak Bursey
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	4

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 4 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM030_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM030_001	EPR 010	Western boundary of B3 stockpile pad - on stake	1500	1500	1500	7:28	15:00	452	1/100	<0.01
EP3244.002_AM030_002	EPR 016	Eastern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:32	15:01	449	0/100	<0.01
EP3244.002_AM030_003	EPR 018	Northern boundary of AEC14 - on stake	2500	2500	2500	10:00	15:03	303	0/100	<0.01
EP3244.002_AM030_004	EPR 023	Southern boundary of AEC14 - on stake	2500	2500	2500	10:00	15:05	305	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



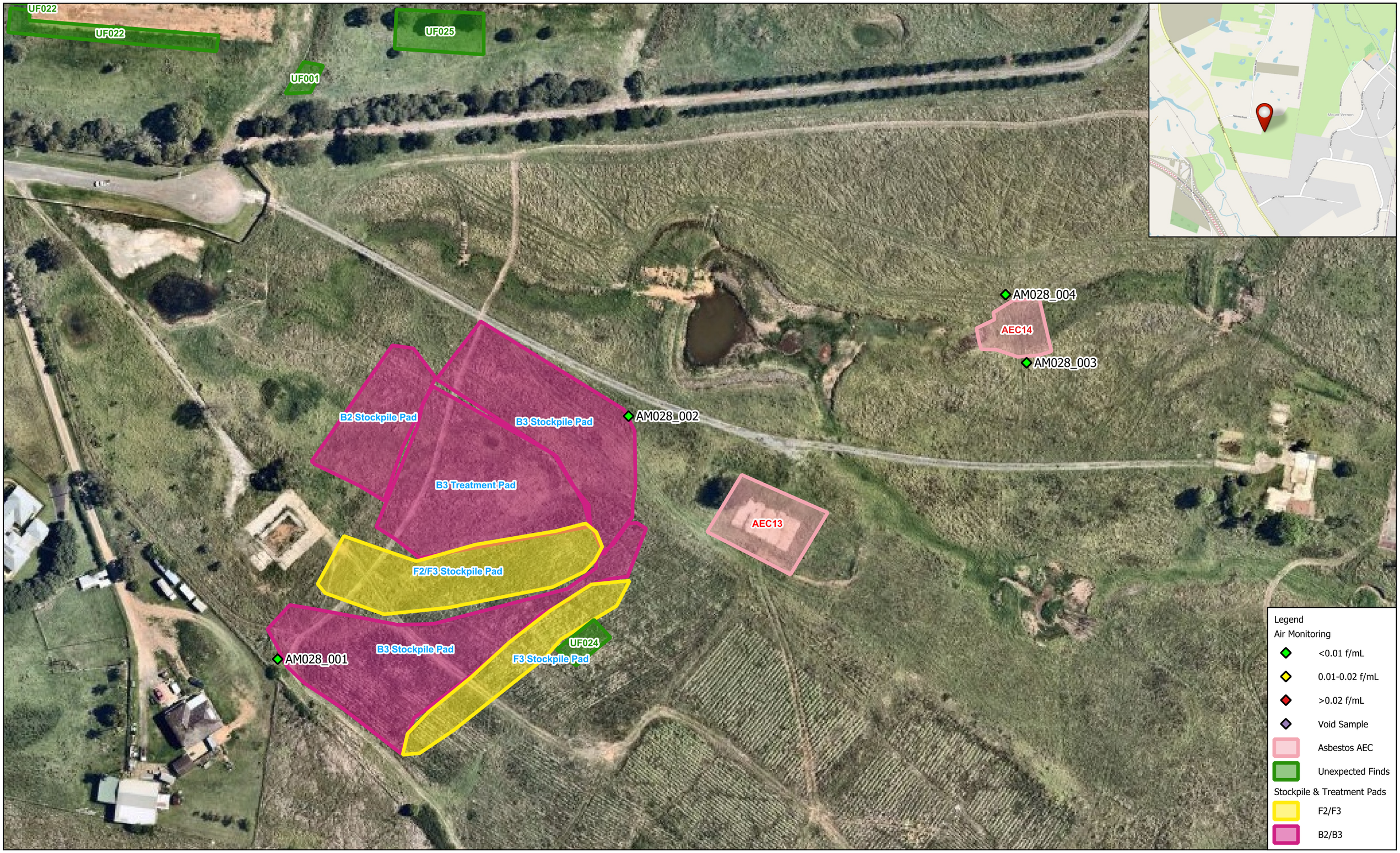
Troy Chatman
Approved Signatory
Environmental Scientist
SafeWork NSW Licenced Asbestos Assessor LAA002022

EP Risk Management Pty Ltd
ABN: 81 147 147 591

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Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM030
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 18/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: TC Checked by: ZB
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM031	**Date Reported:**	21 August 2023
Shift Number:	031	**Date Analysed:**	21 August 2023
Project Reference:	EP3244	**Date Sampled:**	21 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Zak Bursey
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	4

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 4 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM031_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM031_001	EPR 010	Western boundary of B3 stockpile pad - on stake	1500	1500	1500	7:22	15:53	511	0/100	<0.01
EP3244.002_AM031_002	EPR 016	Eastern boundary of B3 Stockpile Pad - on stake	1500	1500	1500	7:23	15:54	511	0/100	<0.01
EP3244.002_AM031_003	EPR 018	Northern boundary of AEC14 - on stake	1500	1500	1500	7:28	16:03	515	1/100	<0.01
EP3244.002_AM031_004	EPR 023	Southern boundary of AEC14 - on stake	1500	1500	1500	7:30	16:05	515	2/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

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AUTHORISATION

Results approved by:



Troy Chatman
Approved Signatory
Environmental Scientist
SafeWork NSW Licenced Asbestos Assessor LAA002022

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM031
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 21/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: TC Checked by: ZB
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
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Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM032	**Date Reported:**	22 August 2023
Shift Number:	032	**Date Analysed:**	22 August 2023
Project Reference:	EP3244	**Date Sampled:**	22 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM032_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM032_001	EPR 010	Southwestern boundary of UF026 - on stake	1500	1500	1500	7:11	11:12	241	0/100	<0.01
EP3244.002_AM032_002	EPR 016	North of UF026 - on boundary fencing	1500	1500	1500	7:14	11:15	241	0/100	<0.01
EP3244.002_AM032_003	EPR 018	Southern boundary of AEC14, adjacent to decontamination unit - on stake	1500	1500	1500	7:22	15:05	463	1/100	<0.01
EP3244.002_AM032_004	EPR 023	Northern boundary of AEC14 - on stake	1500	1500	1500	7:25	15:10	465	0/100	<0.01
EP3244.002_AM032_005	EPR 024	Southern boundary of stockpile pad - on stake	1500	1500	1500	7:37	15:18	461	1/100	<0.01
EP3244.002_AM032_006	EPR 148	Western boundary of stockpile pad - on stake	1500	1500	1500	7:39	15:20	461	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



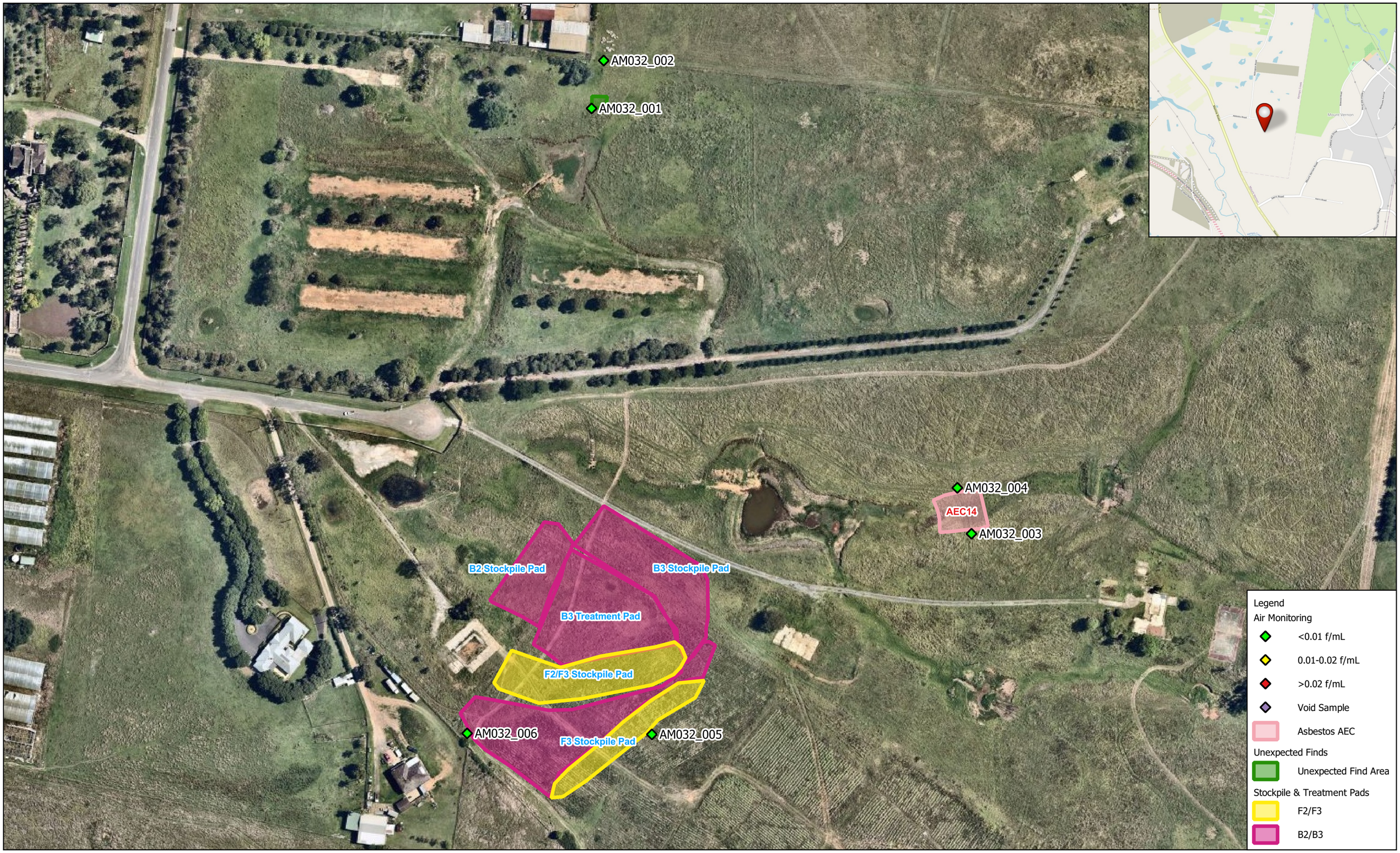
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM032
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 22/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM033	**Date Reported:**	23 August 2023
Shift Number:	033	**Date Analysed:**	23 August 2023
Project Reference:	EP3244	**Date Sampled:**	23 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Zak Bursey
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM033_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM033_001	EPR 010	Southern boundary of AEC14, adjacent to decontamination unit - on stake	1500	1500	1500	7:24	13:30	366	0/100	<0.01
EP3244.002_AM033_002	EPR 016	Northern boundary of AEC14 - on stake	1500	1500	1500	7:25	13:32	367	0/100	<0.01
EP3244.002_AM033_003	EPR 018	Southern boundary of stockpile pad - on stake	1500	1500	1500	7:31	13:41	370	2/100	<0.01
EP3244.002_AM033_004	EPR 023	Western boundary of stockpile pad - on stake	1500	1500	1500	7:34	13:45	371	0/100	<0.01
EP3244.002_AM033_005	EPR 024	Sitex (EX1314) Excavator inside Cab	1500	1500	1500	8:30	11:19	169	1/100	<0.01
EP3244.002_AM033_006	EPR 148	P143 30T Dump Truck inside Cab	1500	1500	1500	12:00	14:30	150	3/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM033
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 23/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM034	**Date Reported:**	24 August 2023
Shift Number:	034	**Date Analysed:**	24 August 2023
Project Reference:	EP3244	**Date Sampled:**	24 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Jenny Shao
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	3

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 3 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM034_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM034_001	EPR 203	Volvo 25T Dump Truck - inside cab	3000	3000	3000	8:02	10:20	138	0/100	<0.01
EP3244.002_AM034_002	EPR 021	Eastern boundary of stockpile area - on picket	3000	3000	3000	9:07	14:12	305	1/100	<0.01
EP3244.002_AM034_003	EPR 203	Western boundary of stockpile area - on picket	3000	3000	3000	10:46	14:08	202	1/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



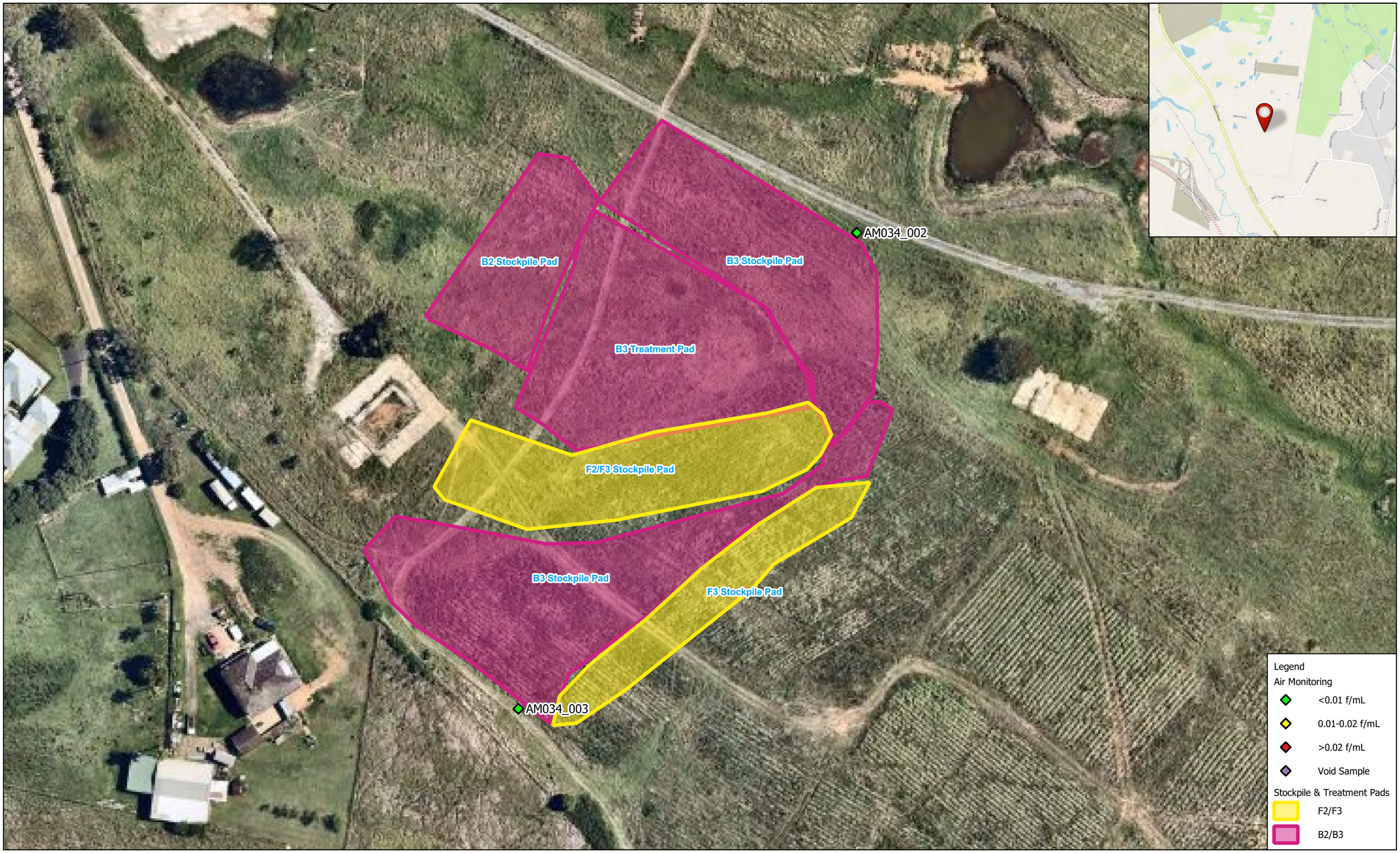
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

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Accreditation Number: 20264
Site Number: 24130

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Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM034
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 24/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 20 40 60 80 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: ZB
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 QMS Certification Services
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APPROVED COMPANY ISO 14001 QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM035	**Date Reported:**	25 August 2023
Shift Number:	035	**Date Analysed:**	25 August 2023
Project Reference:	EP3244	**Date Sampled:**	25 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Hayley Erskine
Email:	jacob.dickson@esr.com	**Analysed By:**	Hayley Erskine
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	4

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 4 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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25 August 2023

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1] [2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM035_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM035_001	EPR 010	Eastern boundary of stockpile area - on picket	1500	1500	1500	7:20	14:55	455	0/100	<0.01
EP3244.002_AM035_002	EPR 018	Western boundary of stockpile area - on picket	1500	1500	1500	7:26	15:01	455	0/100	<0.01
EP3244.002_AM035_003	EPR 021	48 T Kobelco Excavator - Inside Cab	3000	3000	3000	7:34	10:10	156	0/100	<0.01
EP3244.002_AM035_004	EPR 023	Volvo Excavator (95380D) - Inside Cab	3000	3000	3000	13:30	16:10	160	1/100	<0.01

CONCLUSION

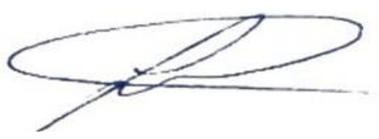
The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



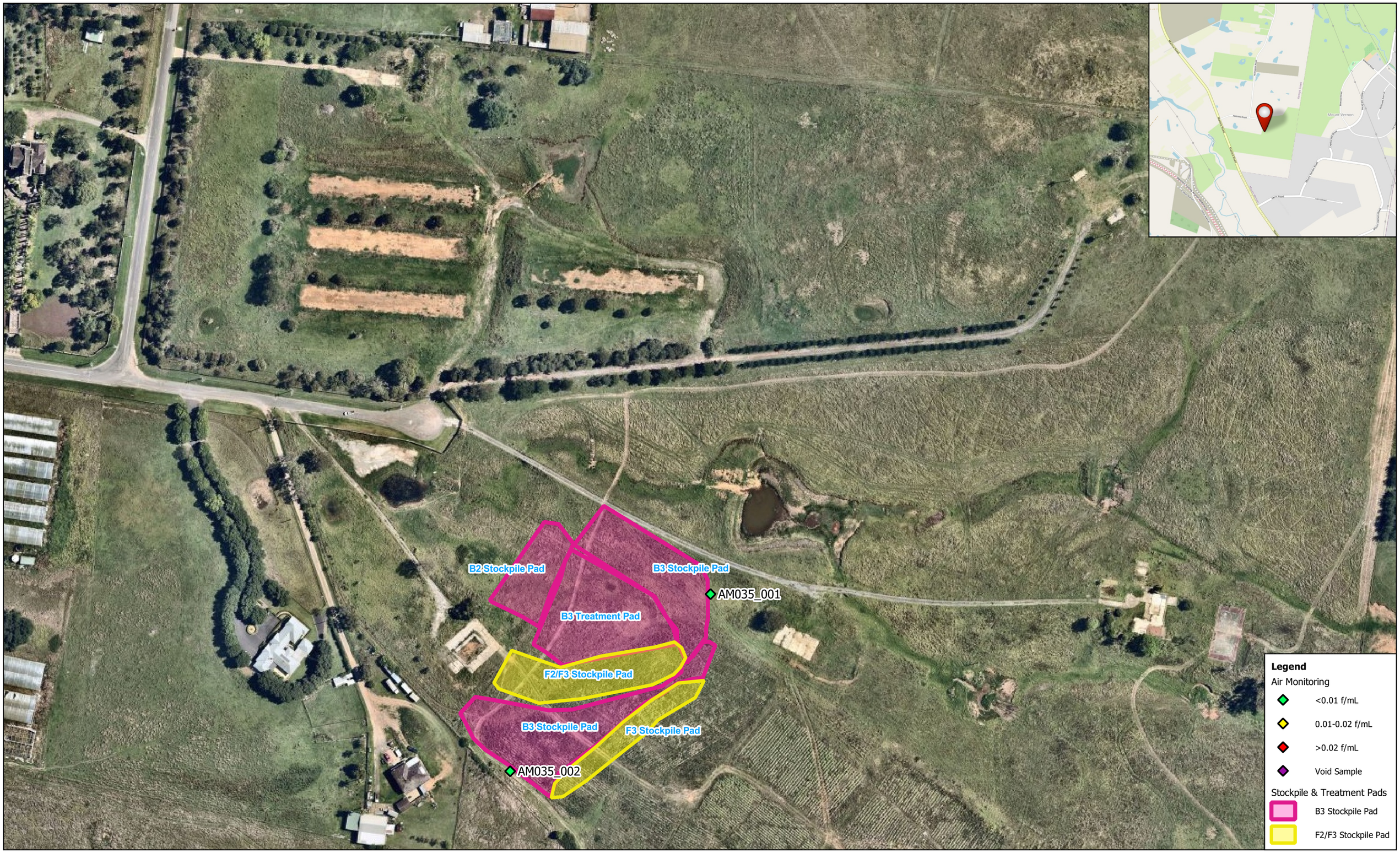
Troy Chatman
Approved Signatory
Environmental Scientist
SafeWork NSW Licenced Asbestos Assessor LAA002022

EP Risk Management Pty Ltd
ABN: 81 147 147 591

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Site Number: 24130

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Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM035
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3244
Date: 25/08/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 25 50 75 100 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HE Checked by: TC
Scale of regional map not shown
Source: Nearmap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM036	**Date Reported:**	28 August 2023
Shift Number:	036	**Date Analysed:**	28 August 2023
Project Reference:	EP3244	**Date Sampled:**	25 August 2023 & 28 August 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Jenny Shao
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Field Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	4

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 4 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM036_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM036_001	EPR 030	30T Volvo Excavator (3792, EC350D2) - inside cab	3000	3000	3000	16:34	19:04	150	0/100	<0.01
EP3244.002_AM036_002	EPR 010	Western boundary of stockpile area - on picket	1500	1500	1500	7:08	14:46	458	0/100	<0.01
EP3244.002_AM036_003	EPR 018	Eastern boundary of stockpile area - on picket	1500	1500	1500	7:11	14:42	451	0/100	<0.01
EP3244.002_AM036_004	EPR 030	Trailer mounted decontamination unit (18423) - inside dirty zone	3000	3000	3000	11:58	14:39	161	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



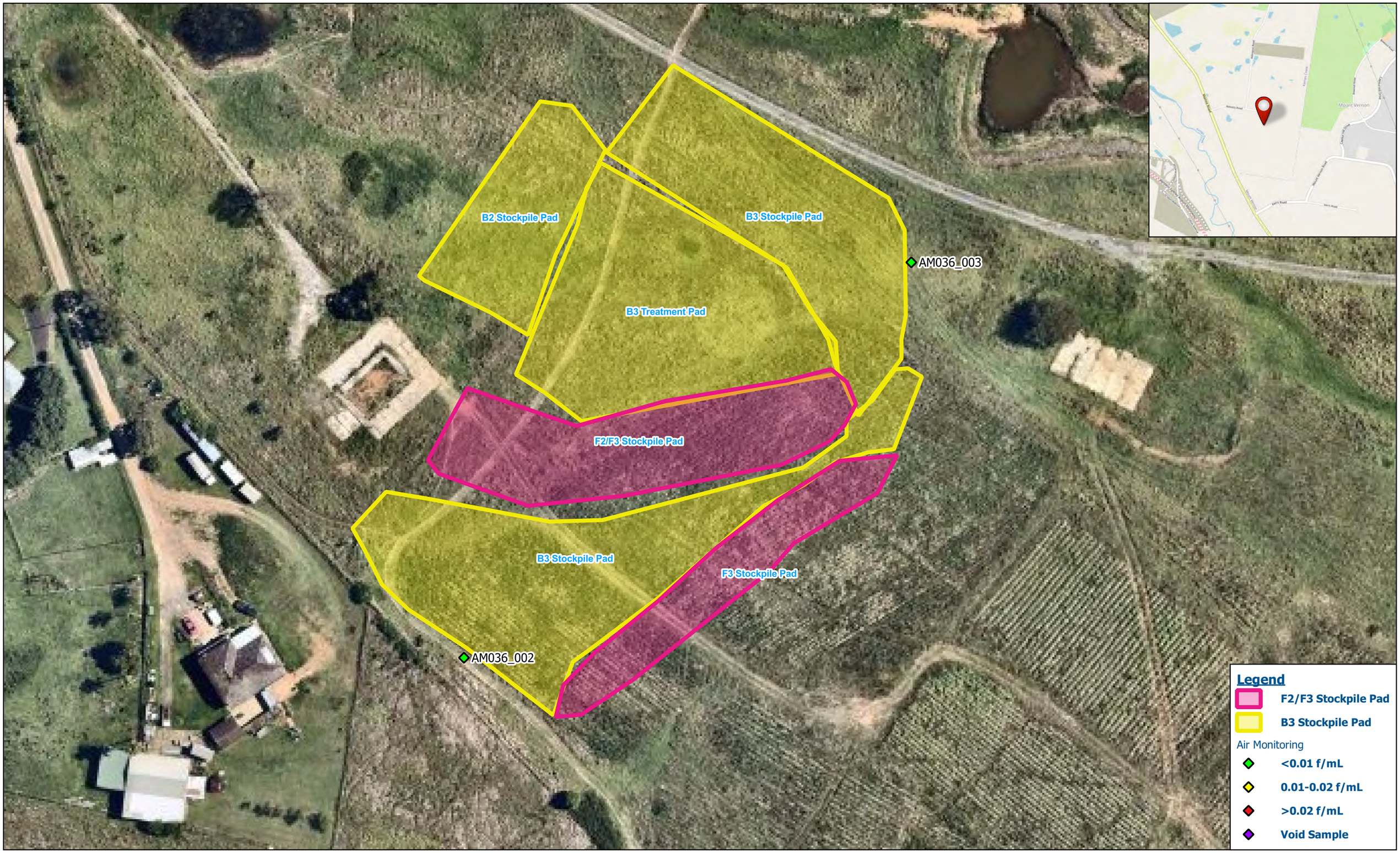
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM036
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitor Locations

Job No: EP3244
Date: 28/08/2023
Drawing Ref: EP3244.001 Fig. 1
Version No: v1

N

0 15 30 45 60 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: JT
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 QMS Certification Services
APPROVED COMPANY AS/NZS 4801 QMS Certification Services
APPROVED COMPANY ISO 14001 QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3244.002_AM037	**Date Reported:**	04 September 2023
Shift Number:	037	**Date Analysed:**	04 September 2023
Project Reference:	EP3244	**Date Sampled:**	04 September 2023
Attention To:	Jacob Dickson	**Sampled By:**	Jenny Shao
Email:	jacob.dickson@esr.com	**Analysed By:**	Jenny Shao
Client:	ESR Australia	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 24, 88 Phillip Street, Sydney, 2000	**Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	2

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 2 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [2][3] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3244.002_AM037_FB	-	-	-	-	-	-	-	-	0/100	-
EP3244.002_AM037_001	EPR 005	Eastern boundary of stockpile area - on picket	3000	3000	3000	10:21	12:50	149	0/100	<0.01
EP3244.002_AM037_002	EPR 013	Eastern boundary of AEC14 - on picket	3000	3000	3000	10:32	12:51	139	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



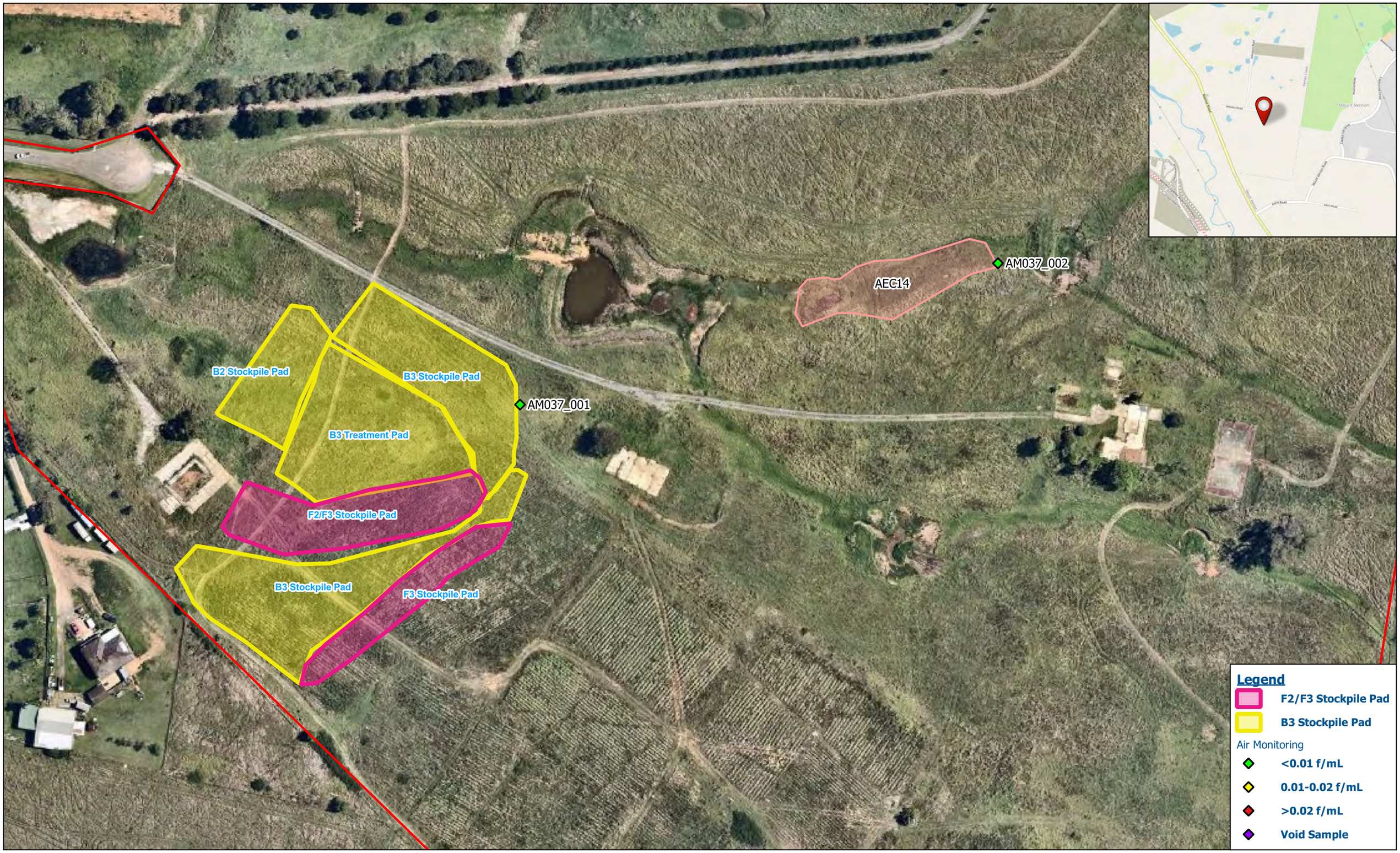
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Air Monitoring - AM037
Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitor Locations

Job No: EP3244
Date: 04/09/2023
Drawing Ref: EP3244.002 Fig. 1
Version No: v1

N

0 30 60 90 120 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: JS Checked by: JT
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3363.001_AM001	**Date Reported:**	20 September 2023
Shift Number:	001	**Date Analysed:**	20 September 2023
Project Reference:	EP3363	**Date Sampled:**	19 September 2023
Attention To:	Chris Chen	**Sampled By:**	Padrick Keating
Email:	cchen@tcecontracting.com.au	**Analysed By:**	Andrew Lepre
Client:	TCE Contracting	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 2, Suite 2.01, Building G, 350 Parramatta Road, Homebush, NSW, 2140	**Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3363.001_AM001_FB	-	-	-	-	-	-	-	-	0/100	-
EP3363.001_AM001_001	13545	Between B2 stockpile and Site Compound - on star picket	3000	3000	3000	14:01	17:01	180	0/100	<0.01
EP3363.001_AM001_002	13693	South of the B2 stockpile - on star picket	3000	3000	3000	14:04	17:04	180	1/100	<0.01
EP3363.001_AM001_003	EPR 096	South of the B2 fill area - on star picket	3000	3000	3000	14:12	17:12	180	0/100	<0.01
EP3363.001_AM001_004	EPR 094	Eastern of B2 fill area - on star picket	3000	3000	3000	14:19	17:19	180	0/100	<0.01
EP3363.001_AM001_005	EPR 095	West of B2 fill area - on star picket	3000	3000	3000	14:25	17:25	180	1/100	<0.01
EP3363.001_AM001_006	13478	Northwest of B2 fill area - on star picket	3000	3000	3000	14:23	17:23	180	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



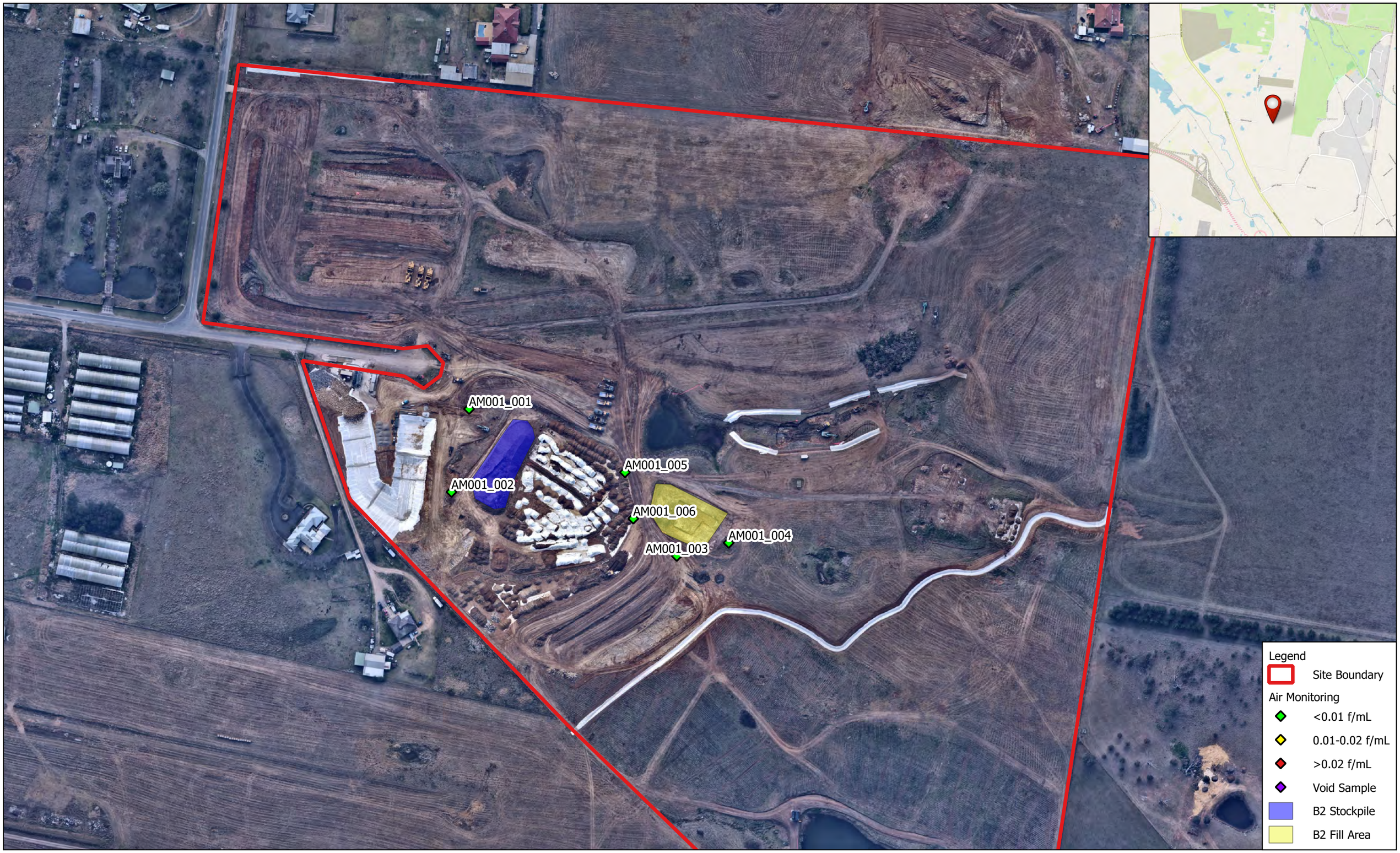
Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Monitoring - AM001
Westlink Stage 1 - Aldington Road, Abbotts Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3363
Date: 20/09/2023
Drawing Ref: EP3363.001 Fig. 1
Version No: v1

N

0 50 100 150 200 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: PK Checked by: JS
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 QHS Certification Services
APPROVED COMPANY ISO 45001 QHS Certification Services
APPROVED COMPANY ISO 14001 QHS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3363.001_AM002	**Date Reported:**	20 September 2023
Shift Number:	002	**Date Analysed:**	20 September 2023
Project Reference:	EP3363	**Date Sampled:**	20 September 2023
Attention To:	Chris Chen	**Sampled By:**	Padrick Keating
Email:	cchen@tcecontracting.com.au	**Analysed By:**	Andrew Lepre
Client:	TCE Contracting	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Level 2, Suite 2.01, Building G, 350 Parramatta Road, Homebush, NSW, 2140	**Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [2][3] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3363.001_AM002_FB	-	-	-	-	-	-	-	-	0/100	-
EP3363.001_AM002_001	13545	Between B2 stockpile and Site Compound - on star picket	2000	2000	2000	7:27	13:46	379	0/100	<0.01
EP3363.001_AM002_002	13693	South of the B2 stockpile - on star picket	2000	2000	2000	7:31	13:48	377	0/100	<0.01
EP3363.001_AM002_003	EPR 092	South of the B2 fill area - on star picket	2000	2000	2000	7:38	13:53	375	0/100	<0.01
EP3363.001_AM002_004	EPR 093	Eastern of B2 fill area - on star picket	2000	2000	2000	7:43	13:56	373	0/100	<0.01
EP3363.001_AM002_005	EPR 091	West of B2 fill area - on star picket	2000	2000	2000	7:48	14:01	373	0/100	<0.01
EP3363.001_AM002_006	13478	Northwest of B2 fill area - on star picket	2000	2000	2000	7:51	14:02	371	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:

Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Monitoring - AM002
Westlink Stage 1 - Aldington Road, Abbotts Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3363
Date: 20/09/2023
Drawing Ref: EP3363.001 Fig. 1
Version No: v1

N

0 50 100 150 200 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: PK Checked by: JS
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3363.001_AM003	**Date Reported:**	21 September 2023
Shift Number:	003	**Date Analysed:**	21 September 2023
Project Reference:	EP3363	**Date Sampled:**	21 September 2023
Attention To:	Chris Chen	**Sampled By:**	Padrick Keating
Email:	cchen@tcecontracting.com.au	**Analysed By:**	Andrew Lepre
Client:	TCE Contracting	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Building G, 350 Parramatta Road, Homebush, NSW 2140	**Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [2][3] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3363.001_AM003_FB	-	-	-	-	-	-	-	-	0/100	-
EP3363.001_AM003_001	13478	Between stockpile and site compound on star picket.	2000	2000	2000	7:02	13:25	383	0/100	<0.01
EP3363.001_AM003_002	EPR 095	To the south of the stockpile by the dam on star picket.	2000	2000	2000	7:05	13:27	382	1/100	<0.01
EP3363.001_AM003_003	EPR 096	To the south of the fill area on grass verge on star picket.	2000	2000	2000	7:09	13:35	386	0/100	<0.01
EP3363.001_AM003_004	EPR 091	To the eastern edge of the fill area on star picket.	2000	2000	2000	7:12	13:38	386	1/100	<0.01
EP3363.001_AM003_005	EPR 094	To the west of the fill area along main site road.	2000	2000	2000	7:15	13:45	390	0/100	<0.01
EP3363.001_AM003_006	EPR 092	To the west of the fill area located by yield sign for water trucks.	2000	2000	2000	7:17	13:52	395	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
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AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

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[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



EP RISK

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Control Asbestos Fibre Monitoring - AM003
Westlink Stage 1 - Aldington Road, Abbotts Road, Kemps Creek, NSW, 2178

Job No: EP3363
Date: 21/09/2023
Drawing Ref: EP3363.001 Fig. 1
Version No: v1

N

0 50 100 150 200 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: PK Checked by: JS
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Figure 1 - Asbestos Air Monitoring Locations

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3363.001_AM004	**Date Reported:**	22 September 2023
Shift Number:	004	**Date Analysed:**	22 September 2023
Project Reference:	EP3363	**Date Sampled:**	22 September 2023
Attention To:	Chris Chen	**Sampled By:**	Padrick Keating
Email:	cchen@tcecontracting.com.au	**Analysed By:**	Andrew Lepre
Client:	TCE Contracting	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Building G, 350 Parramatta Road, Homebush, NSW 2140	**Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [2][3] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3363.001_AM004_FB	-	-	-	-	-	-	-	-	0/100	-
EP3363.001_AM004_001	EPR 095	Between stockpile and site compound on star picket.	2000	2000	2000	7:02	13:37	395	2/100	<0.01
EP3363.001_AM004_002	EPR 092	To the south of the stockpile by the dam on star picket.	2000	2000	2000	7:04	13:38	394	1/100	<0.01
EP3363.001_AM004_003	EPR 096	To the south of the fill area on grass verge on star picket.	2000	2000	2000	7:09	13:41	392	0/100	<0.01
EP3363.001_AM004_004	EPR 091	To the eastern edge of the fill area on star picket.	2000	2000	2000	7:12	13:42	390	0/100	<0.01
EP3363.001_AM004_005	EPR 094	To the west of the fill area along main site road.	2000	2000	2000	7:15	13:44	389	0/100	<0.01
EP3363.001_AM004_006	13545	To the west of the fill area located by yield sign for water trucks.	2000	2000	2000	7:18	13:45	387	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Monitoring - AM004
Westlink Stage 1 - Aldington Road, Abbotts Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3363
Date: 22/09/2023
Drawing Ref: EP3363.001 Fig. 1
Version No: v1

N

0 50 100 150 200 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: PK Checked by: JS
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP3363.001_AM005	**Date Reported:**	25 September 2023
Shift Number:	005	**Date Analysed:**	25 September 2023
Project Reference:	EP3363	**Date Sampled:**	25 September 2023
Attention To:	Chris Chen	**Sampled By:**	Padrick Keating
Email:	cchen@tcecontracting.com.au	**Analysed By:**	Andrew Lepre
Client:	TCE Contracting	**Site Address:**	Westlink Stage 1 - Aldington Road, Abbotts Road & Mamre Road, Kemps Creek, NSW, 2178
Client Address:	Building G, 350 Parramatta Road, Homebush, NSW 2140	**Laboratory Address**	Suite 13.01, 80 Mount Street, North Sydney, NSW, 2060
Type of Monitoring:	Control	**Number of Samples:**	6

METHODOLOGY

Sample Type:	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork NSW Code of Practice: How to Safely Remove Asbestos (2022).
Volume Air Measurement:	Sampling conducted in accordance with the National Occupational Health & Safety Commission (NOHSC) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres (NOHSC:3003 (2005)) Membrane Filter Method (MFM). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in Figure 1 of Attachment 1.
Test Method:	Estimation of Airborne Asbestos Fibres by the MFM. Filters examined in accordance with the NOHSC:3003 (2005) and EP Risk's in- house method as described within the Laboratory Quality Management System (LQMS) Fibre Counting Procedure Manual. Testing conducted in general accordance with ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories* .
Assessment Criteria:	The air monitoring was carried out in accordance with the following guidance: • *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* , 2nd Edition [NOHSC: 3003 (2005)], Australia National Occupational Health and Safety Commission. • N*ational Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC: 1003 (1995)] Australia National Occupational Health and Safety Commission. • Safe Work Australia (SWA) *Workplace Exposure Standards for Airborne Contaminants* (2022).

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AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Reported Result [1][2] (fibres/mL)
			Start (mL/min)	Finish (mL/min)	Average (mL/min)					
EP3363.001_AM005_FB	-	-	-	-	-	-	-	-	0/100	-
EP3363.001_AM005_001	13545	Between stockpile and site compound on star picket.	2000	2000	2000	7:04	13:37	393	0/100	<0.01
EP3363.001_AM005_002	13478	To the south of the stockpile by the dam on star picket.	2000	2000	2000	7:06	13:38	392	1/100	<0.01
EP3363.001_AM005_003	EPR 092	To the south of the fill area on grass verge on star picket.	2000	2000	2000	7:12	13:41	389	0/100	<0.01
EP3363.001_AM005_004	EPR 091	To the eastern edge of the fill area on star picket.	2000	2000	2000	7:17	13:42	385	1/100	<0.01
EP3363.001_AM005_005	EPR 096	To the west of the fill area along main site road.	2000	2000	2000	7:21	13:44	383	0/100	<0.01
EP3363.001_AM005_006	EPR 094	To the west of the fill area located by yield sign for water trucks.	2000	2000	2000	7:18	13:45	387	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

AUTHORISATION

Results approved by:



Jenny Shao
Approved Signatory
Occupational Hygiene Consultant
SafeWork NSW Licenced Asbestos Assessor LAA001462

EP Risk Management Pty Ltd
ABN: 81 147 147 591

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation Number: 20264
Site Number: 24130

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and

[1] Fibres / mL (C) = (A/a).(N/n).(1/r).(1/t).
Where: A/a = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.



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Control Asbestos Fibre Monitoring - AM005
Westlink Stage 1 - Aldington Road, Abbotts Road, Kemps Creek, NSW, 2178

Figure 1 - Asbestos Air Monitoring Locations

Job No: EP3363
Date: 25/09/2023
Drawing Ref: EP3363.001 Fig. 1
Version No: v1

N

0 50 100 150 200 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: PK Checked by: JS
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

APPROVED COMPANY ISO 9001 Quality Management Systems — QMS Certification Services
APPROVED COMPANY ISO 45001 Occupational Health & Safety Management Systems — QMS Certification Services
APPROVED COMPANY ISO 14001 Environmental Management Systems — QMS Certification Services

Appendix I

WASTE DISPOSAL DOCUMENTATION

BINGO INDUSTRIES

1300 424 646
bingoindustries.com.au
*Bingo Waste Services Pty Ltd ABN 43 162 988 623

Tax Invoice

Services provided from
Bingo Bins Pty Ltd

Billed to
The Civil Experts Pty Ltd Tce Contracting
350-374 PARRAMATTA RD
HOMEBUSH NSW 2140

Site name
P197-Kemps Creek

Site details
59-63 Abbotts Rd, KEMPS CREEK NSW 2178

Invoice date
31/08/2023

P/O Number

Account Number
C0009880

Payment terms
30 Days EOM

Invoice Number
BB2079435

Due Date
30/09/2023

[redacted]

Invoice Summary	Price
Invoice Charges	[redacted]
GST	[redacted]
Amount Applied	[redacted]
Total Due	[redacted]

*On behalf of: Bingo Bins Pty Ltd ABN 20 162 984 027, Bingo Recycling Pty Ltd ABN 82 163 894 362, Bingo Commercial Pty Ltd ABN 89 163 883 421; Dial a Dump Industries Pty Ltd ABN 75 131 565 583, Konstruct Environmental Pty Ltd ABN 92 128 389 293, DATS Environmental Services Pty Ltd.
This is a payment claim made under the Building and Construction Industry Security of Payment Act 1999 NSW.

Account no: C0009880 **Invoice no:** BB2079435 **Due Date:** 30 Sep 2023 [redacted]

BPAY **Biller Code:** 328336 **Ref:** 100098800

Telephone & Internet Banking - BPAY®
Contact your bank or financial institution to make this payment from your cheque, savings, debit, credit card or transaction account. More info: www.bpay.com.au
® Registered to BPAY Pty Ltd ABN 69 079 137 518

EFT

Account Name:
Bingo Waste Services Pty Ltd
Commonwealth Bank
BSB: 066 775
Acc No: 100098800
Reference: BB2079435

Credit Card

To make a credit card payment online visit:
www.bingoindustries.com.au/paymybill

A payment processing fee of 1.5% applies to AMEX

Cheque

Mail cheques to:
PO Box 7535
SILVERWATER NSW 2128

Remittance advice: remittances@bingoindustries.com.au

Services Provided From Bingo Bins Pty Ltd

Delivery Date & Despatch Docket	Description	Qty	Amount Ex GST	Amount Inc GST
07/08/2023 Dkt:1904367	6 Marrel Bin (Asbestos)	1	[redacted]	[redacted]
07/08/2023	Asbestos Disposal @ [redacted]	1.00 tons	[redacted]	[redacted]
Total			[redacted]	[redacted]

Total [redacted]

We want to work with our customers to build a truly Circular Economy and Close the Loop. Some of our sustainability highlights over the past 12 months include

RESOURCE RECOVERY
83%
Independently audited **recover rate** for Eastern Creek

RECONCILIATION ACTION PLAN
3.5% INDIGENOUS PARTICIPATION
Delivering our first RAP - **all actions on-track or completed**

CHARITY SUPPORT
$1.1M+
Raised for **The McGrath Foundation** and **Cancer Council**

EDUCATION
2,434
Students reached in FY20 through BINGO's **Education Program**

GOT questions about how to pay your bill? Call us on **1300 424 646**

*On behalf of: Bingo Bins Pty Ltd ABN 20 162 984 027, Bingo Recycling Pty Ltd ABN 82 163 894 362, Bingo Commercial Pty Ltd ABN 89 163 883 421; Dial a Dump Industries Pty Ltd ABN 75 131 565 583, Konstruct Environmental Pty Ltd ABN 92 128 389 293, DATS Environmental Services Pty Ltd.
This is a payment claim made under the Building and Construction Industry Security of Payment Act 1999 NSW.

BINGO Recycling - Eastern Creek
Bingo Waste Services Pty Ltd
A.B.N. 43 162 988 623
Honeycomb Drive
Eastern Creek NSW 2766
Phone: 1300 424 646

Docket #24719 : Waste Delivery

Date: 26/10/2023

Gross: 33.22 Tonne

Tare: 17.06 Tonne

Net: 16.16 Tonne

Time In: 9:31:21 AM | Time Out: 10:42:26 AM

Customer
Ground King Civil Pty Ltd
KEMPS CREEK
Vehicle: XN56EJ
Driver: Dean -

Item	Qty	UOM
Asbestos Mixed Waste	16.16	Tonne

Printed At: 30/10/2023 11:49 AM

Statement of Compliance
You are under the instruction of site personnel. All machinery has right of way at all times. No hazardous materials are accepted. All Drivers must check axle weights and GVM. All loads must be adequately restrained. You agree to take all reasonable steps to prevent breaches of heavy vehicle national laws. Any breaches of the above may be subject to extra charges.

For faster service, quote Contract Reference No
A2984

BINGO Recycling - Eastern Creek
Bingo Waste Services Pty Ltd
A.B.N. 43 162 988 623
Honeycomb Drive
Eastern Creek NSW 2766
Phone: 1300 424 646

Docket #25421 : Waste Delivery

Date: 26/10/2023
Gross: 34.88 Tonne
Tare: 16.84 Tonne
Net: 18.04 Tonne

Time In: 12:34:30 PM | Time Out: 1:00:51 PM

Customer
Ground King Civil Pty Ltd
KEMPS CREEK
Vehicle: 006LMH
Driver: Mark .

Item	Qty	UOM
Asbestos Mixed Waste	18.04	Tonne

Printed At: 30/10/2023 11:49 AM

Statement of Compliance
You are under the instruction of site personnel. All machinery has right of way at all times. No hazardous materials are accepted. All Drivers must check axle weights and GVM. All loads must be adequately restrained. You agree to take all reasonable steps to prevent breaches of heavy vehicle national laws. Any breaches of the above may be subject to extra charges.

For faster service, quote Contract Reference No
A2984

BINGO Recycling - Eastern Creek
Bingo Waste Services Pty Ltd
A.B.N. 43 162 988 623
Honeycomb Drive
Eastern Creek NSW 2766
Phone: 1300 424 646

Docket #28489 : Waste Delivery

Date: 27/10/2023
Gross: 31.78 Tonne
Tare: 17.94 Tonne
Net: 13.84 Tonne

Time In: 4:00:59 PM | Time Out: 4:20:56 PM

Customer
Ground King Civil Pty Ltd
KEMPS CREEK
Vehicle: XO36PN
Driver: Hany

Item	Qty	UOM
Asbestos Mixed Waste	13.84	Tonne

Printed At: 30/10/2023 11:49 AM

Statement of Compliance
You are under the instruction of site personnel. All machinery has right of way at all times. No hazardous materials are accepted. All Drivers must check axle weights and GVM. All loads must be adequately restrained. You agree to take all reasonable steps to prevent breaches of heavy vehicle national laws. Any breaches of the above may be subject to extra charges.

For faster service, quote Contract Reference No
A2984

Appendix J

CONDITIONS OF CONSENT

Development Consent

Section 4.38 of the Environmental Planning and Assessment Act 1979

As delegate of the Minister for Planning and Public Spaces under delegation executed on 9 March 2022, I approve the Development Application referred to in Schedule 1, subject to the conditions specified in Schedule 2.

These conditions are required to:

- prevent, minimise, or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development

Director
Industry Assessments

Sydney 21 April 2023

The Department has prepared a consolidated version of the consent which is intended to include all modifications to the original determination instrument.

The consolidated version of the consent has been prepared by the Department with all due care. This consolidated version is intended to aid the consent holder by combining all consents relating to the original determination instrument but it does not relieve a consent holder of its obligation to be aware of and fully comply with all consent obligations as they are set out in the legal instruments, including the original determination instrument and all subsequent modification instruments.

CONSOLIDATED CONSENT

SCHEDULE 1

Application Number:	SSD-9138102
Applicant:	ESR Developments (Australia) Pty Ltd
Consent Authority:	Minister for Planning and Public Spaces
Site:	Lots 111, 112, 113, 114 and 115 DP 1296469 and Lot 10 DP 1296455, Mamre Road / Abbotts Road intersection, Abbotts Road and Aldington Road
Development:	Construction of the first stage of an industrial estate including bulk earthworks, subdivision, construction, fit out and operation of two warehouse buildings and ancillary office space with a total gross floor area of 81,417m^2, landscaping, construction of estate roads and external road upgrades, site servicing and stormwater infrastructure.

SUMMARY OF MODIFICATIONS

Application Number	Determination Date	Decider	Modification Description
SSD-9138102-Mod-4	9 April 2024	Team Leader	Minor amendments to the design and layout of Warehouse 1
SSD-9138102-Mod-5	7 June 2024	Director	Construction of external road works including upgrade of the Mamre Road / Abbotts Road intersection, widening of Abbotts Road and widening a section of Aldington Road

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DEFINITIONS

ADR	Amended Development Report titled *SSD-9138102: Westlink Stage 1 Amendment Report*, prepared by Ethos Urban and dated 21 October 2022 (version D) and 6 December 2022 (version RFI A)
Additional Information	Additional information provided by the Applicant titled *Response to request for further information*, prepared by Ethos Urban and dated 14 February 2023
Applicant	ESR Developments (Australia) Pty Ltd, or any person carrying out any development to which this consent applies
BCA	Building Code of Australia
BC Act	*Biodiversity Conservation Act 2016*
Carrier	Operator of a telecommunication network and/ or associated infrastructure, as defined in section 7 of the *Telecommunications Act 1997* (Cth)
Certifier	A council or an accredited certifier (including principal certifiers) who is authorised under section 6.5 of the EP&A Act to issue Part 6 certificates
CEMP	Construction Environmental Management Plan
Conditions of this consent	Conditions contained in Schedule 2 of this document
Construction	Construction of buildings, hardstands, offices, roads, stormwater infrastructure and landscaping
Council	Penrith City Council
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Demolition	The deconstruction and removal of buildings, sheds and other structures on the site
Department	NSW Department of Planning and Environment
Development	The development described in Schedule 1, the EIS, RTS, ADR and Additional Information, including bulk earthworks, subdivision, construction and fit out of two warehouse buildings and ancillary office space, landscaping, construction of estate roads and external road upgrades, site servicing and stormwater infrastructure, as modified by the conditions of this consent
Development layout	The plans at Appendix 1 of this consent
DPE	Department of Planning and Environment
Earthworks	Bulk earthworks, clearing, site levelling, import and compaction of fill material, excavation for installation of drainage and services, to prepare the site for construction
EHG	Environment and Heritage Group of the Department
EIS	The Environmental Impact Statement titled *290-308 Aldington Road, 59-62 Abbotts Road & 63 Abbotts Road, Kemps Creek, Westlink Industrial Estate, SSD-9138102*, prepared by Ethos Urban dated 17 June 2021, submitted with the application for consent for the development
ENM	Excavated Natural Material
Environment	As defined in section 1.4 of the EP&A Act
Environmental Representative Protocol	The document of the same title published by the Department.
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	Environmental Planning and Assessment Regulation 2021
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6 pm to 10 pm
External Road Works	The upgrade of: • Mamre Road / Abbotts Road Intersection Works as shown on the plans in Appendix 7 and including installation of interim traffic signals

	• Abbotts Road and Aldington Road Widening Works as shown on the plans in Appendix 7
Fibre-ready facility	As defined in section 372W of the *Telecommunications Act 1997* (Cth)
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement
Heritage item	An item as defined under the *Heritage Act 1977,* and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the *National Parks and Wildlife Act 1974'*, the World Heritage List, or the National Heritage List or Commonwealth Heritage List under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), or anything identified as a heritage item under the conditions of this consent
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance Note: "material harm" is defined in this consent
IWCM	Integrated Water Cycle Management
Land	Has the same meaning as the definition of the term in section 1.4 of the EP&A Act
MRP	Mamre Road Precinct
MRP DCP	Mamre Road Precinct Development Control Plan 2021
Material harm	Is harm that: a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
Minister	NSW Minister for Planning and Public Spaces (or delegate)
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
Modification Assessments	The documents assessing the environmental impact of proposed modification of this consent and any other information submitted with the following modification application made under the EP&A Act: a) Section 4.55(1A) Modification Report, Modification 3, 1030-1048 & 1050-1064 Mamre Road, 59-62 & 63 Abbotts Road and 290-308 Aldington Road, Kemps Creek' prepared by Ethos Urban dated 9 November 2023. b) Section 4.55(1A) Modification Report, Modification 5, 1030-1048 & 1050-1064 Mamre Road, 59-62 & 63 Abbotts Road and 290-308 Aldington Road, Kemps Creek prepared by Ethos Urban dated 21 March 2024 and Response to Submissions prepared by ESR dated 21 May 2024
NCC	National Construction Code
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent
NRAR	Natural Resources Access Regulator, DPE
OEMP	Operational Environmental Management Plan
Operation	The use of warehouse buildings for storage or distribution of goods upon completion of construction, as described in the EIS, RTS and ADR
PA	Means a planning agreement within the meaning of the term in section 7.4 of the EP&A Act
Principal Certifier	The certifier appointed as the principal certifier for the building work under section 6.6(1) of the EP&A Act or for the subdivision work under section 6.12(1) of the EP&A Act
Planning Secretary	Secretary of the Department, or delegate
POEO Act	*Protection of the Environment Operations Act 1997*

Reasonable	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements
Regional Stormwater Authority	Sydney Water Corporation
Registered Aboriginal Parties	Means the Aboriginal persons identified in accordance with the document entitled "*Aboriginal cultural heritage consultation requirements for proponents 2010*" (DECCW)
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
Response to Submissions (RTS)	The Applicant's response to issues raised in submissions received in relation to the application for consent for the development under the EP&A Act and includes the document titled *Submissions and Amendment Report, 290-308 Aldington Road, 59-62 Abbotts Road and 63 Abbotts Road, Kemps Creek, Westlink Industrial Estate*, prepared by Ethos Urban and dated 26 April 2022
Sensitive receivers	A location where people are likely to work, occupy or reside, including a dwelling, school, hospital, office or public recreational area
Site	The land defined in Schedule 1
Stage 1 Abbotts Road Widening Works	Constructing temporary pavement on the southern side of Abbotts Road and western side of Aldington Road and temporary safety barriers, as shown on the plan 'AARU Civil Works Staging Drawing Stage 01 Abbotts Rd SP2_3 (Nov 2023)' prepared by Robson Civil
Stormwater Scheme	Regional stormwater infrastructure as shown on the MRP Stormwater Scheme Plan, December 2022 prepared by Sydney Water
TfNSW	Transport for New South Wales
Trunk Drainage	Stormwater assets, typically open natural trunk drainage channels, wetlands and storage ponds, as shown on Sydney Water's Mamre Road Precinct Stormwater Scheme Plan, December 2022
VENM	Virgin Excavated Natural Material
WAD	Works Authorisation Deed, a contract between TfNSW and the Applicant to undertake roadworks on the State road network
Waste	Has the same meaning as the definition of the term in the Dictionary to the POEO Act
WSUD	Water Sensitive Urban Design
Year	A period of 12 consecutive months

SCHEDULE 2

PART A ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

A1. In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.

TERMS OF CONSENT

A2. The development may only be carried out:

(a) in compliance with the conditions of this consent;

(b) in accordance with all written directions of the Planning Secretary;

(c) in accordance with the EIS, RTS, ADR and additional information;

(d) in accordance with the Development Layout in Appendix 1; and

(e) in accordance with the management and mitigation measures in Appendix 25; and

(f) in accordance with the Modification Assessments.

A3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to:

(a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and

(b) the implementation of any actions or measures contained in any such document referred to in condition A3(a).

A4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c) or A2(e). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c) or A2(e), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

LIMITS OF CONSENT

A5. This consent lapses five years after the date from which it operates, unless the development has physically commenced on the land to which the consent applies before that date.

A6. The maximum GFA for development on the site must not exceed the limits in Table 1.

Table 1 *Maximum GFA of the Development*

Land Use	Maximum GFA (m^2)
Warehouse or distribution centres	79,031
Ancillary offices	2,286
Total	**81,317**

NOTIFICATION OF COMMENCEMENT

A7. The date of commencement of each of the following phases of the development must be notified to the Planning Secretary in writing, at least one month before that date, or as otherwise agreed with the Planning Secretary:

(a) construction;

(b) operation; and

(c) cessation of operations.

A8. If the construction or operation of the development is to be staged, the Planning Secretary must be notified in writing, at least one month before the commencement of each stage (or other timeframe agreed with the Planning Secretary), of the date of commencement and the development to be carried out in that stage.

EVIDENCE OF CONSULTATION

A9. Where conditions of this consent require consultation with an identified party, the Applicant must:

(a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and

(b) provide details of the consultation undertaken including:

(i) the outcome of that consultation, matters resolved and unresolved; and

(ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

STAGING, COMBINING AND UPDATING STRATEGIES, PLANS OR PROGRAMS

A10. With the approval of the Planning Secretary, the Applicant may:

(a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);

(b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and

(c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).

A11. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

A12. If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.

PROTECTION OF PUBLIC INFRASTRUCTURE

A13. Before the commencement of construction of the development, the Applicant must:

(a) consult with the relevant owner and provider of services that are likely to be affected by the development to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure;

(b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and

(c) submit a copy of the dilapidation report to the Planning Secretary and Council.

A14. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:

(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development; and

(b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

DEMOLITION

A15. All demolition must be carried out in accordance with *Australian Standard AS 2601-2001 The Demolition of Structures* (Standards Australia, 2001).

STRUCTURAL ADEQUACY

A16. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the NCC.

Note:

- *Under Part 6 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.*
- *The EP&A (Development Certification and Fire Safety) Regulation 2021 sets out the requirements for the certification of the development.*

CIVIL PLANS

A17. Engineering plans are to be prepared in accordance with the development consent, Penrith City Council's *Design Guidelines for Engineering Works for Subdivisions and Developments, Engineering Construction Specification for Civil Works* and Austroads Guidelines.

A18. All earthworks and retaining walls subject to this development must be contained within the site and not cause any constraint on future development of any adjoining properties, as described in the information titled ' Westlink Stage 1 (SSD-9138102) – Retaining Wall and Earthworks', prepared by ESR and dated 20 April 2023 and supporting attachments.

SUBDIVISION

A19. Prior to the issuing of Subdivision Certificates for any stage of the development, detailed work-as-executed drawings shall be prepared and signed by a Registered Surveyor, which show the finished surface levels of the access road,

internal roads, drainage, street trees and any areas of fill, carried out under this consent. The work-as-executed drawing must be submitted to the Certifier, Council and Sydney Water prior to the issue of a Subdivision Certificate.

A20. Prior to the issuing of Subdivision Certificates for any stage of the development, the Applicant must provide to the Certifier evidence that all matters required to be registered on title, including easements, have been lodged for registration or registered at the Land Registry Services.

A21. Prior to the issuing of Subdivision Certificates for any stage of the development:

(a) a certificate from an electricity and telecommunications provider must be submitted to the Certifier certifying that satisfactory service arrangements to the site have been established; and

(b) a certificate from the Regional Stormwater Authority must be submitted to the Certifier certifying that satisfactory stormwater servicing arrangements for the site have been established.

A22. Prior to issue of a Subdivision Certificate that proposes the dedication of any internal estate road as a public road:

(a) a final inspection of the estate road is to be undertaken by the relevant Roads Authority. All compliance documentation for road and drainage construction of the estate road must be submitted to the relevant Roads Authority in accordance with the relevant Roads Authorities specifications and requirements.

(b) a Maintenance Bond is to be lodged with Penrith City Council for all road and drainage works that are to be dedicated to the relevant Roads Authority. The value of the bond shall be determined in accordance with Penrith City Council's adopted Fees and Charges.

(c) where installation of any regulatory/advisory signage and line marking are proposed, plans are to be lodged with Penrith City Council and approved by the Local Traffic Committee

(d) an application for proposed street names must be lodged with and approved by Penrith City Council and the signs erected on-site. The proposed names must be in accordance with Penrith City Council's Street Naming Policy.

Note: Contact Penrith City Council's Engineering Services Department on 4732 7777 for further information on this process and applicable fees.

COMPLIANCE

A23. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.

DEVELOPMENT CONTRIBUTIONS

A24. Prior to the issue of a Subdivision Certificate or Construction Certificate (as required by the contributions plan or agreed by Council), the Applicant must pay contributions to Council as required in accordance with the Penrith City Mamre Road Precinct Development Contributions Plan 2022, or any other contributions plan as in force when the later consent takes effect.

Note: Subject to agreement between Council and the Applicant, local contributions may be satisfied by a planning agreement or works-in-kind agreement between Council and the Applicant.

A25. A special infrastructure contribution must be made in accordance with the Environmental Planning and Assessment (Special Infrastructure Contribution – Western Sydney Aerotropolis) Determination 2022 (2022 Determination) as in force when this development consent takes effect.

A person may not apply for a subdivision certificate or construction certificate (as the case may require, having regard to the Determination) in relation to the development unless the person provides, with the application, written evidence from the Department of Planning and Environment that the special infrastructure contribution for the development (or that part of the development for which the certificate is sought) has been made or that arrangements are in force with respect to the making of the contribution.

More information

A request for assessment by the Department of Planning and Environment of the amount of the contribution that is required under this condition can be made through the NSW planning portal (https://www.planningportal.nsw.gov.au/development-assessment/contributions/sic-online-service). Please refer enquiries to SIContributions@planning.nsw.gov.au.

OPERATION OF PLANT AND EQUIPMENT

A26. All plant and equipment used on site, or to monitor the performance of the development, must be:

(a) maintained in a proper and efficient condition; and

(b) operated in a proper and efficient manner.

EXTERNAL WALLS AND CLADDING

A27. The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA.

A28. Prior to the issuing of:

(a) any Construction Certificate relating to the construction of external walls (including the installation of finishes and claddings such as synthetic or aluminium composite panels); and

(b) an Occupation Certificate,

the Applicant must provide the Certifier with documented evidence that the products and systems proposed for use or used in the construction of external walls (including finishes and claddings such as synthetic or aluminium composite panels) comply with the requirements of the BCA.

A29. The Applicant must provide a copy of the documentation given to the Certifier to the Planning Secretary within seven days after the Certifier accepts it.

UTILITIES AND SERVICES

A30. Before the construction of any utility works associated with the development, the Applicant must obtain relevant approvals from service providers.

A31. Before the commencement of operation of the development, the Applicant must obtain a Compliance Certificate for water and sewerage infrastructure servicing of the site under section 73 of the *Sydney Water Act 1994*.

A32. Before the issuing of a Subdivision Works or Construction Certificate for any stage of the development, the Applicant (whether or not a constitutional corporation) is to provide evidence, satisfactory to the Certifier, that arrangements have been made for:

(a) the installation of fibre-ready facilities to all individual lots and/or premises in the development to enable fibre to be readily connected to any premises that is being or may be constructed on those lots; and

(b) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in the development demonstrated through an agreement with a carrier.

A33. Before the issuing of the Occupation Certificate for the development the Applicant must demonstrate that the carrier has confirmed in writing it is satisfied that the fibre-ready facilities are fit-for-purpose.

WORK AS EXECUTED PLANS

A34. Before the issuing of the Occupation Certificate for the first warehouse building, work-as-executed drawings signed by a registered surveyor demonstrating that the street trees, stormwater drainage (including operation and maintenance management plans) and finished ground levels have been constructed as approved, must be submitted to the Principal Certifier.

ENVIRONMENTAL REPRESENTATIVE

A35. The Applicant must engage an Environmental Representative (ER) to oversee construction of the development. Unless otherwise agreed to by the Planning Secretary, construction of the development must not commence until an ER has been approved by the Planning Secretary and engaged by the Applicant. The approved ER must:

(a) be a suitably qualified and experienced person who was not involved in the preparation of the EIS, RTS, ADR, and any additional information for the development and is independent from the design and construction personnel for the development;

(b) receive and respond to communication from the Planning Secretary in relation to the environmental performance of the development;

(c) consider and inform the Planning Secretary on matters specified in the terms of this consent;

(d) consider and recommend to the Applicant any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community;

(e) review the CEMP required in Condition C2 and any other documents that are identified by the Planning Secretary, to ensure they are consistent with requirements in or under this consent and if so:

(i) make a written statement to this effect before submission of such documents to the Planning Secretary (if those documents are required to be approved by the Planning Secretary); or

(ii) make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Planning Secretary/Department for information or are not required to be submitted to the Planning Secretary/Department);

(f) regularly monitor the implementation of the CEMP to ensure implementation is being carried out in accordance with the document and the terms of this consent;

(g) as may be requested by the Planning Secretary, help plan, attend or undertake audits of the development commissioned by the Department including scoping audits, programming audits, briefings, and site visits;

(h) as may be requested by the Planning Secretary, assist the Department in the resolution of community complaints;

(i) provide advice to the Applicant on the management and coordination of construction works on the site with adjoining sites in the Mamre Road Precinct in relation to construction traffic management, earthworks and sediment control and noise;

(j) attend the Mamre Road Precinct Working Group (see Condition A37) in a consultative role in relation to the environmental performance of the development; and

(k) prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, an **Environmental Representative Quarterly Report** providing the information set out in the Environmental Representative Protocol under the heading 'Environmental Representative Quarterly Reports'. The **Environmental Representative Quarterly Report** must be submitted within seven calendar days following the end of each quarter for the duration of the ER's engagement for the development, or as otherwise agreed with the Planning Secretary.

A36. The Applicant must provide the ER with all documentation requested by the ER in order for the ER to perform their functions specified in condition A35 (including preparation of the ER monthly report), as well as:

(a) the complaints register (to be provided on a daily basis); and

(b) a copy of any assessment carried out by the Applicant of whether proposed work is consistent with the consent (which must be provided to the ER before the commencement of the subject work).

A37. The Planning Secretary may at any time commission an audit of an ER's exercise of its functions under condition A34. The Applicant must:

(a) facilitate and assist the Planning Secretary in any such audit; and

(b) make it a term of their engagement of an ER that the ER facilitate and assist the Planning Secretary in any such audit.

MAMRE ROAD PRECINCT WORKING GROUP

A38. Within three months of the commencement of construction of the development and until all components of the development are constructed and operational, the Applicant must establish and participate in a working group, or join and participate in an existing working group, with relevant consent holders in the MRP, to the satisfaction of the Planning Secretary. The purpose of the working group is to consult and coordinate construction works within the MRP to assist with managing and mitigating potential cumulative environmental impacts. The working group must:

(a) comprise at least one representative of the Applicant, the Applicant's ER, and relevant consent holders in the MRP;

(b) meet periodically throughout the year to discuss, formulate and implement measures or strategies to improve monitoring, coordination of the approved industrial developments in the MRP;

(c) regularly inform Council, TfNSW, Sydney Water and the Planning Secretary of the outcomes of these meetings and actions to be undertaken by the working group;

(d) review the performance of approved industrial developments in the MRP and identify trends in the data with respect to cumulative construction traffic, erosion and sediment control, noise, stormwater management and waterway health objectives under the MRP DCP;

(e) review community concerns or complaints with respect to environmental management;

(f) identify interim traffic safety measures to manage construction traffic and how these measures will be coordinated, communicated, funded and monitored in the MRP; and

(g) provide the Planning Secretary with an update and strategies, if a review under subclause (d) and (e) identifies additional measures and processes are required to be implemented by the working group.

A39. Three (3) months prior to completion of construction of all components of the development, the Applicant is eligible to exit the working group required under condition A38. The Applicant must:

(a) consult with the Planning Secretary;

(b) provide confirmation that all components of the development are operational; and

(c) advise on the date of the proposed exit.

APPLICABILITY OF GUIDELINES

A40. References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent.

A41. However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.

ADVISORY NOTES

AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this consent removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

PART B SPECIFIC ENVIRONMENTAL CONDITIONS

TRAFFIC AND ACCESS

Construction Traffic Management Plan

B1. Prior to the commencement of construction of the development, the Applicant must prepare a Construction Traffic Management Plan for the development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be prepared in consultation with Council and TfNSW;

(c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction works to:

(i) ensure access to the site and road safety and network efficiency is maintained,

(ii) manage cumulative construction traffic from other concurrent construction works within the Mamre Road Precinct, and

(iii) address necessary interim traffic safety controls and management measures, including consideration of any traffic control measures required to manage traffic entering Mamre Road in the period before Mamre Road/Abbotts Road intersection construction is complete;

(d) detail heavy vehicle routes, access and parking arrangements;

(e) include a Driver Code of Conduct to:

(i) minimise the impacts of earthworks and construction on the local and regional road network;

(ii) minimise conflicts with other road users;

(iii) minimise road traffic noise; and

(iv) ensure truck drivers use specified routes, including entering and exiting Mamre Road via Abbotts Road and not Bakers Lane;

(f) include a program to monitor the effectiveness of these measures; and

(g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.

B2. The Applicant must:

(a) not commence construction until the Construction Traffic Management Plan required by condition B1 is approved by the Planning Secretary; and

(b) implement the most recent version of the Construction Traffic Management Plan approved by the Planning Secretary for the duration of construction.

Operational Traffic Monitoring Program

B3. At the commencement of operation of the development and for a minimum period of 12 months of operation, the Applicant must establish an Operational Traffic Monitoring Program to verify light and heavy vehicle traffic numbers against the predictions in the ADR. The Program must also monitor the effectiveness of the traffic management measures to the satisfaction of the Planning Secretary and include but not be limited to the following:

(a) detail the numbers and frequency of truck movements, sizes of trucks, vehicle routes and hours of operation;

(b) queue monitoring at the Mamre Road/Abbotts Road intersection and background travel counts on Mamre Road and Abbotts Road;

(c) verify the predicted traffic numbers and level of service against the actual impacts of the development, and analyse the potential cause of any significant discrepancies;

(d) consider the current capacity and efficiency of the existing road network including Mamre Road and Aldington Road; and

(e) include procedures for the reporting and monitoring of results to evaluate the traffic performance of the development.

~~**External Road Upgrades**~~

~~B4. Prior to the commencement of operation of the development, the Applicant must complete the construction of the upgrades to Abbotts Road to the satisfaction of Council. The Applicant must obtain approval for the works under section 138 of the *Roads Act 1993*.~~

~~B5. Prior to the commencement of construction works for the Mamre Road/Abbotts Road intersection works and signalised intersection of Abbotts Road and Aldington Road, the Applicant must enter into a Works Authorisation Deed with TfNSW. TfNSW fees for administration, plan checking, civil works inspections and project management shall be paid by the Applicant prior to the commencement of works.~~

~~B6. Prior to the commencement of construction of signalised intersection road works, the proposed Traffic Control Signal/s at the intersection of Mamre Road/Abbotts Road and Aldington Road/Abbotts Road must be designed to meet TfNSW requirements. The Traffic Control Signal (TCS) plans shall be drawn by a suitably qualified person and endorsed by a suitably qualified practitioner.~~

~~The submitted design shall be in accordance with Austroads Guide to Road Design in association with relevant TfNSW supplements (available on www.transport.nsw.gov.au). The certified copies of the TCS design and civil design plans shall be submitted to TfNSW for consideration and approval prior to the release of a Construction Certificate and commencement of signalised intersection road works. Please send all documentation to development.sydney@transport.nsw.gov.au.~~

~~B7. Detailed design plans and hydraulic calculations of any changes to the stormwater drainage system are to be submitted to TfNSW for approval, prior to the commencement of any works referred to in Condition B5. Please send all documentation to is development.sydney@transport.nsw.gov.au. A plan checking fee will be payable and a performance bond may be required before TfNSW approval is issued.~~

~~B8. The Applicant must be responsible for all public utility adjustment/relocation works, necessitated by the work referred to in Condition B5 and as required by the various public utility authorities and/or their agents. Should any public utility adjustment/relocation works be required adjacent to a classified road, plans are to be submitted to TfNSW for approval, prior to the commencement of any works. Please send all documentation to is development.sydney@transport.nsw.gov.au.~~

~~A plan checking fee may be payable and a performance bond may be required before TfNSW approval is issued.~~

~~B9. Any realignment of site boundaries to facilitate the works referred to in Condition B5, inclusive but not limited to drainage, footpaths and batters resulting from the proposed road and construction works, must be dedicated as public road at no cost to the relevant roads authority unless specified otherwise in a planning agreement.~~

~~B10. The Applicant must obtain a Road Occupancy Licence (ROL) from TfNSW Transport Management Centre for any works that may impact on traffic flows on Mamre Road during construction activities. A ROL can be obtained through https://myrta.com/oplinc2/pages/security/oplincLogin.jsf.~~

~~B11. Prior to the commencement of operation of the first warehouse building, the upgrade works to the Mamre Road and Abbotts Road intersection, Abbotts Road and Aldington Road intersection, and upgrades to Abbotts Road must be completed to the satisfaction of the relevant roads authority for each component of the works.~~

~~**Internal Access Roads**~~

~~B12. Prior to the commencement of operation of the first warehouse building, the Applicant must construct and operate the road works shown in Figure 1 in Appendix 1 to the satisfaction of relevant road authority.~~

Street Trees

B13. Prior to the commencement of any stage of road construction, detailed design plans showing the provision of passively irrigated street trees within the relevant stage of works must be submitted to the satisfaction of the relevant road authority. The plans must:

(a) be prepared in consultation with Council; and

(b) demonstrate compliance with the Sydney Water *Stormwater Scheme Infrastructure Design Guideline* and MRP DCP.

Parking

B14. The Applicant must provide sufficient parking facilities on-site in accordance with the MRP DCP, including for heavy vehicles and for site personnel, to ensure that traffic associated with the development does not utilise public and residential streets or public parking facilities.

B15. Prior to the issue of the occupation certificate for the first warehouse building, the development must include bicycle parking and end of trip facilities in accordance with Australian Standard AS1742.9:2018 *Manual of Uniform Traffic Control Devices - Bicycle Facilities*, and *Cycling Aspects of Austroads Guides*. Any bicycle parking and storage facilities must be secure, convenient, well lit, physically and visually accessible and within close proximity to the main in accordance with Austroads guidelines.

B16. A minimum of 5% of parking bays for each warehouse must provide for electric vehicle charging, with a further 5% constructed as readily adaptable.

Operating Conditions

B17. The Applicant must ensure:

(a) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the development are constructed and maintained in accordance with the latest version of *AS 2890.1:2004 Parking facilities Off-street car parking* (Standards Australia, 2004), *AS 2890.2:2018 Parking facilities Off-street Commercial Vehicle Facilities* (Standards

Australia, 2018) and *AS 2890.6.2009 Parking facilities Off-street parking for people with disabilities* (Standards Australia, 2009)

(b) the swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, is in accordance with the relevant AUSTROADS guidelines;

(c) the development does not result in any vehicles queuing on the public road network;

(d) heavy vehicles and bins associated with the development are not parked on local roads or footpaths in the vicinity of the site;

(e) all vehicles are wholly contained on site before being required to stop;

(f) all loading and unloading of materials is carried out on-site;

(g) all trucks entering or leaving the site with loads have their loads covered and do not track dirt onto the public road network; and

(h) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times

(i) all vehicles accessing and departing the site from/to Mamre Road must travel via Abbotts Road and not Bakers Lane, until the completion of the ultimate upgrade of Aldington Road and delivery of the Southern Link Road or otherwise agreed in writing by the Secretary, Council and TfNSW

(j) Use of 30m PBS Level on local roads will require approval from the National Heavy Vehicle Regulator (NHVR) and Council's Asset Section.

Workplace Travel Plan

B18. Prior to the commencement of operation of any part of the development, the Applicant must prepare a Workplace Travel Plan and submit a copy to the Planning Secretary. The Workplace Travel Plan must:

(a) be prepared in consultation with TfNSW;

(b) outline facilities and measures to promote public transport usage, such as car share schemes and employee incentives; and

(c) describe pedestrian and bicycle linkages and end of trip facilities available on-site.

B19. The Applicant must implement the most recent version of the Workplace Travel Plan for the duration of the development.

SOILS, WATER QUALITY AND HYDROLOGY

Imported Soil

B20. The Applicant must:

(a) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site;

(b) keep accurate records of the volume and type of fill to be used; and

(c) make these records available to the Planning Secretary upon request.

Erosion and Sediment Control

B21. Prior to the commencement of earthworks for the development, the Applicant must design and detail the erosion and sediment control measures for the site to ensure the construction phase IWCM controls in the MRP DCP are achieved to the satisfaction of the Planning Secretary. Detailed Erosion and Sediment Control Plans (ESCP) and drawings must:

(a) be prepared by a Chartered Professional Erosion and Sediment Control (CPESC) specialist;

(b) be prepared in accordance with *Managing Urban Stormwater: Soils and Construction – Volume 1:Blue Book* (Landcom, 2004) and with the WSUD design principles set out in the *Technical Guidance for Achieving Wianamatta South Creek Stormwater Management Targets* (Technical Guidance) (NSW Government, 2022);

(c) include:

(i) each major phase of construction work including catchment plans and calculations and sizing for all major drainage and sediment controls for each phase;

(ii) the type of sediment basin, details of all functional components and calculations demonstrating compliance with the DCP;

(d) demonstrate the construction approach and timing to ensure the construction phase stormwater quality targets can be met; and

(e) detail measures to manage external catchment flows and dispersive soils;

(f) detail measures to protect passively irrigated street trees during construction works, if these are installed before construction is completed;

(g) be included in the CEMP required by Condition C2.

B22. The Applicant must:

(a) not commence earthworks until the Erosion and Sediment Control Plan required by condition B21 is approved by the Planning Secretary; and

(b) implement the most recent version of the Erosion and Sediment Control Plan approved by the Planning Secretary for the duration of earthworks and construction.

B23. The Applicant must ensure delivery and operation of all construction phase erosion and sediment controls on the site is supervised and certified by a CPESC. Monthly audits are to be completed by CPESC and kept on record for the duration of the construction and an additional 12 months following completion of construction works.

Discharge Limits

B24. The development must comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided for in an EPL.

Stormwater Management System Design

B25. Within two months of the date of this consent, the Applicant must design the stormwater management system to the satisfaction of the Planning Secretary. The stormwater management system design must:

(a) be prepared in consultation with the Environment & Heritage Group, Sydney Water and Council;

(b) be prepared and certified by a suitably qualified chartered professional engineer with experience in modelling, design and supervision of WSUD systems, whose appointment has been endorsed by the Planning Secretary;

(c) be consistent with the plan shown on **Figure 2** in **Appendix 1** and the updated Stormwater Management Plan required by Condition B30;

(d) include all private, Council and trunk drainage infrastructure within the site including connections to adjacent landholdings;

(e) be designed in accordance with the *Technical Guidance for Achieving Wianamatta South Creek Stormwater Management Targets* (Technical Guidance) (NSW Government, 2022) and detail how:

(i) the requirements and objectives of the IWCM controls of the DCP will be achieved;

(ii) the waterway health objectives and targets set out in the Technical Guidance will be achieved;

(iii) levels are resolved to demonstrate the system functions effectively;

(iv) the development will ultimately connect to the MRP Stormwater Scheme and interim measures to meet the waterway health objectives and targets will be decommissioned;

(v) all stormwater management devices will contain an impermeable liner and all naturalised trunk drainage (or other open drainage) is either lined with an impermeable liner, or ameliorated (i.e., gypsum), and compacted to a suitable depth and topsoiled (AS44119) to limit infiltration to soils;

(f) demonstrate the on-site stormwater detention design is free draining;

(g) demonstrate maintenance access driveways to water storage or bio-retention basins are designed in accordance with Council's specifications;

(h) demonstrate that sufficient land is reserved on site for stormwater management purposes (such as irrigation areas and undeveloped areas) as shown on **Figure 2** in **Appendix 1**, to ensure the development meets the controls in the DCP and the waterway health targets in the Technical Guidance, unless an alternative stormwater management strategy has been approved by the Planning Secretary;

(i) include civil design drawings that define the design for the WSUD systems in accordance with the Technical Guidance and the requirements of Sydney Water and Council;

(j) include landscape drawings that include planting and hardscape details of the WSUD systems; and

(k) include certification (and appropriate designed checklists) of the civil and landscape drawings by suitably qualified chartered professional engineer with experience in modelling, design and supervision of WSUD systems that the design drawings comply with the Technical Guide requirements and the stormwater targets are achieved; and

(l) include evidence that the design and mix of WSUD infrastructure has considered ongoing operation and maintenance, including a detailed lifecycle cost assessment (including capital, operation / maintenance and renewal costs over 30 years).

B26. The Applicant must:

(a) not commence earthworks until the design required by Condition B25 is approved by the Planning Secretary;

(b) ensure construction of the stormwater management system is supervised and certified by a suitably qualified chartered professional engineer with experience in modelling, design and supervision of WSUD systems; and

(c) implement the stormwater management system approved by the Planning Secretary prior to the commencement of operation of the first warehouse building.

B27. The Applicant must not carry out earthworks or construction, other than those works approved under this consent, on land shown as 'undeveloped land' on **Figure 2** in **Appendix 1** (including Lots 3 and 4 on DP 250002) unless the site is connected to the Stormwater Scheme or an alternative Stormwater Management System for the site has been approved by the Planning Secretary.

Trunk Drainage Design

B28. Within two months of the date of this consent, the Applicant must design the trunk drainage infrastructure on the site, to the satisfaction of the Planning Secretary. The trunk drainage infrastructure must:

(a) be designed in consultation with the Regional Stormwater Authority (Sydney Water);

(b) be integrated into the Stormwater Management System required under Condition B25;

(c) be designed in accordance with the Mamre Road Stormwater Scheme Plan and Sydney Water's *Stormwater Scheme Infrastructure Design Guidelines (draft) 2022*, or its latest version, unless otherwise agreed with the Regional Stormwater Authority;

(d) be designed so that the naturalised trunk drainage channel is used to carry all overland flows greater than the 5% AEP piped drainage capacity where the catchment upstream of the commencement of the trunk drainage exceeds 15 ha or where overland flows are unsafe to pedestrians and vehicles;

(e) be modelled with demonstration of flow modelling using either XP-Rafts (Laurenson's Method) or DRAINS (ILSAX or Laurenson's Methods) with full catchment diagrams – discretised to accurately show development catchments and external catchments . Input data sets shall be fully described and can be provided in spreadsheet form.

(f) include access for management and maintenance by the Regional Stormwater Authority as per the *Stormwater Scheme Infrastructure Design Guideline (draft) 2022*, including provision of an easement in accordance with Condition B32;

(g) include appropriate connections from the trunk drainage channel on site to the existing downstream flow paths, until such time as the trunk drainage channel downstream of the site is constructed;

(h) ensure any piped infrastructure that intersects or connects into the trunk drainage channel on the site is designed to accommodate the trunk drainage channel design; and

(i) include landscape drawings with planting details.

B29. The Applicant must:

(a) not commence earthworks until the design required by Condition B28 is approved by the Planning Secretary;

(b) ensure construction of the trunk drainage infrastructure is supervised and certified by a suitably qualified chartered professional engineer with experience in modelling, design and supervision of WSUD systems; and

(c) implement the trunk drainage infrastructure approved by the Planning Secretary prior to the commencement of operation of the first warehouse building.

Stormwater Management Plan

B30. Within two months of the date of this consent, the Applicant must prepare a separate Water and Stormwater Management Plan (WSMP) to the satisfaction of the Planning Secretary. The WSMP must:

(a) be prepared by a suitably qualified chartered professional engineer with experience in modelling, design and supervision of WSUD systems, whose appointment has been endorsed by the Planning Secretary;

(b) comply with the requirements of the Technical Guidance;

(c) be consistent with the plan shown on **Figure 2** in **Appendix 1**;

(d) be prepared in consultation with the Environment & Heritage Group, Sydney Water, Council and the Department;

(e) describe the baseline soil, surface water and groundwater conditions at the site;

(f) define how each stage of the development will comply with the Stormwater Targets including ultimate development (i.e. connection to the regional scheme);

(g) include MUSIC modelling for each stage of the development in accordance with the Technical Guidance;

(h) provide catchments plans, tables and all stormwater management details as per the Technical Guidance;

(i) ensure;

(i) proprietary devices are located on private land and only include including sediment and nutrient removal if certified under SQIDEP;

(ii) ensure external catchments are drained to trunk drainage;

(iii) ensure all catchment areas are accounted for in the MUSIC modelling and post processing tool and there are no inconsistencies;

(iv) the strategy and stormwater elements are consistent with the design drawings required by Conditions B25 to B27 (including the detailed drawings in appendices to the report);

(j) include a protocol for investigation of any non-compliances of the stormwater management system with the IWCM controls in the MRP DCP the waterway health objectives and targets in the Technical Guidance;

(k) detail the contingency measures that would be implemented should issues arise;

(l) include a Maintenance Plan for the WSUD measures; and

(m) detail triggers for a review of the plan, including, but not limited to a review of the plan within 6 months of the Stormwater Scheme being available for the site to connect to.

B31. The Applicant must:

(a) not commence operation of the first warehouse building until the Stormwater Management Plan required by Condition B30 is approved by the Planning Secretary; and

(b) implement the most recent version of the Stormwater Management Plan approved by the Planning Secretary for the duration of the development.

Easements and Maintenance

B32. Prior to the issue of a Compliance Certificate under Section 73 of the *Sydney Water Act, 1994*, an easement under section 88A and/or restriction or public positive covenant under section 88E of the *Conveyancing Act 1919* naming the Regional Stormwater Authority (Sydney Water) as the prescribed authority, which can only be revoked, varied or modified with the consent of the Regional Stormwater Authority and which provides for appropriate access to all trunk drainage land for maintenance at no cost to the Regional Stormwater Authority must be registered on the title of the land.

B33. The stormwater management system must continue to be operated and maintained in perpetuity for the life of the development in accordance with the final operation and maintenance management plan. Regular inspection records are required to be maintained and made available to Council on request. All necessary improvements are required to be made immediately upon awareness of any deficiencies in the stormwater management systems.

Note: *This does not include any passively irrigated street trees that may be transferred to the relevant roads authority. This also does not include trunk drainage infrastructure for which maintenance and operation may be transferred to the Regional Stormwater Authority.*

B34. All stormwater infrastructure, including bio-retention basins, shall remain under the ownership, control and care of the registered proprietor of the lots. Upstream drainage catchment pipes are to be located outside of the public road reserve and remain in private ownership, in accordance with Council requirements.

Note*: This does not include any passively irrigated street trees that may be transferred to the relevant roads authority. This also does not include trunk drainage infrastructure for which maintenance and operation may be transferred to the Regional Stormwater Authority.*

B35. Prior to the issue of any Occupation Certificate, a restriction on the use of land and positive covenant relating to the permanent stormwater management systems (including on-site stormwater detention and water sensitive urban design), shall be registered on the title of the property. The restriction on the use of land and positive covenant shall be in Penrith City Council's standard wording as detailed in Council's Stormwater Drainage Specification for Building Developments – Appendix F.

Dam Decommissioning Strategy

B36. Prior to commencement of construction of the development, the Applicant must prepare a Dam Decommissioning Strategy to the satisfaction of the Planning Secretary. The Dam Decommissioning Strategy must form part of the CEMP required by condition C2. The Applicant must implement the most recent version of the Dam Decommissioning Strategy for the duration of construction.

Flooding

B37. Prior to the commencement of operation of the development, the Applicant must connect the development to the road drainage infrastructure for the upgraded Aldington and Abbotts Roads, to ensure the development does not increase flood flows and velocities on adjoining properties for all flood events up to and including the critical 1% Annual Exceedance Probability flow.

VISUAL AMENITY

Landscaping

B38. Within six months of the date of this consent, the Applicant must prepare a Landscape Management Plan to manage the revegetation and landscaping works on-site, to the satisfaction of the Planning Secretary. The plan must:

(a) detail the species to be planted on-site that:

(i) are consistent with the plant list in Appendix C of the Mamre Road Precinct Development Control Plan; and

(ii) are suitable in relation to wildlife management in proximity to the Western Sydney Airport.

(b) ensure planting including large trees with sufficient deep soil is provided the areas between retaining wall tiers and between retaining walls and the northern property boundary on Lot 1 (as shown in the landscape plans titled *Kemps Creek Logistics Park SSDA Report Landscape Concept plan*, prepared by Site Image and dated 14 February 2023);

(c) ensure adequate planting is implemented to provide screening between the basin and retaining wall on Lot 4 (as shown in the landscape plans titled *Kemps Creek Logistics Park SSDA Report Landscape Concept plan*, prepared by Site Image and dated 14 February 2023);

(d) demonstrate that the minimum tree canopy targets are achieved in accordance with the MRP DCP; and

(e) describe the monitoring and maintenance measures to manage revegetation and landscaping works.

B39. The Applicant must:

(a) not commence operation until the Landscape Management Plan is approved by the Planning Secretary;

(b) must implement the most recent version of the Landscape Management Plan approved by the Planning Secretary and not commence operation until the landscaping works have been completed in accordance with the plan; and

(c) maintain the landscaping and vegetation on the site in accordance with the approved Landscape Management Plan required by condition B37 for the life of the development.

B40. Prior to the issue of an Occupation Certificate for each warehouse building, the Applicant must provide the Certifier with written evidence in the form of plans and a report prepared by the project landscape architect confirming that trees identified in the approved document package as contributing to the site's canopy target have been installed and that the trees are capable of reaching maturity in their locations. Where the canopy cover target (in accordance with the MRP DCP) is identified as not being achievable through those trees planted, the report is to detail what measures have been undertaken to address the tree canopy shortfall and a rectification plan is to be provided.

Retaining Walls

B41. Prior to the commencement of retaining wall construction, the Applicant must submit details of retaining wall materials fronting the public domain demonstrating suitable visual presentation, particularly treatment of higher fill walls visible from the public domain, to the satisfaction of the Planning Secretary.

B42. All structures (foot, batter, tie backs/in and drainage) associated with retaining walls must be within private property and not within the public road reserve and not within any zone of influence.

Building Materials

B43. The Applicant must ensure the finished facades and roofs of the warehouses and office buildings use neutral, recessive colours, non-reflective materials and are designed to present an attractive façade to residential areas and to minimise glare.

Lighting

B44. The Applicant must ensure the lighting associated with the development:

(a) complies with the latest version of AS 4282-2019 - *Control of the obtrusive effects of outdoor lighting* (Standards Australia, 2019); and

(b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.

Signage and Fencing

B45. Prior to the commencement of construction of the first warehouse building, the Applicant must submit a Signage Strategy to the satisfaction of the Planning Secretary. The Signage Strategy must demonstrate that proposed signage is consistent with Chapter 3 of *State Environmental Planning Policy (Industry and Employment) 2021* and the MRP DCP, including limiting illumination of signage or measures to control lighting impacts from illuminated signs.

B46. All signage and fencing must be erected in accordance with the development plans included in **Appendix 1**.

Note: *This condition does not apply to temporary construction and safety related signage and fencing.*

NOISE

Hours of Work

B47. The Applicant must comply with the hours detailed in Table 2, unless otherwise agreed in writing by the Planning Secretary.

Table 2 *Hours of Work*

Activity	Day	Time
Earthworks and construction	Monday – Friday Saturday	7 am to 6 pm 8 am to 1 pm
Operation	Monday – Sunday	24 hours

B48. Works outside of the hours identified in condition B47 may be undertaken in the following circumstances:

(a) works that are inaudible at the nearest sensitive receivers;

(b) works agreed to in writing by the Planning Secretary;

(c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or

(d) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

Construction Noise Limits

B49. The development must be constructed to achieve the construction noise management levels detailed in *the Interim Construction Noise Guideline* (DECC, 2009) (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures in **Appendix 5**.

Construction Noise and Vibration Management Plan

B50. The Applicant must prepare a Construction Noise and Vibration Management Plan for the development to the satisfaction of the Planning Secretary. The Plan must form part of a CEMP in accordance with condition C2 and must

(a) be prepared by a suitably qualified and experienced noise expert(s);

(b) be approved by the Planning Secretary prior to the commencement of construction of each stage of the development;

(c) describe procedures for achieving the noise management levels in EPA's *Interim Construction Noise Guideline* (DECC, 2009) (as may be updated or replaced from time to time);

(d) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;

(e) include strategies that have been developed with the community for managing high noise generating works; and

(f) describe the community consultation undertaken to develop the strategies in condition B50(e).

(g) include a complaints management system that would be implemented for the duration of the development.

B51. The Applicant must:

(a) not commence earthworks until the Construction Noise and Vibration Management Plan required by condition B50 is approved by the Planning Secretary; and

(b) implement the most recent version of the Construction Noise and Vibration Management Plan approved by the Planning Secretary for the duration of earthworks and construction.

Operational Noise Limits

B52. The Applicant must ensure that noise generated by operation of the development does not exceed the noise limits in Table 3.

Table 3 *Noise Limits (dB(A))*

Location	Day $L_{Aeq(15\ minute)}$	Evening $L_{Aeq(15\ minute)}$	Night $L_{Aeq(15\ minute)}$
Residential receivers near Medinah Avenue (Luddenham), Mount Vernon Road (Mount Vernon) and Kerrs Road (Mount Vernon)	36	31	27
BAPS Temple - Outdoor Use Area (Except Car Parking Area)	33 (When in use)		

Note *Noise generated by the development is to be measured in accordance with the relevant monitoring performance procedures and exemptions (including certain meteorological conditions) of the NSW Noise Policy for Industry (EPA, 2017) (as may be updated or replaced from time to time). Refer to the plan in Appendix 2 for the location of residential sensitive receivers.*

B53. The Applicant must ensure that noise generated by:

(a) all fixed external mechanical plant for the warehouse building on Lot 1 does not exceed a cumulative sound power level of $L_{Aeq(15min)}$ 90 dB(A);

(b) all fixed external mechanical plant for the warehouse building on Lot 4 does not exceed a cumulative sound power level of $L_{Aeq(15min)}$ 86 dB(A); and

(c) any activity on the site does not exceed a sound power level of L_{AMax} 115 dB(A) or result in annoying noise characteristics as determined in accordance with the Noise Policy for Industry (EPA, 2017) and Australian Standard AS 1055:2018 Acoustics – Description and measurement of environmental noise (Standards Australia, 2018).

Noise Verification

B54. Within three months of the commencement of earthworks for the development, the Applicant must prepare and submit a Design Noise Verification Report for the development to the satisfaction of the Planning Secretary. The Applicant must not commence construction of any warehouse buildings until the Design Noise Verification Report is approved by the Planning Secretary. The Design Noise Verification Report must:

(a) be prepared by a suitably qualified, experienced and independent acoustic consultant whose appointment has been endorsed by the Planning Secretary;

(b) identify and justify the design noise emission scenario, including the adopted engineering safety factor, schedule of all noise generating sources on the site (including but not limited to, all vehicle types, mechanical plant and waste areas), stationary equipment specification and verifiable data of dynamic noise emission activities;

(c) demonstrate the noise propagation modelling is capable of accurately predicting noise levels under noise enhancing meteorological conditions to surrounding receivers in Mount Vernon and Luddenham;

(d) provide updated noise modelling to verify the predicted performance of the development and the predicted noise levels identified in the report titled *ESR Westlink Stage 1, Kemps Creek, NSW, Noise and Vibration Impact Assessment*, prepared by RWDI, dated 6 October 2022;

(e) develop an Operational Noise Monitoring Plan in accordance with Section 7 of the Noise Policy for Industry to verify the operational performance of the development, including details of the nominated intermediate monitoring locations, reference noise levels at each intermediate location, and noise level relationship between each intermediate location and sensitive receivers identified in condition B52;

(f) include:

(i) an analysis of compliance with noise limits specified in conditions B52 and B53;

(ii) an outline of at-source and transmission path mitigation measures required to ensure compliance with the limits specified in conditions B52 and B53;

(iii) a description of contingency measures (including specific measures to manage noise generating activities during the night time period) in the event management actions are not effective at reducing noise levels to comply with limits specified in conditions B52 and B53.

B55. Should the Design Noise Verification Repot identify that the noise limits in Conditions B52 and B53 cannot be achieved through the mitigation measures and contingency measures required to be considered under Condition B51, the Applicant must:

(a) offer to enter into noise agreement(s) with eligible receivers outside of the Mamre Road Precinct where noise limits are predicted to be exceeded

(b) provide written evidence to the Planning Secretary that an agreement is in place with these receivers.

B56. If a Noise Agreement is in place with a specific receiver(s) to exceed the noise limits in Condition B52, the noise limits in Table 3 do not apply to that receiver(s).

B57. Within three months of the commencement of operation of the development, the Applicant must prepare and submit an Operational Noise Verification Report for the development to the satisfaction of the Planning Secretary. The Operational Noise Verification Report must:

(a) be prepared by a suitably qualified, experienced and independent acoustic consultant whose appointment has been endorsed by the Planning Secretary;

(b) demonstrate that noise verification has been carried out in accordance with:

(i) the Australian Standard AS 1055:2018 Acoustics – Description and measurement of environmental noise (Standards Australia, 2018); and

(ii) the EPA Approved Methods for the Measurement and Analysis of Environmental Noise in NSW (EPA, 2022);

(iii) the Operational Noise Monitoring Plan established under condition B54(e);

(c) include:

(i) an analysis of compliance with noise limits specified in conditions B52 and B53;

(ii) an outline of implemented at-source and transmission pathway mitigation measures and their effectiveness at reducing operational noise; and

(iii) a description of contingency measures in the event implemented mitigation measures are not effective at reducing noise levels to comply with limits specified in condition B52 and B53 at all times.

MRP Noise Agreement(s)

B58. Prior to the commencement of operation of the development, the Applicant must offer to enter into noise agreement(s) with the eligible receivers shown in **Figure 4** in **Appendix 3**. The Applicant must provide written evidence to the Planning Secretary that an agreement is in place with these receivers.

B59. The noise agreement required under Condition B55 must be in force until the existing residential use ceases on the land subject to the agreement or a development consent for general industrial or other employment uses applies to the land, whichever is the sooner.

Road Traffic Noise

B60. Prior to the commencement of construction of the development, the Applicant must prepare a Driver Code of Conduct and induction training for the development to minimise road traffic noise. The Applicant must update the Driver Code of Conduct and induction training for construction and operation and must implement the Code of Conduct for the life of the development.

VIBRATION

Vibration Criteria

B61. Vibration caused by construction at any residence or structure outside the site must be limited to:

(a) for structural damage, the latest version of *DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures* (German Institute for Standardisation, 1999); and

(b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: a technical guideline* (DEC, 2006) (as may be updated or replaced from time to time).

B62. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition B61.

B63. The limits in conditions B61 and B62 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition C2 of this consent.

Dilapidation Reporting

B64. Prior to commencement of earthworks, the Applicant must offer and prepare (if the offer is accepted) a preconstruction dilapidation report for adjoining properties that may be affected by proposed earthworks (including Lot 2 DP 250002, Lots 141 and 142 DP 1033686, Lot 15 DP 253503 and Lot 4132 DP 857093). The report must be submitted to the Planning Secretary and the relevant property owner(s) prior to construction works commencing on the site.

B65. If requested by the property owner, the Applicant must repair, or pay the full costs associated with repairing, any damage to adjoining properties caused by carrying out the development in accordance with the preconstruction dilapidation reports required by Condition B64, unless otherwise agreed by the Planning Secretary.

CONTAMINATION AND REMEDIATION

Supplementary Site Investigation

B66. Prior to the commencement of earthworks, the Applicant must undertake further soil sampling in areas of the site that were inaccessible during the Detailed Site Investigation prepared by Alliance dated 1 December 2021, to further refine the nature and extent of contamination on the site. The supplementary site investigation must:

(a) be prepared by a suitably qualified and experienced consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme;

(b) be prepared in accordance with the relevant guidelines produce or approved under the *Contaminated Land Management Act, 1997*;

(c) define the nature and extent of contamination in areas not previously accessible for sampling; and

(d) include an updated Remedial Action Plan that describes the preferred remediation approach to make the site suitable for the intended industrial land use and details the need for any long term management following completion of remediation.

Remedial Works

B67. The Applicant must remediate the site in accordance with the Remedial Action Plan approved under Condition B66 and relevant guidelines produced or approved under the *Contaminated Land Management Act 1997*. Remediation works must be undertaken by a suitably qualified and experienced consultant(s) and must be completed prior to the commencement of earthworks.

Validation Report

B68. Within one month of completion of the remediation works for the development, the Applicant must submit a Remediation Validation Report (RVR) to the satisfaction of the Planning Secretary which has been prepared, or reviewed and approved, by a consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme. The validation report shall demonstrate that:

(a) the site is suitable for its intended industrial land use, or

(b) the site is suitable for its intended industrial land use with the implementation of an environmental management plan or long term environmental management plan.

Asbestos

B69. The Applicant must ensure that any asbestos encountered during the remediation works for the development is monitored, handled, transported and disposed of by appropriately qualified and licensed contractors in accordance with the requirements of SafeWork NSW and relevant guidelines, including:

(a) *Work Health and Safety Regulation 2017*;

(b) SafeWork NSW Code of Practice – How to Manage and Control Asbestos in the Workplace September 2016;

(c) SafeWork NSW Code of Practice – How to Safely Remove Asbestos September 2016; and

(d) *Protection of the Environment Operations (Waste) Regulation 2014*.

Unexpected Finds

B70. Prior to the commencement of earthworks, the Applicant must prepare an unexpected contamination finds procedure to ensure that potentially contaminated material is appropriately managed. The procedure must form part of the CEMP in accordance with condition C2 and must ensure any material identified as contaminated is disposed of in accordance with the POEO Act and its associated regulations. Details of the final disposal location and the results of any associated testing must be submitted to the Planning Secretary prior to removal of the contaminated material from the site.

BUSHFIRE PROTECTION

B71. The Applicant shall ensure the development complies with:

(a) the relevant provisions of *Planning for Bushfire Protection* (NSW RFS, 2019);

(b) the recommendations of the Bushfire Protection Assessment prepared by Australian Bushfire Protection Planners dated 3 March 2022; and

(c) Australian Standard *AS2419.1-2005 Fire hydrant installations System design, installation, and commissioning*.

B72. The Applicant must ensure the entire site, including landscaping, is managed as an inner protection area (IPA) in accordance with *Planning for Bushfire Protection 2019.*

B73. The Applicant must ensure the warehouse buildings are constructed in accordance with the Bushfire Attack Level (BAL) plan shown in **Appendix 4** and relevant sections of the Australian Standard AS3959-2018 *Construction of buildings in bush fire prone areas* or NASH Standard (1.7.14 updated) *National Standard Steel Framed Construction in Bushfire Areas - 2014* as appropriate, and Section 7.5 of *Planning for Bushfire Protection, 2019.*

AIR QUALITY

Dust Minimisation

B74. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.

B75. During construction, the Applicant must ensure that:

(a) exposed surfaces and stockpiles are suppressed by regular watering;

(b) all trucks entering or leaving the site with loads have their loads covered;

(c) trucks associated with the development do not track dirt onto the public road network;

(d) public roads used by these trucks are kept clean; and

(e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.

Construction Air Quality Management Plan

B76. Prior to the commencement of earthworks, the Applicant must prepare a Construction Air Quality Management Plan (CAQMP) to the satisfaction of the Planning Secretary. The CAQMP must form part of the CEMP required by condition C2 and must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be prepared in consultation with owners of adjoining residential properties (including those still occupied for residential use in the MRP), include evidence of this consultation, details of any issues raised and how the plan has responded to any issues raised during consultation;

(c) detail and rank all emissions from all sources during construction of the development, including particulate emissions;

(d) describe a program that is capable of evaluating the performance of the construction and determining compliance with key criteria, including installation of dust deposition gauges at neighbouring existing residences (where agreed by the landowner) or on the site boundary;

(e) identify the control measures that will be implemented for each emission source; and

(f) nominate the following for each of the proposed controls:

(i) key criteria;

(ii) monitoring method; and

(iii) location, frequency and duration of monitoring;

(g) outline procedures that will be implemented in relation to:

(i) record keeping;

(ii) reporting to the Environmental Representative required under Condition A35;

(iii) complaints register;

(iv) response procedures; and

(v) compliance monitoring;

(h) detail contingency measures to be implemented to reduce any exceedances of relevant performance indicators or criteria and include a timetable for implementation.

B77. The Applicant must:

(a) not commence earthworks until the CAQMP required by condition B76 is approved by the Planning Secretary; and

(b) implement the most recent version of the CAQMP approved by the Planning Secretary for the duration of construction; and

(c) offer to enter into an agreement with a neighbouring landowner, that may involve at-property treatment, if a complaint is received from that landowner and a non-compliance is confirmed by dust monitoring. Evidence of any agreement must be provided to the Planning Secretary.

Odour Management

B78. The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).

ABORIGINAL HERITAGE

Statutory Requirements

B79. Prior to the commencement of earthworks, the Applicant must undertake surface collection of the identified artefacts IF1, IF2 and IF3 as detailed in the Aboriginal Cultural Heritage Assessment Report prepared by Urbis and dated 12 April 2022. The identified artefacts must be registered on the OEH's Aboriginal Heritage Information Management System (AHIMS) Aboriginal Sites Register, prior to construction.

Consultation

B80. The Applicant must continue to consult with Registered Aboriginal Parties (RAPs) for the duration of construction. The RAPs should be consulted to determine the appropriate management of unexpected finds on the site.

Site Induction

B81. Prior to the commencement of earthworks, the Applicant must prepare and implement Aboriginal cultural heritage induction training for all staff and contractors. The Applicant must involve Aboriginal knowledge holders in the development of the induction training. The training must outline the obligations of staff and contractors under the *National Parks and Wildlife Act, 1974* and the conditions of this consent. The Applicant must ensure any new staff or contractors receive the induction training prior to commencing works on the site. The induction training material must form part of the CEMP required by condition C2.

Unexpected Finds Protocol

B82. If any item or object of Aboriginal heritage significance is identified on site:

(a) all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately;

(b) a 10 m wide buffer area around the suspected item or object must be cordoned off; and

(c) Heritage NSW must be contacted immediately.

B83. Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974*.

HISTORIC HERITAGE

Unexpected Finds Protocol

B84. If any non-Aboriginal archaeological relics are uncovered during any works being carried out for the development:

(a) all work in the immediate vicinity of the suspected relic(s) must cease immediately;

(b) Heritage NSW must be contacted immediately; and

(c) the suspected relic(s) must be evaluated, recorded and, if necessary, excavated by a suitably qualified and experienced expert in accordance with the requirements of Heritage NSW.

B85. Work in the immediate vicinity of any suspected non-Aboriginal archaeological relic(s) must not recommence until this has been authorised by Heritage NSW.

BIODIVERSITY

B86. Prior to, and during, construction works the Applicant must implement the mitigation measures recommended in Section 2.2.5 of the Biodiversity Development Assessment Report prepared by Eco Logical Australia Pty Ltd, dated 14 April 2022.

B87. Prior to the commencement of construction, a Wildlife Management Plan must be prepared in accordance with section 6.2 of the *Westlink Industrial Estate Wildlife Management Assessment Report* prepared by Eco Logical Australia Pty Ltd dated 14 April 2022, and be submitted to the Planning Secretary.

B88. The Wildlife Management Plan must form part of the CEMP required by Condition C2 and the Applicant must implement the Wildlife Management Plan for the duration of construction and operation.

HAZARDS AND RISK

Dangerous Goods

B89. The quantities of dangerous goods stored and handled at the site must be below the threshold quantities listed in the Department's *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* at all times.

Bunding

B90. The Applicant must store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Manual* (Department of Environment and Climate Change, 2007).

WASTE MANAGEMENT

Waste Management Plan

B91. Prior to the commencement of construction of the first warehouse building, the Applicant must update the Waste Management Plan included in the EIS for the development. The Plan must:

(a) detail the type and quantity of waste to be generated during construction and operation of the development;

(b) describe the handling, storage and disposal of all waste streams generated on site, consistent with the *Protection of the Environment Operations Act 1997, Protection of the Environment Operations (Waste) Regulation 2014* and the *Waste Classification Guideline* (Environment Protection Authority, 2014); and

(c) detail the materials to be reused or recycled, either on or off site.

B92. The Applicant must implement the Waste Management Plan for the duration of construction and operation.

Waste Storage and Processing

B93. Prior to the commencement of construction of the development, the Applicant must obtain agreement from Council for the design of the waste storage area for the development.

B94. Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.

Statutory Requirements

B95. The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the latest version of EPA's *Waste Classification Guidelines Part 1: Classifying Waste* (EPA, 2014) and dispose of all wastes to a waste management facility or premises lawfully permitted to accept the waste.

Pests, Vermin and Priority Weed Management

B96. The Applicant must:

(a) implement suitable measures to manage pests, vermin and declared priority weeds on the site; and

(b) inspect the site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or priority weeds are not present on site in sufficient numbers to pose an environmental hazard or cause the loss of amenity in the surrounding area.

Note: *For the purposes of this condition, priority weed has the same definition of the term in the* Biosecurity Act 2015.

PART C ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Management Plan Requirements

C1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:

(a) detailed baseline data;

(b) details of:

(i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);

(ii) any relevant limits or performance measures and criteria; and

(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;

(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;

(d) a program to monitor and report on the:

(i) impacts and environmental performance of the development; and

(ii) effectiveness of the management measures set out pursuant to paragraph (c) above;

(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;

(f) a program to investigate and implement ways to improve the environmental performance of the development over time;

(g) a protocol for managing and reporting any:

(i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);

(ii) complaint;

(iii) failure to comply with statutory requirements; and

(h) a protocol for periodic review of the plan.

Note: *The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans*

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

C2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) for the development in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary.

C3. As part of the CEMP required under condition C2 of this consent, the Applicant must include the following:

(a) Construction Traffic Management Plan (see condition B1);

(b) Erosion and Sediment Control Plan (see condition B21);

(c) Dam Decommissioning Strategy (see condition B36);

(d) Construction Noise and Vibration Management Plan (see condition B50);

(e) Unexpected Finds Protocol (see condition B70);

(f) Construction Air Quality Management Plan (see condition B76);

(g) Site induction training material (see condition B81);

(h) Wildlife Management Plan (see condition B87);

(i) Community Consultation and Complaints Handling.

C4. The Applicant must:

(a) not commence construction of the development until the CEMP is approved by the Planning Secretary; and

(b) carry out the construction of the development in accordance with the CEMP approved by the Planning Secretary and as revised and approved by the Planning Secretary from time to time.

OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

C5. The Applicant must prepare an Operational Environmental Management Plan (OEMP) for the development in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary.

C6. As part of the OEMP required under condition C5 of this consent, the Applicant must include the following:

(a) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;

(b) describe the procedures that would be implemented to:

(i) keep the local community and relevant agencies informed about the operation and environmental performance of the development;

(ii) receive, handle, respond to, and record complaints;

(iii) resolve any disputes that may arise;

(iv) respond to any non-compliance;

(v) respond to emergencies; and

(c) include the following environmental management plans:

(i) Operational Traffic Monitoring Program (see condition B3);

(ii) Workplace Travel Plan (see condition B18);

(iii) Stormwater Management Plan (see condition B30);

(iv) Landscape Management Plan (see condition B38);

(v) Wildlife management Plan (see condition B87);

(vi) Waste Management Plan (see condition B91).

(d) detail measures to minimise air emissions during operation.

C7. The Applicant must:

(a) not commence operation until the OEMP is approved by the Planning Secretary; and

operate the development in accordance with the OEMP approved by the Planning Secretary (and as revised and approved by the Planning Secretary from time to time).

REVISION OF STRATEGIES, PLANS AND PROGRAMS

C8. Within three months of:

(a) the submission of a Compliance Report under condition C14;

(b) the submission of an incident report under condition C10;

(c) the approval of any modification of the conditions of this consent; or

(d) the issue of a direction of the Planning Secretary under condition A2(b) which requires a review,

the strategies, plans and programs required under this consent must be reviewed, and the Planning Secretary must be notified in writing of the outcomes of any review.

C9. If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review required under condition C8, or such other timing as agreed by the Planning Secretary.

Note: *This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.*

REPORTING AND AUDITING

Incident Notification, Reporting and Response

C10. The Planning Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in **Appendix 6**.

Non-Compliance Notification

C11. The Planning Secretary must be notified in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance.

C12. A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

C13. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

Compliance Reporting

C14. Within six months after the commencement of construction of the development, and in the same month each subsequent year (or such other timing as agreed by the Planning Secretary) for the duration of construction works, the Applicant must submit a Compliance Report to the Planning Secretary reviewing the environmental performance

of the development to the satisfaction of the Planning Secretary. Compliance Reports must be prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2020) and must also:

(a) identify any trends in the monitoring data;

(b) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and

(c) describe what measures will be implemented over the next year to improve the environmental performance of the development.

C15. The Applicant must make each Compliance Report publicly available no later than 60 days after submitting it to the Planning Secretary and notify the Planning Secretary in writing at least seven days before this is done.

Monitoring and Environmental Audits

C16. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance reporting and independent auditing.

Note: *For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.*

ACCESS TO INFORMATION

C17. At least 48 hours before the commencement of construction of the development and for the life of the development, the Applicant must:

(a) make the following information and documents (as they are obtained or approved) publicly available on its website:

(i) the documents referred to in condition A2 of this consent;

(ii) all current statutory approvals for the development;

(iii) all approved strategies, plans and programs required under the conditions of this consent;

(iv) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;

(v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;

(vi) a summary of the current stage and progress of the development;

(vii) contact details to enquire about the development or to make a complaint;

(viii) a complaints register, updated monthly;

(ix) the Compliance Report of the development;

(x) any other matter required by the Planning Secretary; and

(b) keep such information up to date, to the satisfaction of the Planning Secretary.

PART D EXTERNAL ROAD WORKS

ADMINISTRATIVE CONDITIONS

Terms of Consent

D1. The External Road Works may only be carried out:

(a) in compliance with the conditions of this consent;

(b) in accordance with all written directions of the Planning Secretary;

(c) in accordance with the Modification Report and Response to Submissions for Modification 5; and

(d) in accordance with the plans in Appendix 7.

Notification of Commencement

D2. The date of commencement of each of the following phases of the External Road Works must be notified to the Planning Secretary in writing, at least one month before that date, or as otherwise agreed with the Planning Secretary:

(a) construction of each stage of the External Road Works, including any sub-stages;

(b) operation of the interim traffic signals at the Mamre Road / Abbotts Road intersection; and

(c) completion of the External Road Works.

Mamre Road / Abbotts Road Intersection Works - Works Authorisation Deed

D3. Within 3 months of the date of the consent for SSD-9138102-Mod-5, or as otherwise agreed by the Planning Secretary, the Applicant must enter into a Works Authorisation Deed with TfNSW for the Mamre Road/Abbotts Road intersection works, including the installation of the interim signalised intersection of Abbotts Road and Aldington Road. TfNSW fees for administration, plan checking, civil works inspections and project management shall be paid by the Applicant prior to the commencement of works.

D4. Prior to the commencement of construction of the interim traffic control signals, the proposed Traffic Control Signal/s (TCS) at the intersection of Mamre Road/Abbotts Road and Aldington Road/Abbotts Road must be designed to meet TfNSW requirements and have approval under section 87(4) of the *Roads Act, 1993*. The TCS plans shall be drawn by a suitably qualified person and endorsed by a suitably qualified practitioner.

The submitted design shall be in accordance with Austroads Guide to Road Design in association with relevant TfNSW supplements (available on www.transport.nsw.gov.au). The certified copies of the TCS design and civil design plans shall be submitted to TfNSW for consideration and approval prior to the release of a Construction Certificate and commencement of construction of the traffic control signals. Please send all documentation to development.sydney@transport.nsw.gov.au.

D5. Detailed design plans and hydraulic calculations of any changes to the stormwater drainage system are to be submitted to TfNSW for approval, prior to the commencement of any works referred to in Condition D3. Please send all documentation to is development.sydney@transport.nsw.gov.au. A plan checking fee will be payable and a performance bond may be required before TfNSW approval is issued.

D6. The Applicant must be responsible for all public utility adjustment/relocation works, necessitated by the work referred to in Condition D3 and as required by the various public utility authorities and/or their agents. Should any public utility adjustment/relocation works be required adjacent to a classified road, plans are to be submitted to TfNSW for concurrence under section 138 of the *Roads Act, 1993*, prior to the commencement of any works. Please send all documentation to is development.sydney@transport.nsw.gov.au.

A plan checking fee may be payable and a performance bond may be required before TfNSW approval is issued.

D7. Any realignment of site boundaries to facilitate the works referred to in Condition D3, inclusive but not limited to drainage, footpaths and batters resulting from the proposed road and construction works, must be dedicated as public road at no cost to the relevant roads authority unless specified otherwise in a planning agreement.

D8. The Applicant must obtain a Road Occupancy Licence (ROL) from TfNSW Transport Management Centre for any works that may impact on traffic flows on Mamre Road during construction activities. A ROL can be obtained through https://myrta.com/oplinc2/pages/security/oplincLogin.jsf.

Internal Access Roads

D9. Prior to the commencement of operation of the first warehouse building, the Applicant must construct and operate the east-west internal road works shown in Figure 1 in Appendix 1 to the satisfaction of relevant road authority.

D10. Prior to the commencement of operation of warehouse 4, the Applicant must construct and operate the north-south internal road works shown in Figure 1 in Appendix 1 to the satisfaction of the relevant road authority.

Abbotts Road and Aldington Road Widening Works

D11. The Applicant must design and construct the Abbotts Road and Aldington Road widening works in accordance with the requirements of Council and any approval issued under section 138 of the *Roads Act 1993*.

Road Maintenance

D12. The Applicant is responsible for the upkeep and repair of the operational road pavement of Abbotts Road for its full length within the existing road reserve and Aldington Road across the development frontage (full width) during the External Road Works. The repair works must be undertaken to the satisfaction of Council, and be at no cost to Council. Weekly pavement inspections must be undertaken by the Applicant to ensure that the road pavements are safe for all vehicles. Any identified potholes or pavement failures must be reported to Council immediately together with the proposed rectification method and timing for repair. All repairs must be undertaken at no cost to Council. If Council is required to undertakes any repairs to the road works to ensure a safe operating environment for all road users, the cost of such will be paid by the Applicant.

Timing

D13. Prior to the commencement of operation of warehouse 1, the Applicant must prepare an Operational Traffic Management Plan (OTMP) for the development to the satisfaction of the Planning Secretary. The OTMP must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be prepared in consultation with TfNSW and Council;

(c) detail the measures to be implemented to manage operational traffic from warehouse 1 to ensure that all operational traffic accesses the site from Abbotts Road via a left turn in from Mamre Road and exit the site via Abbotts Road and turn left onto Mamre Road until the interim traffic signals are operational;

(d) detail the measures to manage operational traffic with concurrent construction traffic from the site and the External Road Works and other public traffic, to ensure road safety and network efficiency at all times;

(e) detail heavy vehicle routes, turning restrictions, access and parking arrangements;

(f) include an Operational Driver Code of Conduct to:

(i) minimise impacts on the local and regional road network;

(ii) minimise conflicts with other road users;

(iii) minimise road traffic noise;

(iv) inform truck drivers of the site access arrangements, turning restrictions and use of specified routes;

(v) include a program to monitor the effectiveness of these measures; and

(vi) detail the compliance actions that would be implemented for any vehicles that deviate from approved routes and turning restrictions.

D14. The Applicant must:

(a) not commence operation of warehouse1 until the OTMP required by condition D13 is approved by the Planning Secretary;

(b) update the OTMP to reflect any changes to staging, routes or turning restrictions, and submit the updated plan to the Planning Secretary for approval, at least 1 month prior to implementing the changes; and

(c) implement the most recent version of the OTMP approved by the Planning Secretary for the duration of the development.

D15. The Applicant must lodge an application under section 138 of the *Roads Act 1993* to the relevant roads authority to undertake the Stage 1 Abbotts Road Widening Works within 1 month of the date of consent of SSD-9138102-Mod-5.

D16. The Applicant must complete the Stage 1 Abbotts Road Widening Works within 4 months of receiving the section 138 *Roads Act, 1993* approval for the works, to the satisfaction of the relevant roads authority, unless otherwise agreed by the Planning Secretary.

D17. The Applicant must execute a Voluntary Planning Agreement with Council to complete the remaining stages of the Abbotts and Aldington Road widening works, within 12 months of the date of consent of SSD-9138102-Mod-5 and prior to the issue of an occupation certificate for warehouse 4.

D18. The Applicant must complete the External Road Works to the satisfaction of the relevant roads authorities prior to operation of warehouse 4.

D19. The Applicant must comply with the requirements of TfNSW and Council for all construction and operational vehicle movements, as detailed in Construction Traffic Management Plans approved as part of the WAD and *Section 138 Roads Act, 1993* approval processes.

D20. The Applicant must not:

(a) undertake any subsequent development, including exempt or complying development, on the Stage 1 site shown in Figure 1 in Appendix 1; and

(b) commence operation of warehouse 4;

until the External Road Works are completed to the satisfaction of the Planning Secretary.

D21. All External Road Works must be completed, to the satisfaction of the relevant roads authorities, prior to any other buildings on the Stage 1 site receiving occupation certificate(s).

COMMUNITY CONSULTATION PLAN

D22. The Applicant must prepare a Community Consultation Plan for the External Road Works to the satisfaction of the Planning Secretary. The Plan must:

(a) be approved by the Planning Secretary prior to the commencement of the External Road Works;

(b) be implemented for the duration of the External Road Works;

(c) assign a central contact person to keep the community regularly informed throughout the works;

(d) detail the mechanisms for regularly consulting with the nearest sensitive receivers and wider residential communities, to keep them informed about:

(i) upcoming works, duration and any night-time or out of hours works;

(ii) changes to property access and details of traffic disruptions;

(iii) schedule for high noise generating works and vibration intensive activities, including details of the specific mitigation measures that would be implemented in accordance with the construction noise and vibration management plan approved under Condition D25;

(iv) procedures to minimise dust impacts including details of the controls that would be implemented in accordance with the air quality management plan approved under Condition D25;

(v) relocation of services including utilities and drainage; and

(vi) details of environmental monitoring results;

(e) include contact details for key project personnel, relevant regulatory authorities and key community stakeholders;

(f) include a complaints procedure for recording, responding to and managing complaints, including:

(i) website, email, toll-free telephone number and postal address for receiving complaints;

(ii) advertising the contact details for complaints prior to and during the works through on-site signage;

(iii) a complaints register to record the date, time and nature of the complaint, details of the complainant and any actions taken to address the complaint; and

(iv) procedures to resolve any disputes that may arise during the course of the External Road Works.

D23. The Applicant must:

(a) not commence construction of the External Road Works until the Community Consultation Plan is approved by the Planning Secretary;

(b) implement the approved Community Consultation Plan for the duration of the External Road Works.

D24. The Applicant must provide details of the consultation undertaken in accordance with the Community Consultation Plan, to the Planning Secretary on a monthly basis including:

(a) the outcomes of consultation, matters resolved and unresolved; and

(b) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

D25. Prior to the commencement of the External Road Works, the Applicant must prepare a Construction Environmental Management Plan (CEMP) for the External Road Works in accordance with the requirements of Condition C1 and to the satisfaction of the Planning Secretary. The CEMP must include the following:

(a) be prepared in consultation with Council;

(b) a **traffic management plan** prepared in consultation with TfNSW and Council, detailing the measures to ensure road safety and network efficiency during the External Road Works, a Driver Code of Conduct, a program to monitor the effectiveness of the measures and adherence to specified routes, and procedures for notifying residents and local schools of any disruptions to routes;

(c) a **noise and vibration management plan** prepared in accordance with the *Construction Noise and Vibration Guideline*, TfNSW 2023 and *Interim Construction Noise Guideline*, DECC 2009, describing measures developed in consultation with affected residents to manage high noise and vibration intensive works, and include an out of hours work protocol. Measures may include notifications, respite periods, scheduling of noisy works, temporary barriers, quieter plant or alternative construction methods, verification monitoring and/or provision of alternative accommodation;

(d) an **air quality management plan** prepared in accordance with the *Good Practice Guide for the Assessment and Management of Air Pollution from Road Transport Projects*, CASANZ 2023, detailing the location and

duration of dust controls, details of monitoring and triggers for implementation of additional dust controls if required;

(e) an **erosion and sediment control plan** prepared in accordance with *Managing Urban Stormwater: Soils and Construction – Volume 1: Blue Book* (Landcom, 2004) and detail the measures to ensure the construction phase water quality targets in the *Technical Guidance for Achieving Wianamatta South Creek Stormwater Management Targets* (Technical Guidance) (NSW Government, 2022) are met;

(f) mitigation measures recommended in the Biodiversity Development Assessment Report for the Mamre and Abbotts Road Intersection prepared by Fraser Ecological and dated 3 June 2024;

(g) a **cultural heritage management plan** including an unexpected finds protocol, prepared in consultation with Registered Aboriginal Parties;

(h) an **unexpected finds procedure** to manage any unexpected contamination encountered during the works, including details of testing and off-site disposal in accordance with the POEO Act and associated regulations; and

(i) a **contingency plan** detailing measures to deal with unexpected issues arising during the works, such as excessive dust, noise, traffic, water quality impacts and unfavourable weather conditions.

D26. The Applicant must:

(a) not commence construction of the External Road Works until the CEMP is approved by the Planning Secretary; and

(b) carry out the construction of the External Road Works in accordance with the CEMP approved by the Planning Secretary and as revised and approved by the Planning Secretary from time to time.

INDEPENDENT AUDIT

D27. Within six months of the commencement of construction of the External Road Works, and every six months thereafter, until completion of the works, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the works. The audits must:

(a) be prepared in accordance with the Independent Audit Post Approval Requirements (Department, 2020)

(b) be led and conducted by a suitably qualified, experienced and independent expert, including a specialist traffic person, whose appointment has been endorsed by the Planning Secretary;

(c) assess the environmental performance of the External Road Works;

(d) assesses whether the works are complying with the conditions of this consent; and

(e) recommends measures or actions to improve the environmental performance of the works; and

(f) be submitted to the satisfaction of the Planning Secretary within six weeks of commissioning the Audit (or within another timeframe agreed by the Planning Secretary).

D28. In accordance with the specific requirements in the Independent Audit Post Approval Requirements (Department 2020), the Applicant must:

(a) review and respond to each Independent Audit Report prepared under condition D27 of this consent;

(b) submit the response to the Planning Secretary and any other NSW agency that requests it, together with a timetable for the implementation of the recommendations;

(c) implement the recommendations to the satisfaction of the Planning Secretary; and

(d) make each Independent Audit Report and response to it publicly available no later than 60 days after submission to the Planning Secretary and notify the Planning Secretary in writing at least 7 days before this is done.

NOISE

D29. The External Road Works must be undertaken during the following hours:

(a) 7 am to 6 pm Monday to Friday;

(b) 8 am to 1 pm Saturday; and

(c) at no time on Sundays or public holidays.

D30. Works outside of the hours identified in condition D29 may be undertaken in the following circumstances:

(a) works that are inaudible at the nearest sensitive receivers;

(b) works agreed to in writing by the Planning Secretary;

(c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or

(d) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

D31. Notwithstanding Conditions D29 and Condition D30, the following works may be undertaken out of hours, in accordance with the Out of Hours Works Protocol approved under Condition D25(c):

(a) installation of drainage infrastructure;

(b) asphalting; and

(c) other works required to be completed at night for safety reasons, as detailed in an approved CTMP.

VIBRATION

Condition Surveys

D32. Prior to the commencement of the External Road Works, the Applicant must:

(a) undertake building condition surveys for properties located within 25 metres of the works; and

(b) prepare a dilapidation survey of the heritage post adjacent to Mamre Road.

D33. The Applicant must repair, or pay the full costs associated with repairing property that is damaged by carrying out the External Road Works.

Vibration Criteria

D34. Vibration caused by external road works at any residence or structure outside the site must be limited to:

(a) for structural damage, the latest version of *DIN 4150-3 (2016-12) Vibration in Buildings – Part 3: Effects on Structures* (German Institute for Standardisation, 2016); and

(b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: a technical guideline* (DEC, 2006) (as may be updated or replaced from time to time).

D35. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition D34.

D36. The limits in Conditions D34 and D35 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved under Condition D25 of this consent.

APPENDIX 1 DEVELOPMENT LAYOUT PLANS

Table 4 Schedule of Approved Plans

Drawing No.	Title	Issue	Date
Architectural Drawings prepared by Nettletontribe Architects			
DA102	Estate Plan - Stage 1	P22	30/10/2023
DA104	Lower Ground Floor Plan - LOT4	P2	13/02/2023
DA105	Ground Floor Plan - LOT1	P21	30/10/2023
DA106	Ground Floor Plan - LOT4	P14	15/02/2023
DA107	Roof Plan - LOT1	P14	30/10/2023
DA108	Roof Plan - LOT4	P7	13/02/2023
DA121	Elevations - LOT1	P15	30/10/2023
DA124	Elevations - LOT4	P7	13/02/2023
DA151	Retain Wall & Fence - LOTS 1 & 4	P11	30/10/2023
Landscape Concept prepared by Site Image			
001	Landscape Stage 01 Masterplan Report	B	25/03/2024
Tree Canopy Plan prepared by Site Image			
STAGE1_SK001	Tree Canopy Plan	E	20/02/2023
Civil Works Package – Infrastructure Works			
20-748 – SKC182	INTERIM STORMWATER MANAGEMENT PLAN	A	27/03/2023



Figure 1: Site Plan(s)

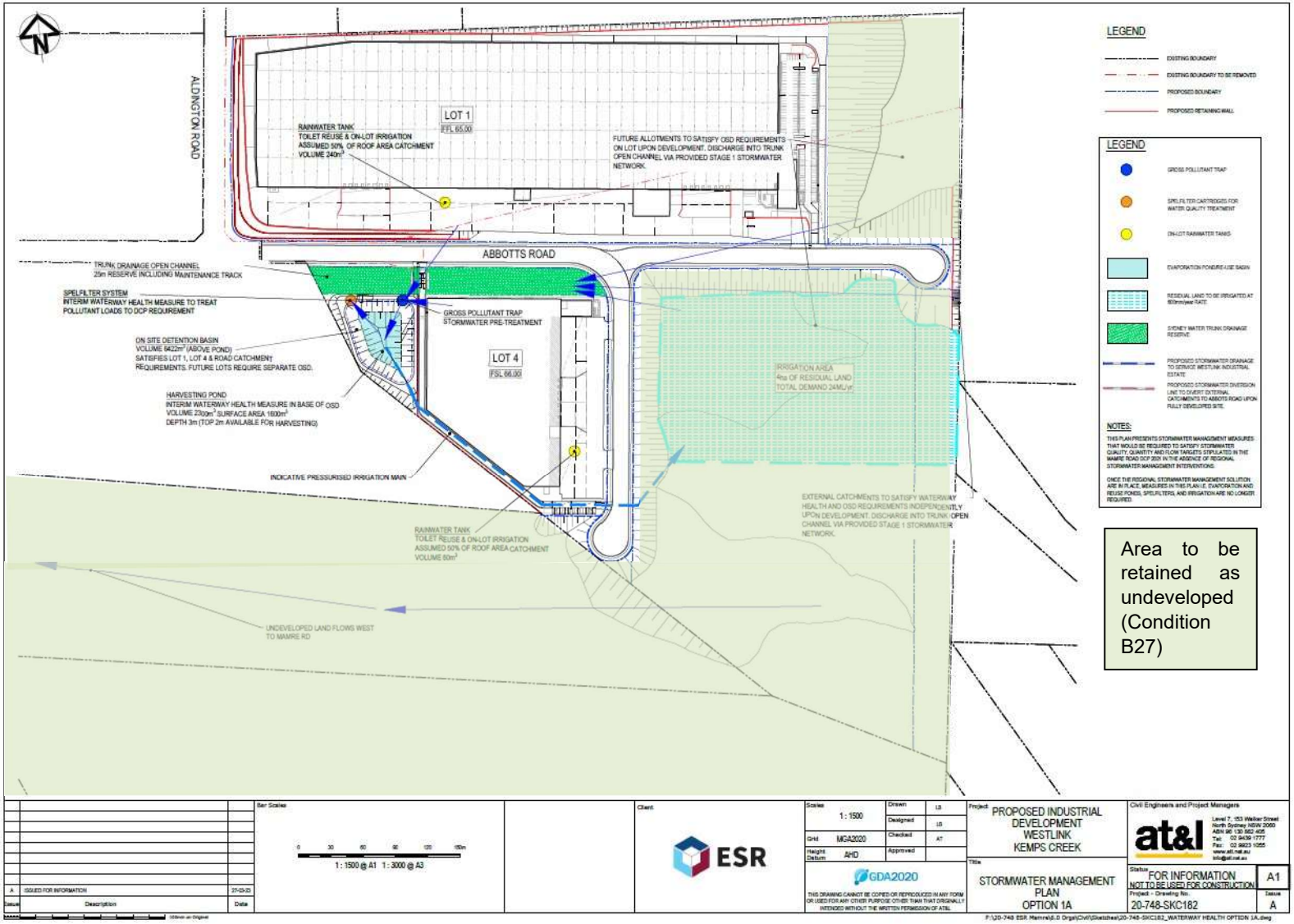


Figure 2: Stormwater Management Infrastructure

APPENDIX 2 NOISE SENSITIVE RECEIVERS

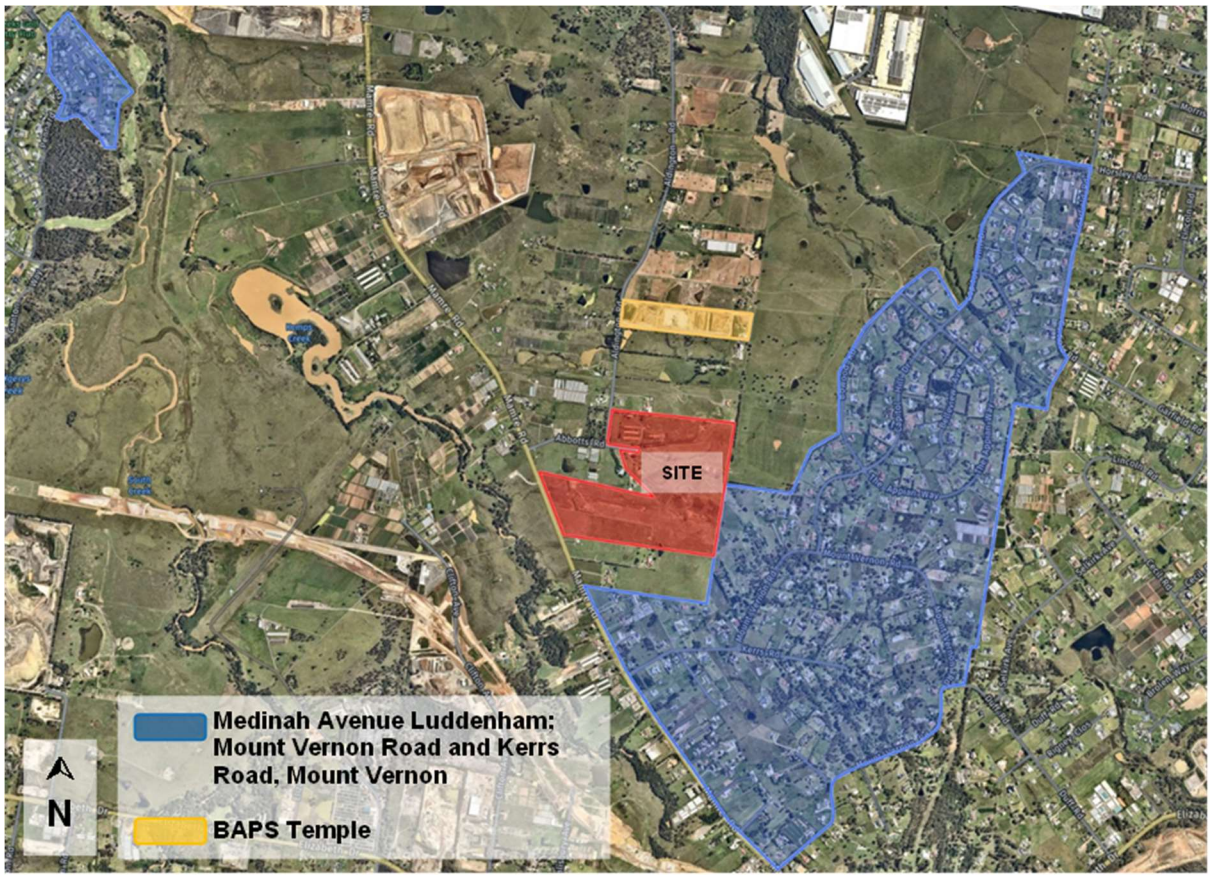


Figure 3: Noise Sensitive Receivers

APPENDIX 3 NOISE MITIGATION ELIGIBLE RECEIVERS' LOCATIONS

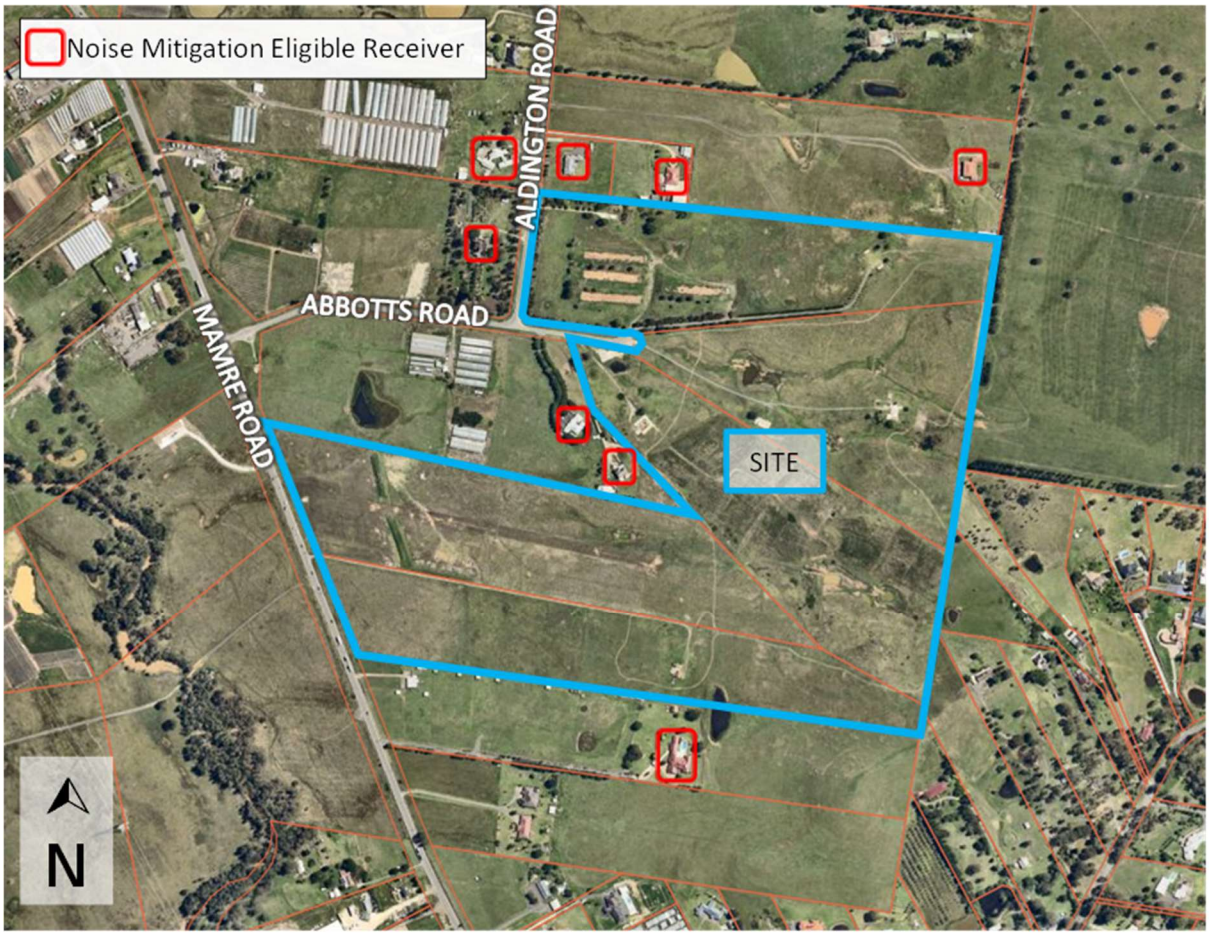


Figure 4: Noise mitigation eligible receivers within the MRP

APPENDIX 4 BUSHFIRE ATTACK LEVEL PLAN

BLACKASH
BUSHFIRE CONSULTING



Figure 5: Bushfire Attack Level Plan

APPENDIX 5 APPLICANT'S MANAGEMENT AND MITIGATION MEASURES

Construction Hours

Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:
Monday to Friday: 7:00 to 18:00;
Saturday: 8:00 to 13:00; and
No work on Sundays or public holidays

Construction Impacts

A Construction Environmental Management Plan (CEMP) will be prepared by the appointed contractor prior to the commencement of works. The CEMP will establish site management principles.

Sedimentation and erosion control

The development is to follow the Soil and Water Management Plan, site inspection and maintenance requirements, and sediment basin maintenance measures outlined in Section 8 of the Civil Infrastructure Report and Plans prepared by AT&L dated 14 February 2023.

Site Inspection and Maintenance

- The inspection and maintenance requirements outlined in this section must be carried out while either earthworks or quarrying is being conducted, and all areas re-established. The Contractor will be required to inspect the site after every rainfall event and at least weekly, and will:
- Inspect and assess the effectiveness of the SWMP and identify any inadequacies that may arise during normal work activities or from a revised construction methodology.
- Construct additional erosion and sediment control works as necessary to ensure the desired protection is given to downstream lands and waterways.
- Ensure that drains operate properly and to affect any repairs.
- Remove spilled sand or other materials from hazard areas, including lands closer than 5 metres from areas of likely concentrated or high velocity flows especially waterways and paved areas.
- Remove trapped sediment whenever less than design capacity remains within the structure.
- Ensure rehabilitated lands have affectively reduced the erosion hazard and to initiate upgrading or repair as appropriate.
- Maintain erosion and sediment control measures in a fully functioning condition until all construction activity is completed and the site has been rehabilitated.
- Remove temporary soil conservation structures as the last activity in the rehabilitation.
- Inspect the sediment basin during the following periods:
    - During construction to determine whether machinery, falling trees, or construction activity has damaged and components of the sediment basin. If damage has occurred, repair it.
    - After each runoff event, inspect the erosion damage at flow entry and exit points. If damage has occurred, make the necessary repairs.
    - At least weekly during the nominated wet season (if any), otherwise at least fortnightly; and
    - Prior to, and immediately after, periods of 'stop work' or site shutdown.
- Clean out accumulated sediment when it reaches the marker board/post and restore the original volume. Place sediment in a disposal area or, if appropriate, mix with dry soil on the site.
- Do not dispose of sediment in a manner that will create an erosion or pollution hazard.
- Check all visible pipe connections for leaks, and repair as necessary.
- Check all embankments for excessive settlement, slumping of the slopes or piping between the conduit and the embankment, make all necessary repairs.
- Remove the trash and other debris from the basin and riser; and
- Submerged inflow pipes must be inspected and de-silted (as required) after each inflow event.

Sediment Basin Maintenance

The site contains 'Type F' soils, or soils that contain a significant proportion of fine grained (33% or more of finer than 0.02mm) and require a much longer residence time to settle. Stormwater within the settling zone should be drained or pumped out within 5 days (design time), if the nominated water quality targets can be met, to the satisfaction of the superintendent. Flocculation should be employed where extended settling is likely to fail to meet the objectives within the 5-day period. Flocculation is when flocculating agents are applied to the sediment basins causing the colloidal particles to clump into larger units or 'floc' that can either settle in a reasonable time or be filtered. Refer to Appendix E4 of the Blue Book for flocculation methodologies and manufacturer's instructions for application rates, regarding the proposed sediment basins.

Stormwater Management

Design criteria and requirements for the proposed site stormwater management and stormwater drainage are outlined in the following documents:

- AS 3500.3 – Plumbing and drainage – Stormwater drainage
- Commonwealth of Australia (Geoscience Australia), Australian Rainfall and Runoff: A guide to flood estimation, 2019.
- NSW Department of Planning, Industry and Environment (DPIE), Mamre Road Precinct Development Control Plan 2021.
- NSW Department of Planning, Industry and Environment (DPIE), MUSIC Modelling Toolkit – Wianamatta, 2 August 2021.

- Penrith City Council, Design Guidelines for Engineering Works for Subdivisions and Developments, as amended 20 November 2013.
- Penrith City Council, Water Sensitive Urban Design (WSUD) Policy, December 2013.
- Penrith City Council, WSUD Technical Guidelines, Version 4 – October 2020.

Noise Management

The development is to follow the construction noise and vibration mitigation measures outlined in Section 7.5 of the Noise and Vibration Assessment prepared by RWDI at Appendix J of the ADR.

Without mitigation, noise levels from construction activities have been predicted to exceed the noise management levels nominated in the guidelines at some surrounding receivers. Therefore, noise control measures are recommended to ensure that noise is reduced where feasible. The following project-specific mitigation measures are recommended:

- Selection of quietest feasible construction equipment;
- Use of saw cutting in preference to rock-breakers where feasible; and
- Localised treatment such as barriers, shrouds, and the like around fixed plant, such as pumps, generators, and concrete pumps.

In addition, the following measures should be included in a Noise & Vibration Management Plan.

- Plant Noise Audit – Noise emission levels of all critical items of mobile plant and equipment should be checked for compliance with noise limits appropriate to those items prior to the equipment going into regular service. To this end, testing should be established with the contractor.
- Operator Instruction – Operators should be trained in order to raise their awareness of potential noise problems and to increase their use of techniques to minimise noise emission.
- Equipment Selection – All fixed plant at the work sites should be appropriately selected, and where necessary, fitted with silencers, acoustical enclosures, and other noise attenuation measures in order to ensure that the total noise emission from each work site complies with EPA guidelines.
- Site Noise Planning – Where practical, the layout and positioning of noise-producing plant and activities on each work site should be optimised to minimise noise emission levels.
- The adoption of the above measures is aimed at working towards achieving the noise management levels established at surrounding receivers.

Community Liaison and General Approaches to Mitigation

An effective community relations programme should be put in place to keep the community that has been identified as being potentially affected appraised of progress of the works, and to forewarn potentially affected groups (e.g. by letterbox drop, meetings with surrounding owners/tenants, etc) of any anticipated changes in noise and vibration emissions prior to critical stages of the works, and to explain complaint procedures and response mechanisms.

Close liaison should be maintained between the communities overlooking work sites and the parties associated with the construction works to provide effective feedback in regard to perceived emissions. In this manner, equipment selections and work activities can be coordinated where necessary to minimise disturbance to neighbouring communities, and to ensure prompt response to complaints, should they occur.

Noise & Vibration Management Plan

A Construction Noise & Vibration Management Plan for the site is recommended which should be prepared by the successful contractor. The plan should reference the findings of this assessment. Areas that should be addressed in plan include:

- Noise and vibration mitigation measures;
- Noise and vibration monitoring;
- Response to complaints;
- Responsibilities;
- Monitoring of noise emissions from plant items;
- Reporting and record keeping;
- Non-compliance and corrective action; and
- Community consultation and complaint handling

Biodiversity

The development is to follow the measures proposed to mitigate and manage biodiversity impacts outlined in Section 2.2.5 of the Biodiversity Development Assessment Report prepared by Eco Logical at Appendix N of the RTS.

- Instigating clearing protocols including pre-clearing surveys, daily surveys and staged clearing, the presence of a trained ecological or licensed wildlife handler during clearing events
- Installing artificial habitats for fauna in adjacent vegetation and habitat or human made structures to replace the habitat resources lost and encourage animals to move from the impacted site, e.g. nest boxes
- Timing works to avoid critical life cycle events such as breeding or nursing.
- Sediment barriers or sedimentation ponds to control the quality of water released from the site into the receiving environment.
- Prevent impacts of noise, dust and light spill on fauna species.
- Prevent damage to vegetation retained adjacent to site.
- Prevent the dumping of rubbish found on site.
- Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas.
- Staff training and site briefing to communicate environmental features to be protected and measures to be implemented.

- Making provision for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation habitat on or adjacent to the development site.

Site contamination and geotechnical assessment

The development is to follow the recommendations given in Section 9 of the Preliminary Environmental Site Investigation prepared by Douglas Partners at Appendix R of the RTS, and recommendations for further investigation provided in Section 7 of the Geotechnical Investigation Report prepared by Alliance Geotechnical at Appendix T of the RTS. A Detailed Site Investigation and Remediation Action Plan prepared by Alliance Geotechnics are at Appendices DD and BB of the RTS.

Preliminary Environmental Site Investigation

- A hazardous building material survey should be conducted for structure at the site prior to demolition

Geotechnical Investigation Report

Based on the results of the investigation for the proposed development addressing the specific site condition in 29030 8 Aldington Road, Kemps Creek, it is recommended that further geotechnical investigation be carried out prior to the detail design of the development. The proposed investigation should include rock coring to 3m below the base of t he proposed rock cuts and laboratory rock testings to provide rock strength and defects of the rock mass. The results o f the investigation should address bedrock conditions for stability analysis, retaining wall design and required ear thworks based on architectural design of development.

Bushfire Impacts

The development shall comply with the bushfire management strategies identified in Section 5 of the Bushfire Protection Assessment prepared by Australian Bushfire Protection Planners at Appendix U of the RTS.

Strategy 1 – Defendable Space management Requirements:

Management of the defendable spaces/landscaped areas within the development site shall comply with the following:

- Maintain a clear area of low cut lawn or pavement adjacent to the building;
- Keep areas under shrubs and trees raked and clear of combustible fuels;
- Utilise non-flammable materials such as Scoria, pebbles and recycled crushed bricks as ground cover to landscaped gardens in close proximity to building;
- Trees and shrubs should be maintained in such a manner that tree canopies are separated by 2 metres and understorey vegetation is not continuous [retained as clumps].

Strategy 2 – Water Supplies/Utilities for Firefighting Operations:

The fire-fighting water supply to the proposed buildings shall comply with the Building Code of Australian [BCA] and Australian Standard A.S. 2419.1 – 2005. Electricity and gas supplies will be laid underground and therefore address the performance standard of Chapter 4 of Planning for Bushfire Protection 2019.

Strategy 3 – Construction Standards to the buildings located adjacent to the bushfire hazard:

Table 2 identifies the bushfire construction standards required to be implemented to comply with A.S. 3959 – 2018 – 'Construction of Buildings in Bushfire Prone Areas'.

The non-exposed elevations of the warehouse building shall be constructed to one level less than the BAL rating for the hazard side of the building e.g. the BAL rating to the northern elevation of the warehouse on Lot 1 is BAL 29 therefore the remaining elevations shall be constructed to BAL 19 standards in accordance with A.S. 3959 – 2018 – 'Construction of Buildings in Bushfire Prone Areas'.

The following additional construction measures also apply:

- Access doors [PA and Vehicle] to the buildings shall be fitted with seals that seal the bottom, stiles and head of the door against the opening/frame to prevent the entry of embers into the building. Particular attention shall be given to the gap at the head of the curtain of the roller doors, where mohair type seals can be used;
- External timber doors shall be fitted with a stainless steel/Colorbond kick plate of 400mm high on the outside of the door;
- External glazed doors and windows shall comply with the requirements for glazing less than 400mm above finished ground level; paths / pavement and elevated roofs;
- Any external vents, grilles and ventilation louvres shall have stainless steel mesh with a maximum aperture of 2mm square fitted to prevent the entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm.

Strategy 4 – Access Standards for Firefighting Operations.

Fire Appliance access shall be provided to the perimeter of each lot, either by a perimeter road or by vehicular access to the future buildings or parking areas incorporated into the defendable space setback.

The Fire Brigade access adjacent to the southern and eastern boundaries shown on the Master Plan shall be linked across the lot boundaries to provide continuous access for fire appliances.

The access provisions shall satisfy the NSW Rural Fire Service and Fire & Rescue NSW appliance requirements.

Air Quality

The development shall comply with the recommended mitigation and management measures for air quality provided in Section 8 of the Air Quality Assessment prepared by RWDI at Appendix N of the ADR.

Dust

To ensure best practice management, the following mitigation measures are recommended so that construction dust impacts are minimised and remain low risk.

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Develop and implement a Dust Management Plan (DMP) that considers, as a minimum, the measures identified herein.

Site management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to relevant authorities (Council, EPA, etc).
- Record any exceptional incidents that cause dust and/or air emissions, either on or off site, and the action taken to resolve the situation in the logbook.

Monitoring

- Undertake daily on-site and off-site inspection, where receptors are nearby, to monitor dust. Record inspection results and make available to relevant authorities. This should include regular dust soiling checks of surfaces such as street furniture, cars and window. Specific real-time dust monitoring is not necessary for this project.

Preparing & Maintaining the Site

- Plan site layout so that machining and dust generating activities are located away from receptors, as far as possible.
- Avoid site runoff of water or mud.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being reused on site. If being re-used, keep materials covered.
- Cover, seed or fence stockpiles to prevent wind erosion.

Construction vehicles and sustainable travel

- Ensure all vehicles switch off engines when stationary – no idling vehicles
- Impose and signpost a maximum-speed-limit of 25km/h on surfaced and 15km/h on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided).

Measures for general construction activities

- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. Measures specific to haulage
- Use water-assisted dust sweeper(s) on the access and local roads, as necessary.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site logbook.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- Access gates to be located at least 10m from receptors where possible.

Operation

Although no specific mitigation measures have been triggered, it would be sensible to:

- Limit unnecessary idling of truck engines on-site.
- Ensure truck maintenance is up to date.

Waste management

The development should implement where possible the operational waste management strategies and recommendations provided in Section 6 of the Waste Management Plan prepared by SLR Consulting at Appendix O of the ADR.

Waste Avoidance, Reuse and Recycling Measures

Waste avoidance measures include:

- Participating in take-back services to suppliers to reduce waste further along the supply chain;
- Avoiding printing where possible;
- Review of packaging design to reduce waste but maintain ‘fit for purpose’;
- Providing ceramic cups, mugs, crockery and cutlery rather than disposable items;
- Purchasing consumables in bulk to avoid unnecessary packaging;
- Presenting all waste reduction initiatives to staff as part of their induction program, and
- Investigating leased office equipment and machinery rather than purchase and disposal.

<u>Reuse</u>

Possible re-use opportunities include establishing systems with in-house and supply chain stakeholders to transport products in re-useable packaging where possible.

<u>Recycling</u>

Recycling opportunities include:

- Collecting and recycling e-waste;
- Flatten or bale cardboard to reduce number of bins required;
- Paper recycling trays provided in office areas for scrap paper collection and recycling;
- Collecting printer toners and ink cartridges in allocated bins for appropriate contractor recycling, and
- Development of 'buy recycled' purchasing policy.

Communication Strategies

Waste management initiatives and management measures should be clearly communicated to building managers, owners, employees, customers and cleaners. Benefits of providing this communication include:

- improved satisfaction with services;
- increased ability and willingness to participate in recycling;
- improved amenity and safety;
- improved knowledge and awareness through standardisation of services;
- increased awareness or achievement of environmental goals and targets;
- reduced contamination of recyclables stream;
- increased recovery of recyclables and organics material, if implemented, and
- greater contribution to targets for waste reduction and resource recovery, the environment and heritage conservation.

To realise the above benefits, the following communication strategies should be considered:

- Use consistent signage and colour coding throughout the Project;
- Ensure all staff are trained in correct waste separation and management procedures;
- Provide directional signage to show location of and routes to waste storage area;
- General waste and co-mingled recycling bins should be clearly labelled and colour-coded to ensure no cross contamination, where applicable;
- Employees and cleaners should adhere to the WMP for compliance, in consultation with management, and
- Repair signs and labels promptly to avoid breakdown of communications.

Signage

Signs which clearly identify waste management procedures and provisions to staff and visitors should be distributed around the Project. Key signage considerations are:

- Clear and correct labelling on all waste and recycling bins, indicating the correct type or types of waste that can be placed into a given bin.
- Signposts and directions to location of waste storage areas;
- Clear signage in all waste storage areas to instruct users how to correctly separate waste and recycling;
- Maintaining a consistent style colour scheme and system for signs throughout the Project, and
- Emergency contact information for reporting issues associated with waste or recycling management.

Colour-coded and labelled bin lids are necessary for identifying bins. All signage should conform to the relevant Australian Standard and use labels approved by the NSW EPA14. The design and use of safety signs for waste rooms and enclosures should comply with Australian Standard AS 1319 Safety Signs for the Occupational Environment and clearly describes the types of materials designated for each bin.

Monitoring and Reporting

Monitoring is recommended to ensure waste and recycling management arrangements and provisions for the Project are functional, practical and are maintained to the standard outlined in this plan, at a minimum. Visual assessments of bins and bin storage areas should be conducted by the building manager, at minimum:

- Weekly, in the first two months of operation to ensure the waste management system is sufficient for the operation, and
- Every six months, to ensure waste is being managed to the standards outlined in this document.

In addition, audits are to be conducted on a half-yearly basis to ensure WMP provisions are maintained. Quantities of waste and recycling associated with disposal of waste and recycling, including dockets, receipts and other physical records should be recorded by the Building Manager. This is to allow reviews of the waste management arrangements and provisions at the site over time. Records of waste disposal should also be available to regulatory authorities such as the NSW Environmental Protection Authority and SafeWork NSW, upon request.

Any deficiencies identified in the waste management system, including, but not limited to, unexpected waste quantities, is to be rectified by the Building Manager as soon as it is practical. Where audits show that recycling is not carried out effectively, management should carry out additional staff training, signage re-examination and reviews of the waste management system where the audit or other reviewing body has deemed necessary. If this waste management plan no longer sufficiently meets the needs of the Project, review and updates to maintain suitability must be undertaken.

Roles and Responsibilities

Management:

- Ensure the WMP is implemented throughout the life of the operation.
- Update the WMP on a regular basis (e.g. annually) to ensure the Plan remains applicable.
- Undertake liaison and management of contracted waste collections.

- Organise internal waste audits on a regular basis.
- Manage any complaints and non-compliances reported through waste audits etc.
- Perform inspections of all waste storage areas and waste management equipment on a regular basis.
- Organise cleaning and maintenance requirements for waste management equipment.
- Monitor bins to ensure no overfilling occurs.
- Ensure effective signage, communication and education is provided to alert visitors, employees and cleaners about the provisions of this WMP and waste management equipment use requirements.
- Monitor and maintain signage to ensure it remains clean, clear and applicable.
- Ensure waste and recycling storage rooms are kept tidy.
- Ensure that regular cleaning and daily transfer of bins is being undertaken by the cleaners
- Ultimately responsible for the management of all waste management equipment, cleaning requirements, waste transfer and collection arrangements.

Cleaners and Staff:

- Removal of general waste, recyclables, cardboard waste and hazardous waste from floor areas for transfer to centralised waste and recycling collection rooms daily or as required.
- Cleaning of all bins and waste and recycling rooms on a weekly basis or as required.
- Compliance with the provisions of this WMP.

Gardening Contractor, as applicable:

- Removal of all garden organics waste generated during gardening maintenance activities for recycling at an off-site location or reuse as organic mulch on landscaped areas.

Ecologically Sustainable Development

The development shall be consistent with the sustainability measures commitments outlined in Section 5, and monitoring and reporting measures outlined in Section 7, of the Sustainability Management Plan prepared by SLR Consulting at Appendix P of the ADR.

Energy Review and Audit

An energy usage review should be undertaken within the first few months of operation to ensure the Energy Management Plan is sufficient for the development's needs. A breakdown of energy usage per month at the Project Site will help to measure the development's baseline energy use and assess what appliances, equipment and processes are consuming energy.

An energy review is also necessary for the assessment of energy utilisation to further identify opportunities for improvement. Energy usage data obtained during the review process may be used to establish key performance indicators and annual energy targets for the Project.

Energy usage to be included in the review should include all purchased electricity and energy which is consumed by stationary equipment on site. Energy consumed by mobile equipment (e.g. forklifts) should also be examined as this will identify variations in warehouse operation efficiency. (Refer to 'Guidelines for Energy Savings Action Plans' (2005) (as developed by the former Department of Energy, Utilities and Sustainability) for reporting templates and further information.)

An energy audit and management review should also be undertaken on a half-yearly basis to ensure employees are following energy savings procedures correctly. Where audits show that energy savings procedures are not carried out effectively, additional employee training should be undertaken and signage and procedures re-examined.

The Energy Management Plan should be progressively improved and updated on an annual basis, or as required, to reflect changes to the Energy Management System and to promote continual improvement of energy management at the Project Site.

Energy Metering and Monitoring

To enable effective review of energy usage by the project, sub-metering should be implemented for all major energy consuming processes or items of equipment including sub-metering for all loads greater than 100 kVA.

Electrical equipment should be maintained to Australian Standards to ensure unnecessary energy wastage is minimised. Roof access system is proposed for third party access to roof for carry out necessary maintenance as required.

A Building Users' Guide will be prepared for the Project. The Building Users' Guide provides details regarding the everyday operation of a building and should include energy minimisation initiatives such as natural ventilation strategies, user comfort control, maintenance of air conditioning units and other electrical devices to ensure maximum operating efficiency, and lighting zoning strategies. An effective Building Users' Guide will ensure that:

- Facility managers understand in detail their responsibilities for the efficient operation of the facility and any additional building tuning necessary to continuously improve energy management.
- Maintenance contractors understand how to service the particular systems to maintain reliable operations and maximum energy efficiency.
- Employees understand energy minimisation procedures and working limitations required to maintain design performance for energy efficiency.

• Future fit-out / refurbishment designers understand the design basis for the building and the systems so that these are not compromised in any changes.
Roles and Responsibilities It is the responsibility of the facility manager to routinely check energy savings procedures are undertaken correctly (i.e. lighting turned off while areas of the development are not in use). The facility manager should also ensure all monitoring and audit results are well documented and carried out as specified in the Energy Management Plan. Senior management should also be involved in energy management planning as an indication of the organisation's commitment to the Energy Management Plan.

APPENDIX 6 INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

WRITTEN INCIDENT NOTIFICATION REQUIREMENTS

1. A written incident notification addressing the requirements set out below must be submitted to the Planning Secretary via the Major Projects website within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition C10 or, having given such notification, subsequently forms the view that an incident has not occurred.

2. Written notification of an incident must:
   (a) identify the development and application number;
   (b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
   (c) identify how the incident was detected;
   (d) identify when the applicant became aware of the incident;
   (e) identify any actual or potential non-compliance with conditions of consent;
   (f) describe what immediate steps were taken in relation to the incident;
   (g) identify further action(s) that will be taken in relation to the incident; and
   (h) identify a project contact for further communication regarding the incident.

INCIDENT REPORT REQUIREMENTS

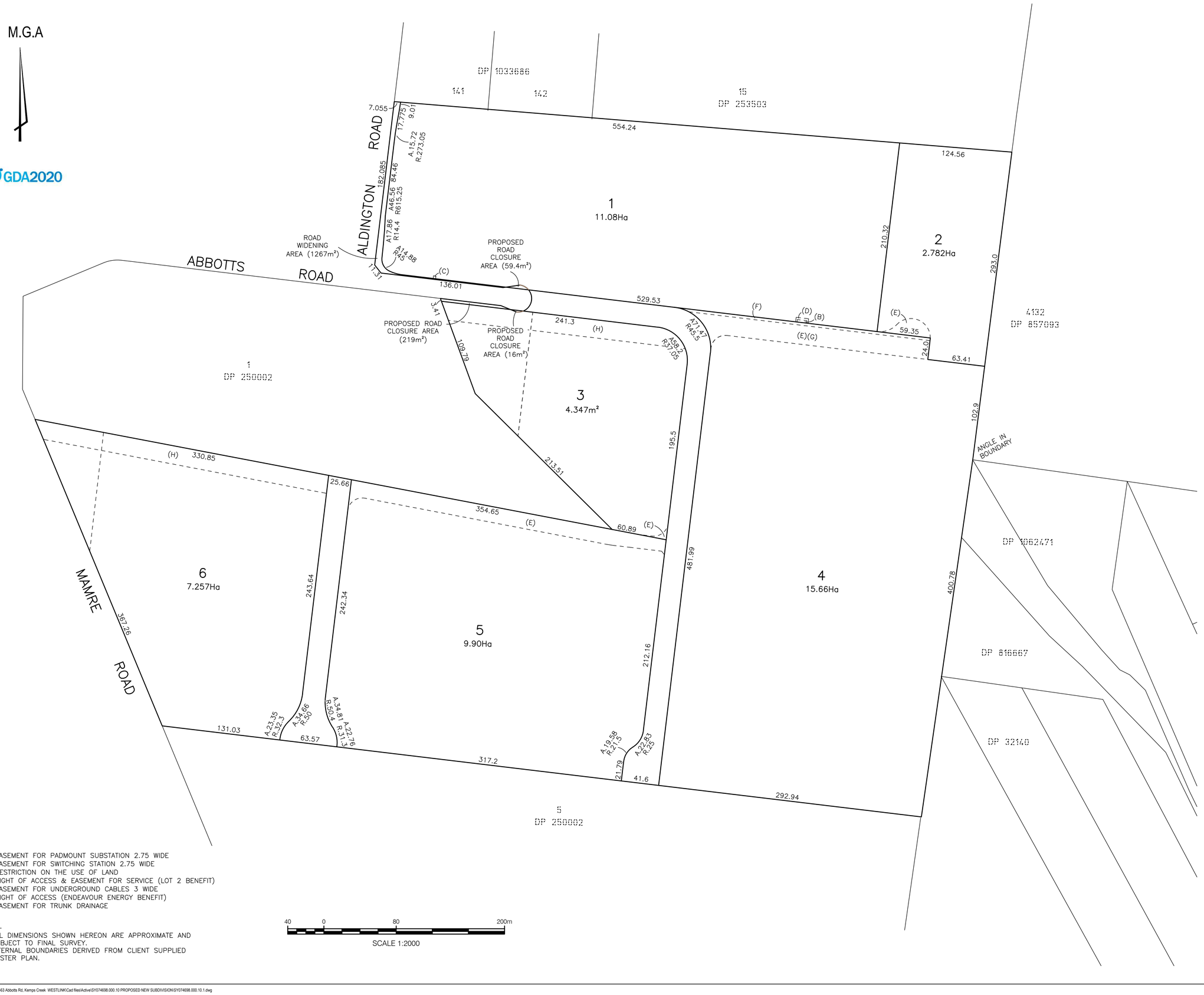
3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.

4. The Incident Report must include:
   (a) a summary of the incident;
   (b) outcomes of an incident investigation, including identification of the cause of the incident;
   (c) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
   (d) details of any communication with other stakeholders regarding the incident.

APPENDIX 7 EXTERNAL ROAD WORKS PLANS

Table 5 Schedule of External Road Works Plans

Drawing No.	Title	Issue	Date
Civil Engineering Drawings			
GE-2000	MR536 Mamre Road and Abbotts Road Kemps Creek 2000 Series – Proposed Signalised Intersection Civil Works Package 80% Detailed Design	1	03/11/2023
24-1177-C500	Westlink – External Roads Kemps Creek 500 Series – Phase 1 – Civil Works Package	P1	01/02/2024



(B) EASEMENT FOR PADMOUNT SUBSTATION 2.75 WIDE
(C) EASEMENT FOR SWITCHING STATION 2.75 WIDE
(D) RESTRICTION ON THE USE OF LAND
(E) RIGHT OF ACCESS & EASEMENT FOR SERVICE (LOT 2 BENEFIT)
(F) EASEMENT FOR UNDERGROUND CABLES 3 WIDE
(G) RIGHT OF ACCESS (ENDEAVOUR ENERGY BENEFIT)
(H) EASEMENT FOR TRUNK DRAINAGE

NOTE:–
1. ALL DIMENSIONS SHOWN HEREON ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY.
2. INTERNAL BOUNDARIES DERIVED FROM CLIENT SUPPLIED MASTER PLAN.

CLIENT

ESR

PROJECT

PLAN OF PROPOSED SUBDIVISION OF LOTS 11,12 & 13 IN DP253503 AND LOT 2 IN DP 250002

59-63 ABBOTTS RD, KEMPS CREEK

NOTES

(i) This plan has been prepared for the exclusive use of ESR and their consultants for design purposes and is not to be used for any other purpose or by any other entity without the express permission of LandPartners Pty Ltd.

(ii) The title boundaries as shown hereon were not marked or surveyed at the time of survey and have been determined from the dimensions shown on plans of survey registered in the Department of Resources.

(iii) Services shown hereon have been located where visible by field survey. If not able to be so located, services have been plotted from the records of relevant authorities where available and have been noted or symbolised accordingly. Where such records do not exist or are inadequate a notation has been made hereon.

(iv) Underground connections between services have been joined based on relevant authority records and have been symbolised accordingly.

(v) Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

(vi) This data should not be reproduced in any way without the permission of LandPartners Pty Ltd. Any reproduction of this data must contain these notes

1	GKO	04/10/2023	INITIAL ISSUE

DRAINAGE PIPE U/G — SV
DRAIN — D
ELECT. CABLE A/G — E
ELEC. CABLE U/G — E
GAS PIPE — GAS
FENCE LINE — //
SEWERAGE PIPE — S
TELSTRA CABLE — T
WATER PIPE — W

LANDPARTNERS surveyors and planners

ISO 9001 Quality Management Systems CERTIFIED
ISO 45001 Occupational Health and Safety Management CERTIFIED
AS/NZS 4801 Occupational Health and Safety CERTIFIED
CERTIFIED LOCATOR www.citylocator.com

Sydney Office
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Rydalmere NSW 2116

PO Box 1144
Rydalmere
NSW 2116

p: (02) 9685 2000
f: (02) 9685 2001
e: info@landpartners.com.au
w: www.landpartners.com.au

HEIGHT DATUM: AHD	LOCAL AUTHORITY: PENRITH
HEIGHT ORIGIN: N/A	SCALE: 1:2000 (A1)
MERIDIAN: MGA ZONE 56	CONTOUR INTERVAL: N/A
CO-ORD SYSTEM: GDA 2020	SURVEYOR: N/A — DATE OF SURVEY: ~
CCAD FILE: 74698.000 IMPORTED...	DRAWN: SF — DATE: 4/10/2023
AUTOCAD FILE: SY074698.000.10.1	CHECKED: GKO — DATE: 4/10/2023
ARCHIVE FILE:	APPROVED: GKO — DATE: 4/10/2023

PLAN NUMBER: SY074698.000.10.1

SHEET 01 OF 01

PD.GKO

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Development Consent

Section 4.38 of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning and Public Spaces under delegation executed on 9 March 2022, I approve the Development Application referred to in Schedule 1, subject to the conditions specified in Schedule 2.

These conditions are required to:

- prevent, minimise, or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development



Chris Ritchie
Director
Industry Assessments

Sydney 21 April 2023 File: EF20/28074

SCHEDULE 1

Application Number:	SSD-9138102
Applicant:	ESR Developments (Australia) Pty Ltd
Consent Authority:	Minister for Planning and Public Spaces
Site:	Lots 11, 12 and 13 DP 253503, Lots 3 and 4 DP 250002
Development:	Construction of the first stage of an industrial estate including bulk earthworks, subdivision, construction, fit out and operation of two warehouse buildings and ancillary office space with a total gross floor area of 81,317m^2, landscaping, construction of estate roads and external road upgrades, site servicing and stormwater infrastructure.

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DEFINITIONS

ADR	Amended Development Report titled *SSD-9138102: Westlink Stage 1 Amendment Report*, prepared by Ethos Urban and dated 21 October 2022 (version D) and 6 December 2022 (version RFI A)
Additional Information	Additional information provided by the Applicant titled *Response to request for further information*, prepared by Ethos Urban and dated 14 February 2023
Applicant	ESR Developments (Australia) Pty Ltd, or any person carrying out any development to which this consent applies
BCA	Building Code of Australia
BC Act	*Biodiversity Conservation Act 2016*
Carrier	Operator of a telecommunication network and/ or associated infrastructure, as defined in section 7 of the *Telecommunications Act 1997* (Cth)
Certifier	A council or an accredited certifier (including principal certifiers) who is authorised under section 6.5 of the EP&A Act to issue Part 6 certificates
CEMP	Construction Environmental Management Plan
Conditions of this consent	Conditions contained in Schedule 2 of this document
Construction	Construction of buildings, hardstands, offices, roads, stormwater infrastructure and landscaping
Council	Penrith City Council
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Demolition	The deconstruction and removal of buildings, sheds and other structures on the site
Department	NSW Department of Planning and Environment
Development	The development described in Schedule 1, the EIS, RTS, ADR and Additional Information, including bulk earthworks, subdivision, construction and fit out of two warehouse buildings and ancillary office space, landscaping, construction of estate roads and external road upgrades, site servicing and stormwater infrastructure, as modified by the conditions of this consent
Development layout	The plans at Appendix 1 of this consent
DPE	Department of Planning and Environment
Earthworks	Bulk earthworks, clearing, site levelling, import and compaction of fill material, excavation for installation of drainage and services, to prepare the site for construction
EHG	Environment and Heritage Group of the Department
EIS	The Environmental Impact Statement titled *290-308 Aldington Road, 59-62 Abbotts Road & 63 Abbotts Road, Kemps Creek, Westlink Industrial Estate, SSD-9138102*, prepared by Ethos Urban dated 17 June 2021, submitted with the application for consent for the development
ENM	Excavated Natural Material
Environment	As defined in section 1.4 of the EP&A Act
Environmental Representative Protocol	The document of the same title published by the Department.
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6 pm to 10 pm
Fibre-ready facility	As defined in section 372W of the *Telecommunications Act 1997* (Cth)
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement

Heritage item	An item as defined under the *Heritage Act 1977,* and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the *National Parks and Wildlife Act 1974'*, the World Heritage List, or the National Heritage List or Commonwealth Heritage List under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), or anything identified as a heritage item under the conditions of this consent
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance Note: "material harm" is defined in this consent
IWCM	Integrated Water Cycle Management
Land	Has the same meaning as the definition of the term in section 1.4 of the EP&A Act
MRP	Mamre Road Precinct
MRP DCP	Mamre Road Precinct Development Control Plan 2021
Material harm	Is harm that: a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
Minister	NSW Minister for Planning and Public Spaces (or delegate)
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
NCC	National Construction Code
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent
NRAR	Natural Resources Access Regulator, DPE
OEMP	Operational Environmental Management Plan
Operation	The use of warehouse buildings for storage or distribution of goods upon completion of construction, as described in the EIS, RTS and ADR
PA	Means a planning agreement within the meaning of the term in section 7.4 of the EP&A Act
Principal Certifier	The certifier appointed as the principal certifier for the building work under section 6.6(1) of the EP&A Act or for the subdivision work under section 6.12(1) of the EP&A Act
Planning Secretary	Secretary of the Department, or delegate
POEO Act	*Protection of the Environment Operations Act 1997*
Reasonable	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements
Regional Stormwater Authority	Sydney Water Corporation
Registered Aboriginal Parties	Means the Aboriginal persons identified in accordance with the document entitled "*Aboriginal cultural heritage consultation requirements for proponents 2010*" (DECCW)
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
Response to Submissions (RTS)	The Applicant's response to issues raised in submissions received in relation to the application for consent for the development under the EP&A Act and includes the document titled *Submissions and Amendment Report, 290-308 Aldington Road, 59-*

	62 Abbotts Road and 63 Abbotts Road, Kemps Creek, Westlink Industrial Estate, prepared by Ethos Urban and dated 26 April 2022
Sensitive receivers	A location where people are likely to work, occupy or reside, including a dwelling, school, hospital, office or public recreational area
Site	The land defined in Schedule 1
Stormwater Scheme	Regional stormwater infrastructure as shown on the MRP Stormwater Scheme Plan, December 2022 prepared by Sydney Water
TfNSW	Transport for New South Wales
Trunk Drainage	Stormwater assets, typically open natural trunk drainage channels, wetlands and storage ponds, as shown on Sydney Water's Mamre Road Precinct Stormwater Scheme Plan, December 2022
VENM	Virgin Excavated Natural Material
WAD	Works Authorisation Deed, a contract between TfNSW and the Applicant to undertake roadworks on the State road network
Waste	Has the same meaning as the definition of the term in the Dictionary to the POEO Act
WSUD	Water Sensitive Urban Design
Year	A period of 12 consecutive months

SCHEDULE 2

PART A ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

A1. In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.

TERMS OF CONSENT

A2. The development may only be carried out:

(a) in compliance with the conditions of this consent;

(b) in accordance with all written directions of the Planning Secretary;

(c) in accordance with the EIS, RTS, ADR and additional information;

(d) in accordance with the Development Layout in Appendix 1; and

(e) in accordance with the management and mitigation measures in Appendix 5.

A3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to:

(a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and

(b) the implementation of any actions or measures contained in any such document referred to in condition A3(a).

A4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c) or A2(e). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c) or A2(e), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

LIMITS OF CONSENT

A5. This consent lapses five years after the date from which it operates, unless the development has physically commenced on the land to which the consent applies before that date.

A6. The maximum GFA for development on the site must not exceed the limits in Table 1.

Table 1 *Maximum GFA of the Development*

Land Use	Maximum GFA (m^2)
Warehouse or distribution centres	79,031
Ancillary offices	2,286
Total	**81,317**

NOTIFICATION OF COMMENCEMENT

A7. The date of commencement of each of the following phases of the development must be notified to the Planning Secretary in writing, at least one month before that date, or as otherwise agreed with the Planning Secretary:

(a) construction;

(b) operation; and

(c) cessation of operations.

A8. If the construction or operation of the development is to be staged, the Planning Secretary must be notified in writing, at least one month before the commencement of each stage (or other timeframe agreed with the Planning Secretary), of the date of commencement and the development to be carried out in that stage.

EVIDENCE OF CONSULTATION

A9. Where conditions of this consent require consultation with an identified party, the Applicant must:

(a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and

(b) provide details of the consultation undertaken including:

(i) the outcome of that consultation, matters resolved and unresolved; and

(ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

STAGING, COMBINING AND UPDATING STRATEGIES, PLANS OR PROGRAMS

A10. With the approval of the Planning Secretary, the Applicant may:

(a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);

(b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and

(c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).

A11. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

A12. If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.

PROTECTION OF PUBLIC INFRASTRUCTURE

A13. Before the commencement of construction of the development, the Applicant must:

(a) consult with the relevant owner and provider of services that are likely to be affected by the development to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure;

(b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and

(c) submit a copy of the dilapidation report to the Planning Secretary and Council.

A14. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:

(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development; and

(b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

DEMOLITION

A15. All demolition must be carried out in accordance with *Australian Standard AS 2601-2001 The Demolition of Structures* (Standards Australia, 2001).

STRUCTURAL ADEQUACY

A16. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the NCC.

Note:

- *Under Part 6 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.*
- *The EP&A (Development Certification and Fire Safety) Regulation 2021 sets out the requirements for the certification of the development.*

CIVIL PLANS

A17. Engineering plans are to be prepared in accordance with the development consent, Penrith City Council's *Design Guidelines for Engineering Works for Subdivisions and Developments, Engineering Construction Specification for Civil Works* and Austroads Guidelines.

A18. All earthworks and retaining walls subject to this development must be contained within the site and not cause any constraint on future development of any adjoining properties, as described in the information titled 'Westlink Stage 1 (SSD-9138102) – Retaining Wall and Earthworks', prepared by ESR and dated 20 April 2023 and supporting attachments.

SUBDIVISION

A19. Prior to the issuing of Subdivision Certificates for any stage of the development, detailed work-as-executed drawings shall be prepared and signed by a Registered Surveyor, which show the finished surface levels of the access road, internal roads, drainage, street trees and any areas of fill, carried out under this consent. The work-as-executed drawing must be submitted to the Certifier, Council and Sydney Water prior to the issue of a Subdivision Certificate.

A20. Prior to the issuing of Subdivision Certificates for any stage of the development, the Applicant must provide to the Certifier evidence that all matters required to be registered on title, including easements, have been lodged for registration or registered at the Land Registry Services.

A21. Prior to the issuing of Subdivision Certificates for any stage of the development:

(a) a certificate from an electricity and telecommunications provider must be submitted to the Certifier certifying that satisfactory service arrangements to the site have been established; and

(b) a certificate from the Regional Stormwater Authority must be submitted to the Certifier certifying that satisfactory stormwater servicing arrangements for the site have been established.

A22. Prior to issue of a Subdivision Certificate that proposes the dedication of any internal estate road as a public road:

(a) a final inspection of the estate road is to be undertaken by the relevant Roads Authority. All compliance documentation for road and drainage construction of the estate road must be submitted to the relevant Roads Authority in accordance with the relevant Roads Authorities specifications and requirements.

(b) a Maintenance Bond is to be lodged with Penrith City Council for all road and drainage works that are to be dedicated to the relevant Roads Authority. The value of the bond shall be determined in accordance with Penrith City Council's adopted Fees and Charges.

(c) where installation of any regulatory/advisory signage and line marking are proposed, plans are to be lodged with Penrith City Council and approved by the Local Traffic Committee

(d) an application for proposed street names must be lodged with and approved by Penrith City Council and the signs erected on-site. The proposed names must be in accordance with Penrith City Council's Street Naming Policy.

Note: Contact Penrith City Council's Engineering Services Department on 4732 7777 for further information on this process and applicable fees.

COMPLIANCE

A23. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.

DEVELOPMENT CONTRIBUTIONS

A24. Prior to the issue of a Subdivision Certificate or Construction Certificate (as required by the contributions plan or agreed by Council), the Applicant must pay contributions to Council as required in accordance with the Penrith City Mamre Road Precinct Development Contributions Plan 2022, or any other contributions plan as in force when the later consent takes effect.

Note: Subject to agreement between Council and the Applicant, local contributions may be satisfied by a planning agreement or works-in-kind agreement between Council and the Applicant.

A25. A special infrastructure contribution must be made in accordance with the Environmental Planning and Assessment (Special Infrastructure Contribution – Western Sydney Aerotropolis) Determination 2022 (2022 Determination) as in force when this development consent takes effect.

A person may not apply for a subdivision certificate or construction certificate (as the case may require, having regard to the Determination) in relation to the development unless the person provides, with the application, written evidence from the Department of Planning and Environment that the special infrastructure contribution for the development (or that part of the development for which the certificate is sought) has been made or that arrangements are in force with respect to the making of the contribution.

More information

A request for assessment by the Department of Planning and Environment of the amount of the contribution that is required under this condition can be made through the NSW planning portal (https://www.planningportal.nsw.gov.au/development-assessment/contributions/sic-online-service). Please refer enquiries to SIContributions@planning.nsw.gov.au.

OPERATION OF PLANT AND EQUIPMENT

A26. All plant and equipment used on site, or to monitor the performance of the development, must be:

(a) maintained in a proper and efficient condition; and

(b) operated in a proper and efficient manner.

EXTERNAL WALLS AND CLADDING

A27. The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA.

A28. Prior to the issuing of:

(a) any Construction Certificate relating to the construction of external walls (including the installation of finishes and claddings such as synthetic or aluminium composite panels); and

(b) an Occupation Certificate,

the Applicant must provide the Certifier with documented evidence that the products and systems proposed for use or used in the construction of external walls (including finishes and claddings such as synthetic or aluminium composite panels) comply with the requirements of the BCA.

A29. The Applicant must provide a copy of the documentation given to the Certifier to the Planning Secretary within seven days after the Certifier accepts it.

UTILITIES AND SERVICES

A30. Before the construction of any utility works associated with the development, the Applicant must obtain relevant approvals from service providers.

A31. Before the commencement of operation of the development, the Applicant must obtain a Compliance Certificate for water and sewerage infrastructure servicing of the site under section 73 of the *Sydney Water Act 1994*.

A32. Before the issuing of a Subdivision Works or Construction Certificate for any stage of the development, the Applicant (whether or not a constitutional corporation) is to provide evidence, satisfactory to the Certifier, that arrangements have been made for:

(a) the installation of fibre-ready facilities to all individual lots and/or premises in the development to enable fibre to be readily connected to any premises that is being or may be constructed on those lots; and

(b) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in the development demonstrated through an agreement with a carrier.

A33. Before the issuing of the Occupation Certificate for the development the Applicant must demonstrate that the carrier has confirmed in writing it is satisfied that the fibre-ready facilities are fit-for-purpose.

WORK AS EXECUTED PLANS

A34. Before the issuing of the Occupation Certificate for the first warehouse building, work-as-executed drawings signed by a registered surveyor demonstrating that the street trees, stormwater drainage (including operation and maintenance management plans) and finished ground levels have been constructed as approved, must be submitted to the Principal Certifier.

ENVIRONMENTAL REPRESENTATIVE

A35. The Applicant must engage an Environmental Representative (ER) to oversee construction of the development. Unless otherwise agreed to by the Planning Secretary, construction of the development must not commence until an ER has been approved by the Planning Secretary and engaged by the Applicant. The approved ER must:

(a) be a suitably qualified and experienced person who was not involved in the preparation of the EIS, RTS, ADR, and any additional information for the development and is independent from the design and construction personnel for the development;

(b) receive and respond to communication from the Planning Secretary in relation to the environmental performance of the development;

(c) consider and inform the Planning Secretary on matters specified in the terms of this consent;

(d) consider and recommend to the Applicant any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community;

(e) review the CEMP required in Condition C2 and any other documents that are identified by the Planning Secretary, to ensure they are consistent with requirements in or under this consent and if so:

(i) make a written statement to this effect before submission of such documents to the Planning Secretary (if those documents are required to be approved by the Planning Secretary); or

(ii) make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Planning Secretary/Department for information or are not required to be submitted to the Planning Secretary/Department);

(f) regularly monitor the implementation of the CEMP to ensure implementation is being carried out in accordance with the document and the terms of this consent;

(g) as may be requested by the Planning Secretary, help plan, attend or undertake audits of the development commissioned by the Department including scoping audits, programming audits, briefings, and site visits;

(h) as may be requested by the Planning Secretary, assist the Department in the resolution of community complaints;

(i) provide advice to the Applicant on the management and coordination of construction works on the site with adjoining sites in the Mamre Road Precinct in relation to construction traffic management, earthworks and sediment control and noise;

(j) attend the Mamre Road Precinct Working Group (see Condition A38) in a consultative role in relation to the environmental performance of the development; and

(k) prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, an **Environmental Representative Quarterly Report** providing the information set out in the Environmental Representative Protocol under the heading 'Environmental Representative Quarterly Reports'. The **Environmental Representative Quarterly Report** must be submitted within seven calendar days following the end of each quarter for the duration of the ER's engagement for the development, or as otherwise agreed with the Planning Secretary.

A36. The Applicant must provide the ER with all documentation requested by the ER in order for the ER to perform their functions specified in condition A35 (including preparation of the ER monthly report), as well as:

(a) the complaints register (to be provided on a daily basis); and

(b) a copy of any assessment carried out by the Applicant of whether proposed work is consistent with the consent (which must be provided to the ER before the commencement of the subject work).

A37. The Planning Secretary may at any time commission an audit of an ER's exercise of its functions under condition A35. The Applicant must:

(a) facilitate and assist the Planning Secretary in any such audit; and

(b) make it a term of their engagement of an ER that the ER facilitate and assist the Planning Secretary in any such audit.

MAMRE ROAD PRECINCT WORKING GROUP

A38. Within three months of the commencement of construction of the development and until all components of the development are constructed and operational, the Applicant must establish and participate in a working group, or join and participate in an existing working group, with relevant consent holders in the MRP, to the satisfaction of the Planning Secretary. The purpose of the working group is to consult and coordinate construction works within the MRP to assist with managing and mitigating potential cumulative environmental impacts. The working group must:

(a) comprise at least one representative of the Applicant, the Applicant's ER, and relevant consent holders in the MRP;

(b) meet periodically throughout the year to discuss, formulate and implement measures or strategies to improve monitoring, coordination of the approved industrial developments in the MRP;

(c) regularly inform Council, TfNSW, Sydney Water and the Planning Secretary of the outcomes of these meetings and actions to be undertaken by the working group;

(d) review the performance of approved industrial developments in the MRP and identify trends in the data with respect to cumulative construction traffic, erosion and sediment control, noise, stormwater management and waterway health objectives under the MRP DCP;

(e) review community concerns or complaints with respect to environmental management;

(f) identify interim traffic safety measures to manage construction traffic and how these measures will be coordinated, communicated, funded and monitored in the MRP; and

(g) provide the Planning Secretary with an update and strategies, if a review under subclause (d) and (e) identifies additional measures and processes are required to be implemented by the working group.

A39. Three (3) months prior to completion of construction of all components of the development, the Applicant is eligible to exit the working group required under condition A38. The Applicant must:

(a) consult with the Planning Secretary;

(b) provide confirmation that all components of the development are operational; and

(c) advise on the date of the proposed exit.

APPLICABILITY OF GUIDELINES

A40. References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent.

A41. However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.

ADVISORY NOTES

AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this consent removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

PART B SPECIFIC ENVIRONMENTAL CONDITIONS

TRAFFIC AND ACCESS

Construction Traffic Management Plan

B1. Prior to the commencement of construction of the development, the Applicant must prepare a Construction Traffic Management Plan for the development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be prepared in consultation with Council and TfNSW;

(c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction works to:

(i) ensure access to the site and road safety and network efficiency is maintained,

(ii) manage cumulative construction traffic from other concurrent construction works within the Mamre Road Precinct, and

(iii) address necessary interim traffic safety controls and management measures, including consideration of any traffic control measures required to manage traffic entering Mamre Road in the period before Mamre Road/Abbotts Road intersection construction is complete;

(d) detail heavy vehicle routes, access and parking arrangements;

(e) include a Driver Code of Conduct to:

(i) minimise the impacts of earthworks and construction on the local and regional road network;

(ii) minimise conflicts with other road users;

(iii) minimise road traffic noise; and

(iv) ensure truck drivers use specified routes, including entering and exiting Mamre Road via Abbotts Road and not Bakers Lane;

(f) include a program to monitor the effectiveness of these measures; and

(g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.

B2. The Applicant must:

(a) not commence construction until the Construction Traffic Management Plan required by condition B1 is approved by the Planning Secretary; and

(b) implement the most recent version of the Construction Traffic Management Plan approved by the Planning Secretary for the duration of construction.

Operational Traffic Monitoring Program

B3. At the commencement of operation of the development and for a minimum period of 12 months of operation, the Applicant must establish an Operational Traffic Monitoring Program to verify light and heavy vehicle traffic numbers against the predictions in the ADR. The Program must also monitor the effectiveness of the traffic management measures to the satisfaction of the Planning Secretary and include but not be limited to the following:

(a) detail the numbers and frequency of truck movements, sizes of trucks, vehicle routes and hours of operation;

(b) queue monitoring at the Mamre Road/Abbotts Road intersection and background travel counts on Mamre Road and Abbotts Road;

(c) verify the predicted traffic numbers and level of service against the actual impacts of the development, and analyse the potential cause of any significant discrepancies;

(d) consider the current capacity and efficiency of the existing road network including Mamre Road and Aldington Road; and

(e) include procedures for the reporting and monitoring of results to evaluate the traffic performance of the development.

External Road Upgrades

B4. Prior to the commencement of operation of the development, the Applicant must complete the construction of the upgrades to Abbotts Road to the satisfaction of Council. The Applicant must obtain approval for the works under section 138 of the *Roads Act 1993*.

B5. Prior to the commencement of construction works for the Mamre Road/Abbotts Road intersection works and signalised intersection of Abbotts Road and Aldington Road, the Applicant must enter into a Works Authorisation Deed with TfNSW. TfNSW fees for administration, plan checking, civil works inspections and project management shall be paid by the Applicant prior to the commencement of works.

B6. Prior to the commencement of construction of signalised intersection road works, the proposed Traffic Control Signal/s at the intersection of Mamre Road/Abbotts Road and Aldington Road/Abbotts Road must be designed to meet TfNSW requirements. The Traffic Control Signal (TCS) plans shall be drawn by a suitably qualified person and endorsed by a suitably qualified practitioner.

The submitted design shall be in accordance with Austroads Guide to Road Design in association with relevant TfNSW supplements (available on www.transport.nsw.gov.au). The certified copies of the TCS design and civil design plans shall be submitted to TfNSW for consideration and approval prior to the release of a Construction Certificate and commencement of signalised intersection road works. Please send all documentation to development.sydney@transport.nsw.gov.au.

B7. Detailed design plans and hydraulic calculations of any changes to the stormwater drainage system are to be submitted to TfNSW for approval, prior to the commencement of any works referred to in Condition B5. Please send all documentation to is development.sydney@transport.nsw.gov.au. A plan checking fee will be payable and a performance bond may be required before TfNSW approval is issued.

B8. The Applicant must be responsible for all public utility adjustment/relocation works, necessitated by the work referred to in Condition B5 and as required by the various public utility authorities and/or their agents. Should any public utility adjustment/relocation works be required adjacent to a classified road, plans are to be submitted to TfNSW for approval, prior to the commencement of any works. Please send all documentation to is development.sydney@transport.nsw.gov.au.

A plan checking fee may be payable and a performance bond may be required before TfNSW approval is issued.

B9. Any realignment of site boundaries to facilitate the works referred to in Condition B5, inclusive but not limited to drainage, footpaths and batters resulting from the proposed road and construction works, must be dedicated as public road at no cost to the relevant roads authority unless specified otherwise in a planning agreement.

B10. The Applicant must obtain a Road Occupancy Licence (ROL) from TfNSW Transport Management Centre for any works that may impact on traffic flows on Mamre Road during construction activities. A ROL can be obtained through https://myrta.com/oplinc2/pages/security/oplincLogin.jsf.

B11. Prior to the commencement of operation of the first warehouse building, the upgrade works to the Mamre Road and Abbotts Road intersection, Abbotts Road and Aldington Road intersection, and upgrades to Abbotts Road must be completed to the satisfaction of the relevant roads authority for each component of the works.

Internal Access Roads

B12. Prior to the commencement of operation of the first warehouse building, the Applicant must construct and operate the road works shown in **Figure 1** in **Appendix 1** to the satisfaction of relevant road authority.

Street Trees

B13. Prior to the commencement of any stage of road construction, detailed design plans showing the provision of passively irrigated street trees within the relevant stage of works must be submitted to the satisfaction of the relevant road authority. The plans must:

(a) be prepared in consultation with Council; and

(b) demonstrate compliance with the Sydney Water *Stormwater Scheme Infrastructure Design Guideline* and MRP DCP.

Parking

B14. The Applicant must provide sufficient parking facilities on-site in accordance with the MRP DCP, including for heavy vehicles and for site personnel, to ensure that traffic associated with the development does not utilise public and residential streets or public parking facilities.

B15. Prior to the issue of the occupation certificate for the first warehouse building, the development must include bicycle parking and end of trip facilities in accordance with Australian Standard AS1742.9:2018 *Manual of Uniform Traffic Control Devices - Bicycle Facilities*, and *Cycling Aspects of Austroads Guides*. Any bicycle parking and storage facilities must be secure, convenient, well lit, physically and visually accessible and within close proximity to the main in accordance with Austroads guidelines.

B16. A minimum of 5% of parking bays for each warehouse must provide for electric vehicle charging, with a further 5% constructed as readily adaptable.

Operating Conditions

B17. The Applicant must ensure:

(a) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the development are constructed and maintained in accordance with the latest version of *AS 2890.1:2004 Parking facilities Off-street car parking* (Standards Australia, 2004), *AS 2890.2:2018 Parking facilities Off-street Commercial Vehicle Facilities* (Standards

Australia, 2018) and *AS 2890.6.2009 Parking facilities Off-street parking for people with disabilities* (Standards Australia, 2009)

(b) the swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, is in accordance with the relevant AUSTROADS guidelines;

(c) the development does not result in any vehicles queuing on the public road network;

(d) heavy vehicles and bins associated with the development are not parked on local roads or footpaths in the vicinity of the site;

(e) all vehicles are wholly contained on site before being required to stop;

(f) all loading and unloading of materials is carried out on-site;

(g) all trucks entering or leaving the site with loads have their loads covered and do not track dirt onto the public road network; and

(h) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times

(i) all vehicles accessing and departing the site from/to Mamre Road must travel via Abbotts Road and not Bakers Lane, until the completion of the ultimate upgrade of Aldington Road and delivery of the Southern Link Road or otherwise agreed in writing by the Secretary, Council and TfNSW

(j) Use of 30m PBS Level on local roads will require approval from the National Heavy Vehicle Regulator (NHVR) and Council's Asset Section.

Workplace Travel Plan

B18. Prior to the commencement of operation of any part of the development, the Applicant must prepare a Workplace Travel Plan and submit a copy to the Planning Secretary. The Workplace Travel Plan must:

(a) be prepared in consultation with TfNSW;

(b) outline facilities and measures to promote public transport usage, such as car share schemes and employee incentives; and

(c) describe pedestrian and bicycle linkages and end of trip facilities available on-site.

B19. The Applicant must implement the most recent version of the Workplace Travel Plan for the duration of the development.

SOILS, WATER QUALITY AND HYDROLOGY

Imported Soil

B20. The Applicant must:

(a) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site;

(b) keep accurate records of the volume and type of fill to be used; and

(c) make these records available to the Planning Secretary upon request.

Erosion and Sediment Control

B21. Prior to the commencement of earthworks for the development, the Applicant must design and detail the erosion and sediment control measures for the site to ensure the construction phase IWCM controls in the MRP DCP are achieved to the satisfaction of the Planning Secretary. Detailed Erosion and Sediment Control Plans (ESCP) and drawings must:

(a) be prepared by a Chartered Professional Erosion and Sediment Control (CPESC) specialist;

(b) be prepared in accordance with *Managing Urban Stormwater: Soils and Construction – Volume 1:Blue Book* (Landcom, 2004) and with the WSUD design principles set out in the *Technical Guidance for Achieving Wianamatta South Creek Stormwater Management Targets* (Technical Guidance) (NSW Government, 2022);

(c) include:

(i) each major phase of construction work including catchment plans and calculations and sizing for all major drainage and sediment controls for each phase;

(ii) the type of sediment basin, details of all functional components and calculations demonstrating compliance with the DCP;

(d) demonstrate the construction approach and timing to ensure the construction phase stormwater quality targets can be met; and

(e) detail measures to manage external catchment flows and dispersive soils;

(f) detail measures to protect passively irrigated street trees during construction works, if these are installed before construction is completed;

(g) be included in the CEMP required by Condition C2.

B22. The Applicant must:

(a) not commence earthworks until the Erosion and Sediment Control Plan required by condition B21 is approved by the Planning Secretary; and

(b) implement the most recent version of the Erosion and Sediment Control Plan approved by the Planning Secretary for the duration of earthworks and construction.

B23. The Applicant must ensure delivery and operation of all construction phase erosion and sediment controls on the site is supervised and certified by a CPESC. Monthly audits are to be completed by CPESC and kept on record for the duration of the construction and an additional 12 months following completion of construction works.

Discharge Limits

B24. The development must comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided for in an EPL.

Stormwater Management System Design

B25. Within two months of the date of this consent, the Applicant must design the stormwater management system to the satisfaction of the Planning Secretary. The stormwater management system design must:

(a) be prepared in consultation with the Environment & Heritage Group, Sydney Water and Council;

(b) be prepared and certified by a suitably qualified chartered professional engineer with experience in modelling, design and supervision of WSUD systems, whose appointment has been endorsed by the Planning Secretary;

(c) be consistent with the plan shown on **Figure 2** in **Appendix 1** and the updated Stormwater Management Plan required by Condition B30;

(d) include all private, Council and trunk drainage infrastructure within the site including connections to adjacent landholdings;

(e) be designed in accordance with the *Technical Guidance for Achieving Wianamatta South Creek Stormwater Management Targets* (Technical Guidance) (NSW Government, 2022) and detail how:

(i) the requirements and objectives of the IWCM controls of the DCP will be achieved;

(ii) the waterway health objectives and targets set out in the Technical Guidance will be achieved;

(iii) levels are resolved to demonstrate the system functions effectively;

(iv) the development will ultimately connect to the MRP Stormwater Scheme and interim measures to meet the waterway health objectives and targets will be decommissioned;

(v) all stormwater management devices will contain an impermeable liner and all naturalised trunk drainage (or other open drainage) is either lined with an impermeable liner, or ameliorated (i.e., gypsum), and compacted to a suitable depth and topsoiled (AS44119) to limit infiltration to soils;

(f) demonstrate the on-site stormwater detention design is free draining;

(g) demonstrate maintenance access driveways to water storage or bio-retention basins are designed in accordance with Council's specifications;

(h) demonstrate that sufficient land is reserved on site for stormwater management purposes (such as irrigation areas and undeveloped areas) as shown on **Figure 2** in **Appendix 1**, to ensure the development meets the controls in the DCP and the waterway health targets in the Technical Guidance, unless an alternative stormwater management strategy has been approved by the Planning Secretary;

(i) include civil design drawings that define the design for the WSUD systems in accordance with the Technical Guidance and the requirements of Sydney Water and Council;

(j) include landscape drawings that include planting and hardscape details of the WSUD systems; and

(k) include certification (and appropriate designed checklists) of the civil and landscape drawings by suitably qualified chartered professional engineer with experience in modelling, design and supervision of WSUD systems that the design drawings comply with the Technical Guide requirements and the stormwater targets are achieved; and

(l) include evidence that the design and mix of WSUD infrastructure has considered ongoing operation and maintenance, including a detailed lifecycle cost assessment (including capital, operation / maintenance and renewal costs over 30 years).

B26. The Applicant must:

(a) not commence earthworks until the design required by Condition B25 is approved by the Planning Secretary;

(b) ensure construction of the stormwater management system is supervised and certified by a suitably qualified chartered professional engineer with experience in modelling, design and supervision of WSUD systems; and

(c) implement the stormwater management system approved by the Planning Secretary prior to the commencement of operation of the first warehouse building.

B27. The Applicant must not carry out earthworks or construction, other than those works approved under this consent, on land shown as 'undeveloped land' on **Figure 2** in **Appendix 1** (including Lots 3 and 4 on DP 250002) unless the site is connected to the Stormwater Scheme or an alternative Stormwater Management System for the site has been approved by the Planning Secretary.

Trunk Drainage Design

B28. Within two months of the date of this consent, the Applicant must design the trunk drainage infrastructure on the site, to the satisfaction of the Planning Secretary. The trunk drainage infrastructure must:

(a) be designed in consultation with the Regional Stormwater Authority (Sydney Water);

(b) be integrated into the Stormwater Management System required under Condition B25;

(c) be designed in accordance with the Mamre Road Stormwater Scheme Plan and Sydney Water's *Stormwater Scheme Infrastructure Design Guidelines (draft) 2022*, or its latest version, unless otherwise agreed with the Regional Stormwater Authority;

(d) be designed so that the naturalised trunk drainage channel is used to carry all overland flows greater than the 5% AEP piped drainage capacity where the catchment upstream of the commencement of the trunk drainage exceeds 15 ha or where overland flows are unsafe to pedestrians and vehicles;

(e) be modelled with demonstration of flow modelling using either XP-Rafts (Laurenson's Method) or DRAINS (ILSAX or Laurenson's Methods) with full catchment diagrams – discretised to accurately show development catchments and external catchments. Input data sets shall be fully described and can be provided in spreadsheet form.

(f) include access for management and maintenance by the Regional Stormwater Authority as per the *Stormwater Scheme Infrastructure Design Guideline (draft) 2022*, including provision of an easement in accordance with Condition B32;

(g) include appropriate connections from the trunk drainage channel on site to the existing downstream flow paths, until such time as the trunk drainage channel downstream of the site is constructed;

(h) ensure any piped infrastructure that intersects or connects into the trunk drainage channel on the site is designed to accommodate the trunk drainage channel design; and

(i) include landscape drawings with planting details.

B29. The Applicant must:

(a) not commence earthworks until the design required by Condition B28 is approved by the Planning Secretary;

(b) ensure construction of the trunk drainage infrastructure is supervised and certified by a suitably qualified chartered professional engineer with experience in modelling, design and supervision of WSUD systems; and

(c) implement the trunk drainage infrastructure approved by the Planning Secretary prior to the commencement of operation of the first warehouse building.

Stormwater Management Plan

B30. Within four months of the date of this consent, the Applicant must prepare a separate Water and Stormwater Management Plan (WSMP) to the satisfaction of the Planning Secretary. The WSMP must:

(a) be prepared by a suitably qualified chartered professional engineer with experience in modelling, design and supervision of WSUD systems, whose appointment has been endorsed by the Planning Secretary;

(b) comply with the requirements of the Technical Guidance;

(c) be consistent with the plan shown on **Figure 2** in **Appendix 1**;

(d) be prepared in consultation with the Environment & Heritage Group, Sydney Water, Council and the Department;

(e) describe the baseline soil, surface water and groundwater conditions at the site;

(f) define how the development will comply with the stormwater targets, including connection to the regional scheme;

(g) include MUSIC modelling for each stage of the development in accordance with the Technical Guidance;

(h) provide catchments plans, tables and all stormwater management details as per the Technical Guidance;

(i) ensure;

(i) proprietary devices are located on private land and only include including sediment and nutrient removal if certified under SQIDEP;

(ii) ensure external catchments are drained to trunk drainage;

(iii) ensure all catchment areas are accounted for in the MUSIC modelling and post processing tool and there are no inconsistencies;

(iv) the strategy and stormwater elements are consistent with the design drawings required by Conditions B25 to B27 (including the detailed drawings in appendices to the report);

(j) include a protocol for investigation of any non-compliances of the stormwater management system with the IWCM controls in the MRP DCP the waterway health objectives and targets in the Technical Guidance;

(k) detail the contingency measures that would be implemented should issues arise;

(l) include a Maintenance Plan for the WSUD measures; and

(m) detail triggers for a review of the plan, including, but not limited to a review of the plan within 6 months of the Stormwater Scheme being available for the site to connect to.

B31. The Applicant must:

(a) not commence operation of the first warehouse building until the Stormwater Management Plan required by Condition B30 is approved by the Planning Secretary; and

(b) implement the most recent version of the Stormwater Management Plan approved by the Planning Secretary for the duration of the development.

Easements and Maintenance

B32. Prior to the issue of a Compliance Certificate under Section 73 of the *Sydney Water Act, 1994*, an easement under section 88A and/or restriction or public positive covenant under section 88E of the *Conveyancing Act 1919* naming the Regional Stormwater Authority (Sydney Water) as the prescribed authority, which can only be revoked, varied or modified with the consent of the Regional Stormwater Authority and which provides for appropriate access to all trunk drainage land for maintenance at no cost to the Regional Stormwater Authority must be registered on the title of the land.

B33. The stormwater management system must continue to be operated and maintained in perpetuity for the life of the development in accordance with the final operation and maintenance management plan. Regular inspection records are required to be maintained and made available to Council on request. All necessary improvements are required to be made immediately upon awareness of any deficiencies in the stormwater management systems.

Note: *This does not include any passively irrigated street trees that may be transferred to the relevant roads authority. This also does not include trunk drainage infrastructure for which maintenance and operation may be transferred to the Regional Stormwater Authority.*

B34. All stormwater infrastructure, including bio-retention basins, shall remain under the ownership, control and care of the registered proprietor of the lots. Upstream drainage catchment pipes are to be located outside of the public road reserve and remain in private ownership, in accordance with Council requirements.

Note*: This does not include any passively irrigated street trees that may be transferred to the relevant roads authority. This also does not include trunk drainage infrastructure for which maintenance and operation may be transferred to the Regional Stormwater Authority.*

B35. Prior to the issue of any Occupation Certificate, a restriction on the use of land and positive covenant relating to the permanent stormwater management systems (including on-site stormwater detention and water sensitive urban design), shall be registered on the title of the property. The restriction on the use of land and positive covenant shall be in Penrith City Council's standard wording as detailed in Council's Stormwater Drainage Specification for Building Developments – Appendix F.

Dam Decommissioning Strategy

B36. Prior to commencement of construction of the development, the Applicant must prepare a Dam Decommissioning Strategy to the satisfaction of the Planning Secretary. The Dam Decommissioning Strategy must form part of the CEMP required by Condition C2. The Applicant must implement the most recent version of the Dam Decommissioning Strategy for the duration of construction.

Flooding

B37. Prior to the commencement of operation of the development, the Applicant must connect the development to the road drainage infrastructure for the upgraded Aldington and Abbotts Roads, to ensure the development does not increase flood flows and velocities on adjoining properties for all flood events up to and including the critical 1% Annual Exceedance Probability flow.

VISUAL AMENITY

Landscaping

B38. Within six months of the date of this consent, the Applicant must prepare a Landscape Management Plan to manage the revegetation and landscaping works on-site, to the satisfaction of the Planning Secretary. The plan must:

(a) detail the species to be planted on-site that:

(i) are consistent with the plant list in Appendix C of the Mamre Road Precinct Development Control Plan; and

(ii) are suitable in relation to wildlife management in proximity to the Western Sydney Airport.

(b) ensure sufficient deep soil to allow large tree planting is provided in the areas between retaining wall tiers and between retaining walls and the northern property boundary on Lot 1 (as shown in the landscape plans titled *Kemps Creek Logistics Park SSDA Report Landscape Concept plan*, prepared by Site Image and dated 14 February 2023);

(c) ensure adequate planting is implemented to provide screening between the basin and retaining wall on Lot 4 (as shown in the landscape plans titled *Kemps Creek Logistics Park SSDA Report Landscape Concept plan*, prepared by Site Image and dated 14 February 2023);

(d) demonstrate that the minimum tree canopy targets are achieved in accordance with the MRP DCP; and

(e) describe the monitoring and maintenance measures to manage revegetation and landscaping works.

B39. The Applicant must:

(a) not commence operation until the Landscape Management Plan is approved by the Planning Secretary;

(b) must implement the most recent version of the Landscape Management Plan approved by the Planning Secretary and not commence operation until the landscaping works have been completed in accordance with the plan; and

(c) maintain the landscaping and vegetation on the site in accordance with the approved Landscape Management Plan required by Condition B38 for the life of the development.

B40. Prior to the issue of an Occupation Certificate for each warehouse building, the Applicant must provide the Certifier with written evidence in the form of plans and a report prepared by the project landscape architect confirming that trees identified in the approved document package as contributing to the site's canopy target have been installed and that the trees are capable of reaching maturity in their locations. Where the canopy cover target (in accordance with the MRP DCP) is identified as not being achievable through those trees planted, the report is to detail what measures have been undertaken to address the tree canopy shortfall and a rectification plan is to be provided.

Retaining Walls

B41. Prior to the commencement of retaining wall construction, the Applicant must submit details of retaining wall materials fronting the public domain demonstrating suitable visual presentation, particularly treatment of higher fill walls visible from the public domain, to the satisfaction of the Planning Secretary.

B42. All structures (foot, batter, tie backs/in and drainage) associated with retaining walls must be within private property and not within the public road reserve and not within any zone of influence.

Building Materials

B43. The Applicant must ensure the finished facades and roofs of the warehouses and office buildings use neutral, recessive colours, non-reflective materials and are designed to present an attractive façade to residential areas and to minimise glare.

Lighting

B44. The Applicant must ensure the lighting associated with the development:

(a) complies with the latest version of AS 4282-2019 - *Control of the obtrusive effects of outdoor lighting* (Standards Australia, 2019); and

(b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.

Signage and Fencing

B45. Prior to the commencement of construction of the first warehouse building, the Applicant must submit a Signage Strategy to the satisfaction of the Planning Secretary. The Signage Strategy must demonstrate that proposed signage is consistent with Chapter 3 of *State Environmental Planning Policy (Industry and Employment) 2021* and the MRP DCP, including limiting illumination of signage or measures to control lighting impacts from illuminated signs.

B46. All signage must be erected in accordance with the approved Signage Strategy required by Condition B45.

Note: *This condition does not apply to temporary construction and safety related signage.*

NOISE

Hours of Work

B47. The Applicant must comply with the hours detailed in Table 2, unless otherwise agreed in writing by the Planning Secretary.

Table 2 *Hours of Work*

Activity	Day	Time

Earthworks and construction	Monday – Friday Saturday	7 am to 6 pm 8 am to 1 pm
Operation	Monday – Sunday	24 hours

B48. Works outside of the hours identified in condition B47 may be undertaken in the following circumstances:

(a) works that are inaudible at the nearest sensitive receivers;

(b) works agreed to in writing by the Planning Secretary;

(c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or

(d) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

Construction Noise Limits

B49. The development must be constructed to achieve the construction noise management levels detailed in *the Interim Construction Noise Guideline* (DECC, 2009) (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures in **Appendix 5**.

Construction Noise and Vibration Management Plan

B50. The Applicant must prepare a Construction Noise and Vibration Management Plan for the development to the satisfaction of the Planning Secretary. The Plan must form part of a CEMP in accordance with condition C2 and must

(a) be prepared by a suitably qualified and experienced noise expert(s);

(b) be prepared in consultation with owners of adjoining residential properties (including those still occupied for residential use in the MRP), include evidence of this consultation and detail how the plan has responded to any issues raised during consultation;

(c) describe procedures for achieving the noise management levels in EPA's *Interim Construction Noise Guideline* (DECC, 2009) (as may be updated or replaced from time to time);

(d) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;

(e) include strategies that have been developed with the community for managing high noise generating works; and

(f) include a complaints management system that would be implemented for the duration of the development.

B51. The Applicant must:

(a) not commence earthworks until the Construction Noise and Vibration Management Plan required by condition B50 is approved by the Planning Secretary; and

(b) implement the most recent version of the Construction Noise and Vibration Management Plan approved by the Planning Secretary for the duration of earthworks and construction.

Operational Noise Limits

B52. The Applicant must ensure that noise generated by operation of the development does not exceed the noise limits in Table 3.

Table 3 *Noise Limits (dB(A))*

Location	Day $L_{Aeq(15\ minute)}$	Evening $L_{Aeq(15\ minute)}$	Night $L_{Aeq(15\ minute)}$
Residential receivers near Medinah Avenue (Luddenham), Mount Vernon Road (Mount Vernon) and Kerrs Road (Mount Vernon)	36	31	27
BAPS Temple - Outdoor Use Area (Except Car Parking Area)	33 (When in use)		

Note *Noise generated by the development is to be measured in accordance with the relevant monitoring performance procedures and exemptions (including certain meteorological conditions) of the NSW Noise Policy for Industry (EPA, 2017) (as may be updated or replaced from time to time). Refer to the plan in Appendix 2 for the location of residential sensitive receivers.*

B53. The Applicant must ensure that noise generated by:

(a) all fixed external mechanical plant for the warehouse building on Lot 1 does not exceed a cumulative sound power level of $L_{Aeq(15min)}$ 90 dB(A);

(b) all fixed external mechanical plant for the warehouse building on Lot 4 does not exceed a cumulative sound power level of $L_{Aeq(15min)}$ 86 dB(A); and

(c) any activity on the site does not exceed a sound power level of L_{AMax} 115 dB(A) or result in annoying noise characteristics as determined in accordance with the Noise Policy for Industry (EPA, 2017) and Australian Standard AS 1055:2018 Acoustics – Description and measurement of environmental noise (Standards Australia, 2018).

Noise Verification

B54. Within three months of the commencement of earthworks for the development, the Applicant must prepare and submit a Design Noise Verification Report for the development to the satisfaction of the Planning Secretary. The Applicant must not commence construction of any warehouse buildings until the Design Noise Verification Report is approved by the Planning Secretary. The Design Noise Verification Report must:

(a) be prepared by a suitably qualified, experienced and independent acoustic consultant whose appointment has been endorsed by the Planning Secretary;

(b) identify and justify the design noise emission scenario, including the adopted engineering safety factor, schedule of all noise generating sources on the site (including but not limited to, all vehicle types, mechanical plant and waste areas), stationary equipment specification and verifiable data of dynamic noise emission activities;

(c) demonstrate the noise propagation modelling is capable of accurately predicting noise levels under noise enhancing meteorological conditions to surrounding receivers in Mount Vernon and Luddenham;

(d) provide updated noise modelling to verify the predicted performance of the development and the predicted noise levels identified in the report titled *ESR Westlink Stage 1, Kemps Creek, NSW, Noise and Vibration Impact Assessment*, prepared by RWDI, dated 6 October 2022;

(e) develop an Operational Noise Monitoring Plan in accordance with Section 7 of the Noise Policy for Industry to verify the operational performance of the development, including details of the nominated intermediate monitoring locations, reference noise levels at each intermediate location, and noise level relationship between each intermediate location and sensitive receivers identified in condition B52;

(f) include:

(i) an analysis of compliance with noise limits specified in conditions B52 and B53;

(ii) an outline of at-source and transmission path mitigation measures required to ensure compliance with the limits specified in conditions B52 and B53;

(iii) a description of contingency measures (including specific measures to manage noise generating activities during the night time period) in the event management actions are not effective at reducing noise levels to comply with limits specified in conditions B52 and B53.

B55. Should the Design Noise Verification Repot identify that the noise limits in Conditions B52 and B53 cannot be achieved through the mitigation measures and contingency measures required to be considered under Condition B54, the Applicant must:

(a) offer to enter into noise agreement(s) with eligible receivers outside of the Mamre Road Precinct where noise limits are predicted to be exceeded

(b) provide written evidence to the Planning Secretary that an agreement is in place with these receivers.

B56. If a Noise Agreement is in place with a specific receiver(s) to exceed the noise limits in Condition B52, the noise limits in Table 3 do not apply to that receiver(s).

B57. Within three months of the commencement of operation of the development, the Applicant must prepare and submit an Operational Noise Verification Report for the development to the satisfaction of the Planning Secretary. The Operational Noise Verification Report must:

(a) be prepared by a suitably qualified, experienced and independent acoustic consultant whose appointment has been endorsed by the Planning Secretary;

(b) demonstrate that noise verification has been carried out in accordance with:

(i) the Australian Standard AS 1055:2018 Acoustics – Description and measurement of environmental noise (Standards Australia, 2018); and

(ii) the EPA Approved Methods for the Measurement and Analysis of Environmental Noise in NSW (EPA, 2022);

(iii) the Operational Noise Monitoring Plan established under condition B54(e);

(c) include:

(i) an analysis of compliance with noise limits specified in conditions B52 and B53;

(ii) an outline of implemented at-source and transmission pathway mitigation measures and their effectiveness at reducing operational noise; and

(iii) a description of contingency measures in the event implemented mitigation measures are not effective at reducing noise levels to comply with limits specified in condition B52 and B53 at all times.

MRP Noise Agreement(s)

B58. Prior to the commencement of operation of the development, the Applicant must offer to enter into noise agreement(s) with the eligible receivers shown in **Figure 4** in **Appendix 3**. The Applicant must provide written evidence to the Planning Secretary that an agreement is in place with these receivers.

B59. The noise agreement required under Condition B58 must be in force until the existing residential use ceases on the land subject to the agreement or a development consent for general industrial or other employment uses applies to the land, whichever is the sooner.

Road Traffic Noise

B60. Prior to the commencement of construction of the development, the Applicant must prepare a Driver Code of Conduct and induction training for the development to minimise road traffic noise. The Applicant must update the Driver Code of Conduct and induction training for construction and operation and must implement the Code of Conduct for the life of the development.

VIBRATION

Vibration Criteria

B61. Vibration caused by construction at any residence or structure outside the site must be limited to:

(a) for structural damage, the latest version of *DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures* (German Institute for Standardisation, 1999); and

(b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: a technical guideline* (DEC, 2006) (as may be updated or replaced from time to time).

B62. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in conditionB61.

B63. The limits in conditions B61 and B62 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition C2 of this consent.

Dilapidation Reporting

B64. Prior to the commencement of earthworks, the Applicant must offer and prepare (if the offer is accepted) a preconstruction dilapidation report for adjoining properties that may be affected by proposed earthworks (including Lot 2 DP 250002, Lots 141 and 142 DP 1033686, Lot 15 DP 253503 and Lot 4132 DP 857093). The report must be submitted to the Planning Secretary and the relevant property owner(s) prior to construction works commencing on the site.

B65. If requested by the property owner, the Applicant must repair, or pay the full costs associated with repairing, any damage to adjoining properties caused by carrying out the development in accordance with the preconstruction dilapidation reports required by Condition B64, unless otherwise agreed by the Planning Secretary.

CONTAMINATION AND REMEDIATION

Supplementary Site Investigation

B66. Prior to the commencement of earthworks, the Applicant must undertake further soil sampling in areas of the site that were inaccessible during the Detailed Site Investigation prepared by Alliance dated 1 December 2021, to further refine the nature and extent of contamination on the site. The supplementary site investigation must:

(a) be prepared by a suitably qualified and experienced consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme;

(b) be prepared in accordance with the relevant guidelines produce or approved under the *Contaminated Land Management Act, 1997*;

(c) define the nature and extent of contamination in areas not previously accessible for sampling; and

(d) include an updated Remedial Action Plan that describes the preferred remediation approach to make the site suitable for the intended industrial land use and details the need for any long term management following completion of remediation.

Remedial Works

B67. The Applicant must remediate the site in accordance with the Remedial Action Plan approved under Condition B66 and relevant guidelines produced or approved under the *Contaminated Land Management Act 1997.* Remediation works must be undertaken by a suitably qualified and experienced consultant(s) and must be completed prior to the commencement of earthworks.

Validation Report

B68. Within one month of completion of the remediation works for the development, the Applicant must submit a Remediation Validation Report (RVR) to the satisfaction of the Planning Secretary. The RVR must be prepared, or reviewed and approved, by a consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme. The validation report shall demonstrate that:

(a) the site is suitable for its intended industrial land use, or

(b) the site is suitable for its intended industrial land use with the implementation of an environmental management plan or long term environmental management plan.

Asbestos

B69. The Applicant must ensure that any asbestos encountered during the remediation works for the development is monitored, handled, transported and disposed of by appropriately qualified and licensed contractors in accordance with the requirements of SafeWork NSW and relevant guidelines, including:

(a) *Work Health and Safety Regulation 2017*;

(b) SafeWork NSW Code of Practice – How to Manage and Control Asbestos in the Workplace September 2016;

(c) SafeWork NSW Code of Practice – How to Safely Remove Asbestos September 2016; and

(d) *Protection of the Environment Operations (Waste) Regulation 2014*.

Unexpected Finds

B70. Prior to the commencement of earthworks, the Applicant must prepare an unexpected contamination finds procedure to ensure that potentially contaminated material is appropriately managed. The procedure must form part of the CEMP in accordance with condition C2 and must ensure any material identified as contaminated is disposed of in accordance with the POEO Act and its associated regulations. Details of the final disposal location and the results of any associated testing must be submitted to the Planning Secretary prior to removal of the contaminated material from the site.

BUSHFIRE PROTECTION

B71. The Applicant shall ensure the development complies with:

(a) the relevant provisions of *Planning for Bushfire Protection* (NSW RFS, 2019);

(b) the recommendations of the Bushfire Protection Assessment prepared by Australian Bushfire Protection Planners dated 3 March 2022; and

(c) Australian Standard *AS2419.1-2005 Fire hydrant installations System design, installation, and commissioning*.

B72. The Applicant must ensure the entire site, including landscaping, is managed as an inner protection area (IPA) in accordance with *Planning for Bushfire Protection 2019.*

B73. The Applicant must ensure the warehouse buildings are constructed in accordance with the Bushfire Attack Level (BAL) plan shown in **Appendix 4** and relevant sections of the Australian Standard AS3959-2018 *Construction of buildings in bush fire prone areas* or NASH Standard (1.7.14 updated) *National Standard Steel Framed Construction in Bushfire Areas - 2014* as appropriate, and Section 7.5 of *Planning for Bushfire Protection, 2019.*

AIR QUALITY

Dust Minimisation

B74. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.

B75. During construction, the Applicant must ensure that:

(a) exposed surfaces and stockpiles are suppressed by regular watering;

(b) all trucks entering or leaving the site with loads have their loads covered;

(c) trucks associated with the development do not track dirt onto the public road network;

(d) public roads used by these trucks are kept clean; and

(e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.

Construction Air Quality Management Plan

B76. Prior to the commencement of earthworks, the Applicant must prepare a Construction Air Quality Management Plan (CAQMP) to the satisfaction of the Planning Secretary. The CAQMP must form part of the CEMP required by condition C2 and must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be prepared in consultation with owners of adjoining residential properties (including those still occupied for residential use in the MRP), include evidence of this consultation, details of any issues raised and how the plan has responded to any issues raised during consultation;

(c) detail and rank all emissions from all sources during construction of the development, including particulate emissions;

(d) describe a program that is capable of evaluating the performance of the construction and determining compliance with key criteria, including installation of dust deposition gauges at neighbouring existing residences (where agreed by the landowner) or on the site boundary;

(e) identify the control measures that will be implemented for each emission source; and

(f) nominate the following for each of the proposed controls:

(i) key criteria;

(ii) monitoring method; and

(iii) locations, frequency and duration of monitoring;

(g) outline procedures that will be implemented in relation to:

(i) record keeping;

(ii) reporting to the Environmental Representative required under Condition A35;

(iii) complaints register;

(iv) response procedures; and

(v) compliance monitoring;

(h) detail contingency measures to be implemented to reduce any exceedances of relevant performance indicators or criteria and include a timetable for implementation.

B77. The Applicant must:

(a) not commence earthworks until the CAQMP required by condition B76 is approved by the Planning Secretary; and

(b) implement the most recent version of the CAQMP approved by the Planning Secretary for the duration of construction; and

(c) offer to enter into an agreement with a neighbouring landowner, that may involve at-property treatment, if a complaint is received from that landowner and a non-compliance is confirmed by dust monitoring. Evidence of any agreement must be provided to the Planning Secretary.

Odour Management

B78. The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).

ABORIGINAL HERITAGE

Statutory Requirements

B79. Prior to the commencement of earthworks, the Applicant must undertake surface collection of the identified artefacts IF1, IF2 and IF3 as detailed in the Aboriginal Cultural Heritage Assessment Report prepared by Urbis and dated 12 April 2022. The identified artefacts must be registered on the OEH's Aboriginal Heritage Information Management System (AHIMS) Aboriginal Sites Register, prior to construction.

Consultation

B80. The Applicant must continue to consult with Registered Aboriginal Parties (RAPs) for the duration of construction. The RAPs should be consulted to determine the appropriate management of unexpected finds on the site.

Site Induction

B81. Prior to the commencement of earthworks, the Applicant must prepare and implement Aboriginal cultural heritage induction training for all staff and contractors. The Applicant must involve Aboriginal knowledge holders in the development of the induction training. The training must outline the obligations of staff and contractors under the *National Parks and Wildlife Act, 1974* and the conditions of this consent. The Applicant must ensure any new staff or contractors receive the induction training prior to commencing works on the site. The induction training material must form part of the CEMP required by condition C2.

Unexpected Finds Protocol

B82. If any item or object of Aboriginal heritage significance is identified on site:

(a) all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately;

(b) a 10 m wide buffer area around the suspected item or object must be cordoned off; and

(c) Heritage NSW must be contacted immediately.

B83. Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974*.

HISTORIC HERITAGE

Unexpected Finds Protocol

B84. If any non-Aboriginal archaeological relics are uncovered during any works being carried out for the development:

(a) all work in the immediate vicinity of the suspected relic(s) must cease immediately;

(b) Heritage NSW must be contacted immediately; and

(c) the suspected relic(s) must be evaluated, recorded and, if necessary, excavated by a suitably qualified and experienced expert in accordance with the requirements of Heritage NSW.

B85. Work in the immediate vicinity of any suspected non-Aboriginal archaeological relic(s) must not recommence until this has been authorised by Heritage NSW.

BIODIVERSITY

B86. Prior to, and during, construction works, the Applicant must implement the mitigation measures recommended in Section 2.2.5 of the Biodiversity Development Assessment Report prepared by Eco Logical Australia Pty Ltd, dated 14 April 2022.

B87. Prior to the commencement of construction, a Wildlife Management Plan must be prepared in accordance with section 6.2 of the *Westlink Industrial Estate Wildlife Management Assessment Report* prepared by Eco Logical Australia Pty Ltd dated 14 April 2022, and be submitted to the Planning Secretary.

B88. The Wildlife Management Plan must form part of the CEMP required by Condition C2 and the Applicant must implement the Wildlife Management Plan for the duration of construction and operation.

HAZARDS AND RISK

Dangerous Goods

B89. The quantities of dangerous goods stored and handled at the site must be below the threshold quantities listed in the Department's *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* at all times.

Bunding

B90. The Applicant must store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Manual* (Department of Environment and Climate Change, 2007).

WASTE MANAGEMENT

Waste Management Plan

B91. Prior to the commencement of construction of the first warehouse building, the Applicant must update the Waste Management Plan included in the EIS for the development. The Plan must:

(a) detail the type and quantity of waste to be generated during construction and operation of the development;

(b) describe the handling, storage and disposal of all waste streams generated on site, consistent with the *Protection of the Environment Operations Act 1997, Protection of the Environment Operations (Waste) Regulation 2014* and the *Waste Classification Guideline* (Environment Protection Authority, 2014); and

(c) detail the materials to be reused or recycled, either on or off site.

B92. The Applicant must implement the Waste Management Plan for the duration of construction and operation.

Waste Storage and Processing

B93. Prior to the commencement of construction of the development, the Applicant must obtain agreement from Council for the design of the waste storage area for the development.

B94. Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.

Statutory Requirements

B95. The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the latest version of EPA's *Waste Classification Guidelines Part 1: Classifying Waste* (EPA, 2014) and dispose of all wastes to a waste management facility or premises lawfully permitted to accept the waste.

Pests, Vermin and Priority Weed Management

B96. The Applicant must:

(a) implement suitable measures to manage pests, vermin and declared priority weeds on the site; and

(b) inspect the site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or priority weeds are not present on site in sufficient numbers to pose an environmental hazard or cause the loss of amenity in the surrounding area.

Note: *For the purposes of this condition, priority weed has the same definition of the term in the* Biosecurity Act 2015.

PART C ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Management Plan Requirements

C1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:

(a) detailed baseline data;

(b) details of:

(i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);

(ii) any relevant limits or performance measures and criteria; and

(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;

(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;

(d) a program to monitor and report on the:

(i) impacts and environmental performance of the development; and

(ii) effectiveness of the management measures set out pursuant to paragraph (c) above;

(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;

(f) a program to investigate and implement ways to improve the environmental performance of the development over time;

(g) a protocol for managing and reporting any:

(i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);

(ii) complaint;

(iii) failure to comply with statutory requirements; and

(h) a protocol for periodic review of the plan.

Note: *The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans*

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

C2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) for the development in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary.

C3. As part of the CEMP required under condition C2 of this consent, the Applicant must include the following:

(a) Construction Traffic Management Plan (see condition B1);

(b) Erosion and Sediment Control Plan (see condition B21);

(c) Dam Decommissioning Strategy (see condition B36);

(d) Construction Noise and Vibration Management Plan (see condition B50);

(e) Unexpected Finds Protocol (see condition B70);

(f) Construction Air Quality Management Plan (see condition B76);

(g) Site induction training material (see condition B81);

(h) Wildlife Management Plan (see condition B87);

(i) Community Consultation and Complaints Handling.

C4. The Applicant must:

(a) not commence construction of the development until the CEMP is approved by the Planning Secretary; and

(b) carry out the construction of the development in accordance with the CEMP approved by the Planning Secretary and as revised and approved by the Planning Secretary from time to time.

OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

C5. The Applicant must prepare an Operational Environmental Management Plan (OEMP) for the development in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary.

C6. As part of the OEMP required under condition C5 of this consent, the Applicant must include the following:

(a) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;

(b) describe the procedures that would be implemented to:

(i) keep the local community and relevant agencies informed about the operation and environmental performance of the development;

(ii) receive, handle, respond to, and record complaints;

(iii) resolve any disputes that may arise;

(iv) respond to any non-compliance;

(v) respond to emergencies; and

(c) include the following environmental management plans:

(i) Operational Traffic Monitoring Program (see condition B3);

(ii) Workplace Travel Plan (see condition B18);

(iii) Stormwater Management Plan (see condition B30);

(iv) Landscape Management Plan (see condition B38);

(v) Wildlife management Plan (see condition B87);

(vi) Waste Management Plan (see condition B91).

(d) detail measures to minimise air emissions during operation.

C7. The Applicant must:

(a) not commence operation until the OEMP is approved by the Planning Secretary; and

operate the development in accordance with the OEMP approved by the Planning Secretary (and as revised and approved by the Planning Secretary from time to time).

REVISION OF STRATEGIES, PLANS AND PROGRAMS

C8. Within three months of:

(a) the submission of a Compliance Report under condition C14;

(b) the submission of an incident report under condition C10;

(c) the approval of any modification of the conditions of this consent; or

(d) the issue of a direction of the Planning Secretary under condition A2(b) which requires a review,

the strategies, plans and programs required under this consent must be reviewed, and the Planning Secretary must be notified in writing of the outcomes of any review.

C9. If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review required under condition C8, or such other timing as agreed by the Planning Secretary.

Note: *This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.*

REPORTING AND AUDITING

Incident Notification, Reporting and Response

C10. The Planning Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in **Appendix 6**.

Non-Compliance Notification

C11. The Planning Secretary must be notified in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance.

C12. A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

C13. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

Compliance Reporting

C14. Within six months after the commencement of construction of the development, and in the same month each subsequent year (or such other timing as agreed by the Planning Secretary) for the duration of construction works, the Applicant must submit a Compliance Report to the Planning Secretary reviewing the environmental performance

of the development to the satisfaction of the Planning Secretary. Compliance Reports must be prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2020) and must also:

(a) identify any trends in the monitoring data;

(b) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and

(c) describe what measures will be implemented over the next year to improve the environmental performance of the development.

C15. The Applicant must make each Compliance Report publicly available no later than 60 days after submitting it to the Planning Secretary and notify the Planning Secretary in writing at least seven days before this is done.

Monitoring and Environmental Audits

C16. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance reporting and independent auditing.

Note: *For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.*

ACCESS TO INFORMATION

C17. At least 48 hours before the commencement of construction of the development and for the life of the development, the Applicant must:

(a) make the following information and documents (as they are obtained or approved) publicly available on its website:

(i) the documents referred to in condition A2 of this consent;

(ii) all current statutory approvals for the development;

(iii) all approved strategies, plans and programs required under the conditions of this consent;

(iv) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;

(v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;

(vi) a summary of the current stage and progress of the development;

(vii) contact details to enquire about the development or to make a complaint;

(viii) a complaints register, updated monthly;

(ix) the Compliance Report of the development;

(x) any other matter required by the Planning Secretary; and

(b) keep such information up to date, to the satisfaction of the Planning Secretary.

APPENDIX 1 DEVELOPMENT LAYOUT PLANS

Table 4 *Schedule of Approved Plans*

Drawing No.	Title	Issue	Date
Architectural Drawings prepared by Nettletontribe Architects			
DA102	Estate Plan - Stage 1	P20	13/02/2023
DA104	Lower Ground Floor Plan - LOT4	P2	13/02/2023
DA105	Ground Floor Plan - LOT1	P18	07/02/2023
DA106	Ground Floor Plan - LOT4	P14	15/02/2023
DA121	Elevations - LOT1	P12	07/02/2023
DA124	Elevations - LOT4	P7	13/02/2023
DA151	Retain Wall & Fence - LOTS 1 & 4	P8	13/02/2023
Landscape Concept prepared by Site Image			
002	Landscape Masterplan	G	14/02/2022
Tree Canopy Plan prepared by Site Image			
STAGE1_SK001	Tree Canopy Plan	E	20/02/2023
Civil Works Package – Infrastructure Works			
20-748 – SKC182	INTERIM STORMWATER MANAGEMENT PLAN	A	27/03/2023



Figure 1: Site Plan(s)

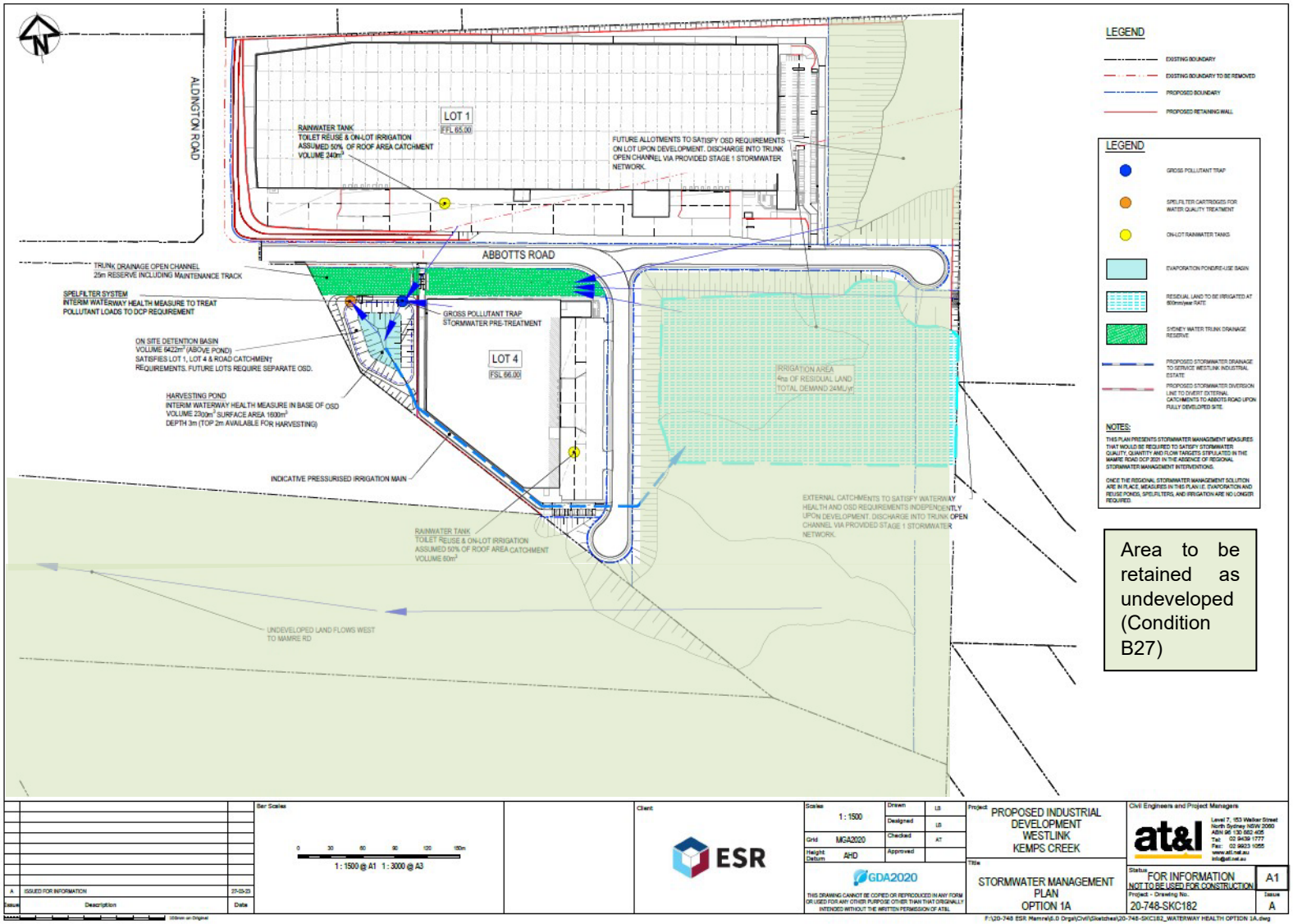


Figure 2: Stormwater Management Infrastructure

APPENDIX 2 NOISE SENSITIVE RECEIVERS



Figure 3: Noise Sensitive Receivers

APPENDIX 3 NOISE MITIGATION ELIGIBLE RECEIVERS' LOCATIONS

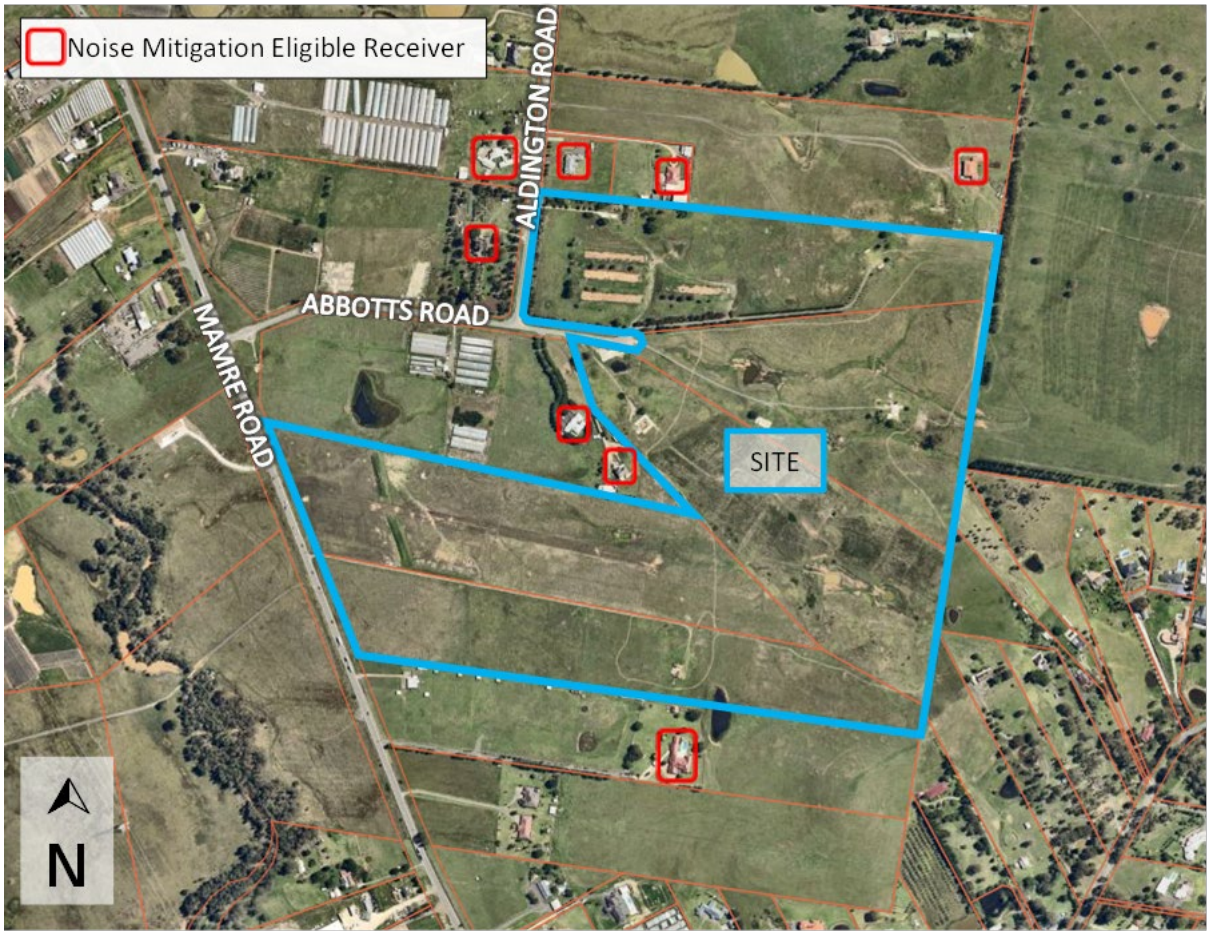


Figure 4: Noise mitigation eligible receivers within the MRP

APPENDIX 4 BUSHFIRE ATTACK LEVEL PLAN

BLACKASH
BUSHFIRE CONSULTING

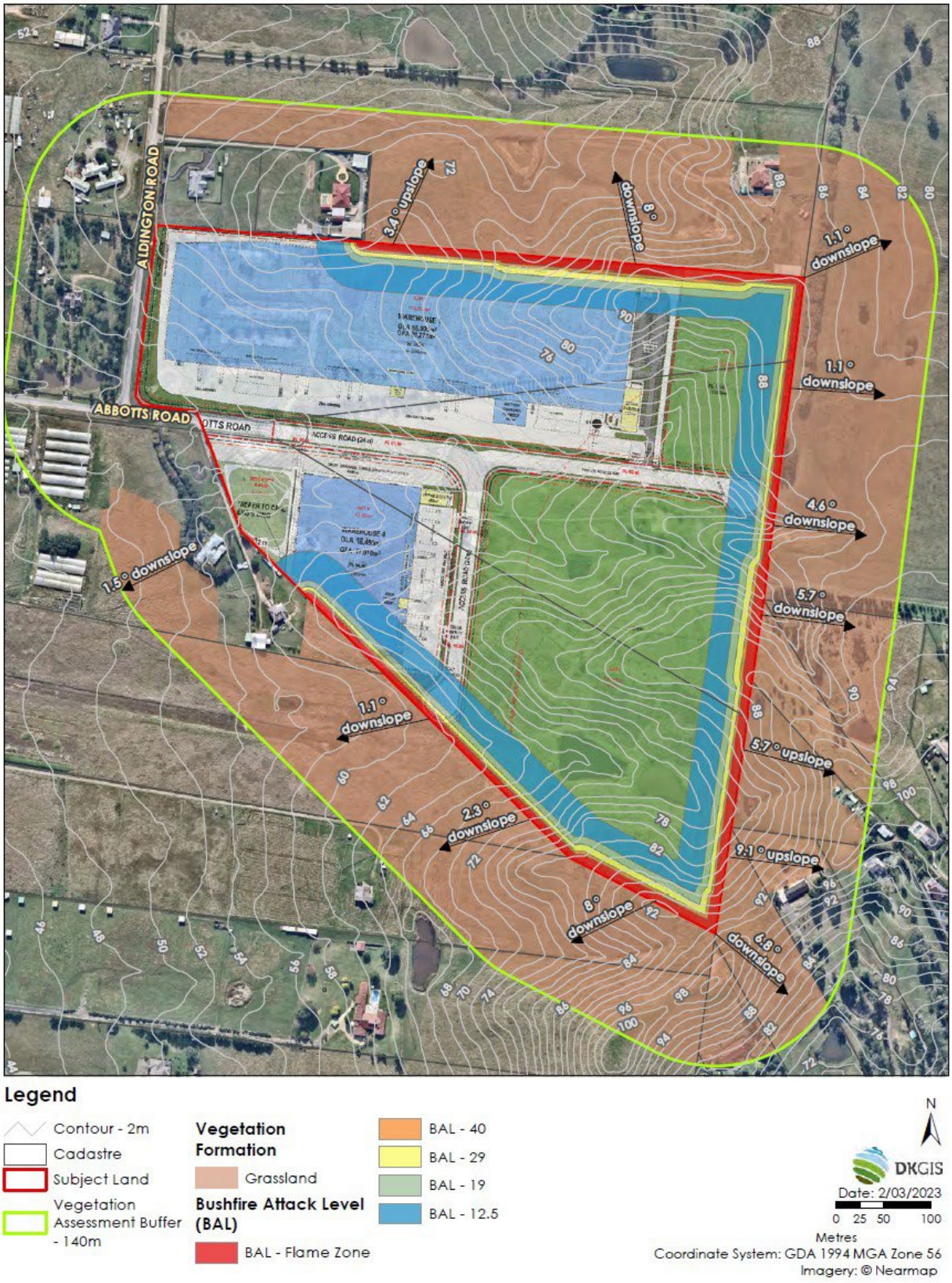


Figure 5: Bushfire Attack Level Plan

APPENDIX 5 APPLICANT'S MANAGEMENT AND MITIGATION MEASURES

Construction Hours

Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:
Monday to Friday: 7:00 to 18:00;
Saturday: 8:00 to 13:00; and
No work on Sundays or public holidays

Construction Impacts

A Construction Environmental Management Plan (CEMP) will be prepared by the appointed contractor prior to the commencement of works. The CEMP will establish site management principles.

Sedimentation and erosion control

The development is to follow the Soil and Water Management Plan, site inspection and maintenance requirements, and sediment basin maintenance measures outlined in Section 8 of the Civil Infrastructure Report and Plans prepared by AT&L dated 14 February 2023.

Site Inspection and Maintenance

- The inspection and maintenance requirements outlined in this section must be carried out while either earthworks or quarrying is being conducted, and all areas re-established. The Contractor will be required to inspect the site after every rainfall event and at least weekly, and will:
- Inspect and assess the effectiveness of the SWMP and identify any inadequacies that may arise during normal work activities or from a revised construction methodology.
- Construct additional erosion and sediment control works as necessary to ensure the desired protection is given to downstream lands and waterways.
- Ensure that drains operate properly and to affect any repairs.
- Remove spilled sand or other materials from hazard areas, including lands closer than 5 metres from areas of likely concentrated or high velocity flows especially waterways and paved areas.
- Remove trapped sediment whenever less than design capacity remains within the structure.
- Ensure rehabilitated lands have affectively reduced the erosion hazard and to initiate upgrading or repair as appropriate.
- Maintain erosion and sediment control measures in a fully functioning condition until all construction activity is completed and the site has been rehabilitated.
- Remove temporary soil conservation structures as the last activity in the rehabilitation.
- Inspect the sediment basin during the following periods:
    - During construction to determine whether machinery, falling trees, or construction activity has damaged and components of the sediment basin. If damage has occurred, repair it.
    - After each runoff event, inspect the erosion damage at flow entry and exit points. If damage has occurred, make the necessary repairs.
    - At least weekly during the nominated wet season (if any), otherwise at least fortnightly; and
    - Prior to, and immediately after, periods of 'stop work' or site shutdown.
- Clean out accumulated sediment when it reaches the marker board/post and restore the original volume. Place sediment in a disposal area or, if appropriate, mix with dry soil on the site.
- Do not dispose of sediment in a manner that will create an erosion or pollution hazard.
- Check all visible pipe connections for leaks, and repair as necessary.
- Check all embankments for excessive settlement, slumping of the slopes or piping between the conduit and the embankment, make all necessary repairs.
- Remove the trash and other debris from the basin and riser; and
- Submerged inflow pipes must be inspected and de-silted (as required) after each inflow event.

Sediment Basin Maintenance

The site contains 'Type F' soils, or soils that contain a significant proportion of fine grained (33% or more of finer than 0.02mm) and require a much longer residence time to settle. Stormwater within the settling zone should be drained or pumped out within 5 days (design time), if the nominated water quality targets can be met, to the satisfaction of the superintendent. Flocculation should be employed where extended settling is likely to fail to meet the objectives within the 5-day period. Flocculation is when flocculating agents are applied to the sediment basins causing the colloidal particles to clump into larger units or 'floc' that can either settle in a reasonable time or be filtered. Refer to Appendix E4 of the Blue Book for flocculation methodologies and manufacturer's instructions for application rates, regarding the proposed sediment basins.

Stormwater Management

Design criteria and requirements for the proposed site stormwater management and stormwater drainage are outlined in the following documents:

- AS 3500.3 – Plumbing and drainage – Stormwater drainage
- Commonwealth of Australia (Geoscience Australia), Australian Rainfall and Runoff: A guide to flood estimation, 2019.
- NSW Department of Planning, Industry and Environment (DPIE), Mamre Road Precinct Development Control Plan 2021.

- NSW Department of Planning, Industry and Environment (DPIE), MUSIC Modelling Toolkit – Wianamatta, 2 August 2021.
- Penrith City Council, Design Guidelines for Engineering Works for Subdivisions and Developments, as amended 20 November 2013.
- Penrith City Council, Water Sensitive Urban Design (WSUD) Policy, December 2013.
- Penrith City Council, WSUD Technical Guidelines, Version 4 – October 2020.

Noise Management

The development is to follow the construction noise and vibration mitigation measures outlined in Section 7.5 of the Noise and Vibration Assessment prepared by RWDI at Appendix J of the ADR.

Without mitigation, noise levels from construction activities have been predicted to exceed the noise management levels nominated in the guidelines at some surrounding receivers. Therefore, noise control measures are recommended to ensure that noise is reduced where feasible. The following project-specific mitigation measures are recommended:

- Selection of quietest feasible construction equipment;
- Use of saw cutting in preference to rock-breakers where feasible; and
- Localised treatment such as barriers, shrouds, and the like around fixed plant, such as pumps, generators, and concrete pumps.

In addition, the following measures should be included in a Noise & Vibration Management Plan.

- Plant Noise Audit – Noise emission levels of all critical items of mobile plant and equipment should be checked for compliance with noise limits appropriate to those items prior to the equipment going into regular service. To this end, testing should be established with the contractor.
- Operator Instruction – Operators should be trained in order to raise their awareness of potential noise problems and to increase their use of techniques to minimise noise emission.
- Equipment Selection – All fixed plant at the work sites should be appropriately selected, and where necessary, fitted with silencers, acoustical enclosures, and other noise attenuation measures in order to ensure that the total noise emission from each work site complies with EPA guidelines.
- Site Noise Planning – Where practical, the layout and positioning of noise-producing plant and activities on each work site should be optimised to minimise noise emission levels.
- The adoption of the above measures is aimed at working towards achieving the noise management levels established at surrounding receivers.

Community Liaison and General Approaches to Mitigation

An effective community relations programme should be put in place to keep the community that has been identified as being potentially affected appraised of progress of the works, and to forewarn potentially affected groups (e.g. by letterbox drop, meetings with surrounding owners/tenants, etc) of any anticipated changes in noise and vibration emissions prior to critical stages of the works, and to explain complaint procedures and response mechanisms.

Close liaison should be maintained between the communities overlooking work sites and the parties associated with the construction works to provide effective feedback in regard to perceived emissions. In this manner, equipment selections and work activities can be coordinated where necessary to minimise disturbance to neighbouring communities, and to ensure prompt response to complaints, should they occur.

Noise & Vibration Management Plan

A Construction Noise & Vibration Management Plan for the site is recommended which should be prepared by the successful contractor. The plan should reference the findings of this assessment. Areas that should be addressed in plan include:

- Noise and vibration mitigation measures;
- Noise and vibration monitoring;
- Response to complaints;
- Responsibilities;
- Monitoring of noise emissions from plant items;
- Reporting and record keeping;
- Non-compliance and corrective action; and
- Community consultation and complaint handling

Biodiversity

The development is to follow the measures proposed to mitigate and manage biodiversity impacts outlined in Section 2.2.5 of the Biodiversity Development Assessment Report prepared by Eco Logical at Appendix N of the RTS.

- Instigating clearing protocols including pre-clearing surveys, daily surveys and staged clearing, the presence of a trained ecological or licensed wildlife handler during clearing events
- Installing artificial habitats for fauna in adjacent vegetation and habitat or human made structures to replace the habitat resources lost and encourage animals to move from the impacted site, e.g. nest boxes
- Timing works to avoid critical life cycle events such as breeding or nursing.
- Sediment barriers or sedimentation ponds to control the quality of water released from the site into the receiving environment.
- Prevent impacts of noise, dust and light spill on fauna species.
- Prevent damage to vegetation retained adjacent to site.
- Prevent the dumping of rubbish found on site.
- Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas.

- Staff training and site briefing to communicate environmental features to be protected and measures to be implemented.
- Making provision for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation habitat on or adjacent to the development site.

Site contamination and geotechnical assessment

The development is to follow the recommendations given in Section 9 of the Preliminary Environmental Site Investigation prepared by Douglas Partners at Appendix R of the RTS, and recommendations for further investigation provided in Section 7 of the Geotechnical Investigation Report prepared by Alliance Geotechnical at Appendix T of the RTS. A Detailed Site Investigation and Remediation Action Plan prepared by Alliance Geotechnics are at Appendices DD and BB of the RTS.

Preliminary Environmental Site Investigation

- A hazardous building material survey should be conducted for structure at the site prior to demolition

Geotechnical Investigation Report

Based on the results of the investigation for the proposed development addressing the specific site condition in 29030 8 Aldington Road, Kemps Creek, it is recommended that further geotechnical investigation be carried out prior to the detail design of the development. The proposed investigation should include rock coring to 3m below the base of t he proposed rock cuts and laboratory rock testings to provide rock strength and defects of the rock mass. The results o f the investigation should address bedrock conditions for stability analysis, retaining wall design and required ear thworks based on architectural design of development.

Bushfire Impacts

The development shall comply with the bushfire management strategies identified in Section 5 of the Bushfire Protection Assessment prepared by Australian Bushfire Protection Planners at Appendix U of the RTS.

Strategy 1 – Defendable Space management Requirements:

Management of the defendable spaces/landscaped areas within the development site shall comply with the following:

- Maintain a clear area of low cut lawn or pavement adjacent to the building;
- Keep areas under shrubs and trees raked and clear of combustible fuels;
- Utilise non-flammable materials such as Scoria, pebbles and recycled crushed bricks as ground cover to landscaped gardens in close proximity to building;
- Trees and shrubs should be maintained in such a manner that tree canopies are separated by 2 metres and understorey vegetation is not continuous [retained as clumps].

Strategy 2 – Water Supplies/Utilities for Firefighting Operations:

The fire-fighting water supply to the proposed buildings shall comply with the Building Code of Australian [BCA] and Australian Standard A.S. 2419.1 – 2005. Electricity and gas supplies will be laid underground and therefore address the performance standard of Chapter 4 of Planning for Bushfire Protection 2019.

Strategy 3 – Construction Standards to the buildings located adjacent to the bushfire hazard:

Table 2 identifies the bushfire construction standards required to be implemented to comply with A.S. 3959 – 2018 – 'Construction of Buildings in Bushfire Prone Areas'.

The non-exposed elevations of the warehouse building shall be constructed to one level less than the BAL rating for the hazard side of the building e.g. the BAL rating to the northern elevation of the warehouse on Lot 1 is BAL 29 therefore the remaining elevations shall be constructed to BAL 19 standards in accordance with A.S. 3959 – 2018 – 'Construction of Buildings in Bushfire Prone Areas'.

The following additional construction measures also apply:

- Access doors [PA and Vehicle] to the buildings shall be fitted with seals that seal the bottom, stiles and head of the door against the opening/frame to prevent the entry of embers into the building. Particular attention shall be given to the gap at the head of the curtain of the roller doors, where mohair type seals can be used;
- External timber doors shall be fitted with a stainless steel/Colorbond kick plate of 400mm high on the outside of the door;
- External glazed doors and windows shall comply with the requirements for glazing less than 400mm above finished ground level; paths / pavement and elevated roofs;
- Any external vents, grilles and ventilation louvres shall have stainless steel mesh with a maximum aperture of 2mm square fitted to prevent the entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm.

Strategy 4 – Access Standards for Firefighting Operations.

Fire Appliance access shall be provided to the perimeter of each lot, either by a perimeter road or by vehicular access to the future buildings or parking areas incorporated into the defendable space setback.

The Fire Brigade access adjacent to the southern and eastern boundaries shown on the Master Plan shall be linked across the lot boundaries to provide continuous access for fire appliances.

The access provisions shall satisfy the NSW Rural Fire Service and Fire & Rescue NSW appliance requirements.

Air Quality

The development shall comply with the recommended mitigation and management measures for air quality provided in Section 8 of the Air Quality Assessment prepared by RWDI at Appendix N of the ADR.

Dust

To ensure best practice management, the following mitigation measures are recommended so that construction dust impacts are minimised and remain low risk.

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Develop and implement a Dust Management Plan (DMP) that considers, as a minimum, the measures identified herein.

Site management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to relevant authorities (Council, EPA, etc).
- Record any exceptional incidents that cause dust and/or air emissions, either on or off site, and the action taken to resolve the situation in the logbook.

Monitoring

- Undertake daily on-site and off-site inspection, where receptors are nearby, to monitor dust. Record inspection results and make available to relevant authorities. This should include regular dust soiling checks of surfaces such as street furniture, cars and window. Specific real-time dust monitoring is not necessary for this project.

Preparing & Maintaining the Site

- Plan site layout so that machining and dust generating activities are located away from receptors, as far as possible.
- Avoid site runoff of water or mud.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being reused on site. If being re-used, keep materials covered.
- Cover, seed or fence stockpiles to prevent wind erosion.

Construction vehicles and sustainable travel

- Ensure all vehicles switch off engines when stationary – no idling vehicles
- Impose and signpost a maximum-speed-limit of 25km/h on surfaced and 15km/h on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided).

Measures for general construction activities

- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. Measures specific to haulage
- Use water-assisted dust sweeper(s) on the access and local roads, as necessary.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site logbook.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- Access gates to be located at least 10m from receptors where possible.

Operation

Although no specific mitigation measures have been triggered, it would be sensible to:

- Limit unnecessary idling of truck engines on-site.
- Ensure truck maintenance is up to date.

Waste management

The development should implement where possible the operational waste management strategies and recommendations provided in Section 6 of the Waste Management Plan prepared by SLR Consulting at Appendix O of the ADR.

Waste Avoidance, Reuse and Recycling Measures

Waste avoidance measures include:

- Participating in take-back services to suppliers to reduce waste further along the supply chain;
- Avoiding printing where possible;
- Review of packaging design to reduce waste but maintain ‘fit for purpose’;
- Providing ceramic cups, mugs, crockery and cutlery rather than disposable items;
- Purchasing consumables in bulk to avoid unnecessary packaging;
- Presenting all waste reduction initiatives to staff as part of their induction program, and
- Investigating leased office equipment and machinery rather than purchase and disposal.

<u>Reuse</u>

Possible re-use opportunities include establishing systems with in-house and supply chain stakeholders to transport products in re-useable packaging where possible.

Recycling

Recycling opportunities include:

- Collecting and recycling e-waste;
- Flatten or bale cardboard to reduce number of bins required;
- Paper recycling trays provided in office areas for scrap paper collection and recycling;
- Collecting printer toners and ink cartridges in allocated bins for appropriate contractor recycling, and
- Development of 'buy recycled' purchasing policy.

Communication Strategies

Waste management initiatives and management measures should be clearly communicated to building managers, owners, employees, customers and cleaners. Benefits of providing this communication include:

- improved satisfaction with services;
- increased ability and willingness to participate in recycling;
- improved amenity and safety;
- improved knowledge and awareness through standardisation of services;
- increased awareness or achievement of environmental goals and targets;
- reduced contamination of recyclables stream;
- increased recovery of recyclables and organics material, if implemented, and
- greater contribution to targets for waste reduction and resource recovery, the environment and heritage conservation.

To realise the above benefits, the following communication strategies should be considered:

- Use consistent signage and colour coding throughout the Project;
- Ensure all staff are trained in correct waste separation and management procedures;
- Provide directional signage to show location of and routes to waste storage area;
- General waste and co-mingled recycling bins should be clearly labelled and colour-coded to ensure no cross contamination, where applicable;
- Employees and cleaners should adhere to the WMP for compliance, in consultation with management, and
- Repair signs and labels promptly to avoid breakdown of communications.

Signage

Signs which clearly identify waste management procedures and provisions to staff and visitors should be distributed around the Project. Key signage considerations are:

- Clear and correct labelling on all waste and recycling bins, indicating the correct type or types of waste that can be placed into a given bin.
- Signposts and directions to location of waste storage areas;
- Clear signage in all waste storage areas to instruct users how to correctly separate waste and recycling;
- Maintaining a consistent style colour scheme and system for signs throughout the Project, and
- Emergency contact information for reporting issues associated with waste or recycling management.

Colour-coded and labelled bin lids are necessary for identifying bins. All signage should conform to the relevant Australian Standard and use labels approved by the NSW EPA14. The design and use of safety signs for waste rooms and enclosures should comply with Australian Standard AS 1319 Safety Signs for the Occupational Environment and clearly describes the types of materials designated for each bin.

Monitoring and Reporting

Monitoring is recommended to ensure waste and recycling management arrangements and provisions for the Project are functional, practical and are maintained to the standard outlined in this plan, at a minimum. Visual assessments of bins and bin storage areas should be conducted by the building manager, at minimum:

- Weekly, in the first two months of operation to ensure the waste management system is sufficient for the operation, and
- Every six months, to ensure waste is being managed to the standards outlined in this document.

In addition, audits are to be conducted on a half-yearly basis to ensure WMP provisions are maintained. Quantities of waste and recycling associated with disposal of waste and recycling, including dockets, receipts and other physical records should be recorded by the Building Manager. This is to allow reviews of the waste management arrangements and provisions at the site over time. Records of waste disposal should also be available to regulatory authorities such as the NSW Environmental Protection Authority and SafeWork NSW, upon request.

Any deficiencies identified in the waste management system, including, but not limited to, unexpected waste quantities, is to be rectified by the Building Manager as soon as it is practical. Where audits show that recycling is not carried out effectively, management should carry out additional staff training, signage re-examination and reviews of the waste management system where the audit or other reviewing body has deemed necessary. If this waste management plan no longer sufficiently meets the needs of the Project, review and updates to maintain suitability must be undertaken.

Roles and Responsibilities

Management:

- Ensure the WMP is implemented throughout the life of the operation.
- Update the WMP on a regular basis (e.g. annually) to ensure the Plan remains applicable.

- Undertake liaison and management of contracted waste collections.
- Organise internal waste audits on a regular basis.
- Manage any complaints and non-compliances reported through waste audits etc.
- Perform inspections of all waste storage areas and waste management equipment on a regular basis.
- Organise cleaning and maintenance requirements for waste management equipment.
- Monitor bins to ensure no overfilling occurs.
- Ensure effective signage, communication and education is provided to alert visitors, employees and cleaners about the provisions of this WMP and waste management equipment use requirements.
- Monitor and maintain signage to ensure it remains clean, clear and applicable.
- Ensure waste and recycling storage rooms are kept tidy.
- Ensure that regular cleaning and daily transfer of bins is being undertaken by the cleaners
- Ultimately responsible for the management of all waste management equipment, cleaning requirements, waste transfer and collection arrangements.

Cleaners and Staff:

- Removal of general waste, recyclables, cardboard waste and hazardous waste from floor areas for transfer to centralised waste and recycling collection rooms daily or as required.
- Cleaning of all bins and waste and recycling rooms on a weekly basis or as required.
- Compliance with the provisions of this WMP.

Gardening Contractor, as applicable:

- Removal of all garden organics waste generated during gardening maintenance activities for recycling at an off-site location or reuse as organic mulch on landscaped areas.

Ecologically Sustainable Development

The development shall be consistent with the sustainability measures commitments outlined in Section 5, and monitoring and reporting measures outlined in Section 7, of the Sustainability Management Plan prepared by SLR Consulting at Appendix P of the ADR.

Energy Review and Audit

An energy usage review should be undertaken within the first few months of operation to ensure the Energy Management Plan is sufficient for the development's needs. A breakdown of energy usage per month at the Project Site will help to measure the development's baseline energy use and assess what appliances, equipment and processes are consuming energy.

An energy review is also necessary for the assessment of energy utilisation to further identify opportunities for improvement. Energy usage data obtained during the review process may be used to establish key performance indicators and annual energy targets for the Project.

Energy usage to be included in the review should include all purchased electricity and energy which is consumed by stationary equipment on site. Energy consumed by mobile equipment (e.g. forklifts) should also be examined as this will identify variations in warehouse operation efficiency. (Refer to 'Guidelines for Energy Savings Action Plans' (2005) (as developed by the former Department of Energy, Utilities and Sustainability) for reporting templates and further information.)

An energy audit and management review should also be undertaken on a half-yearly basis to ensure employees are following energy savings procedures correctly. Where audits show that energy savings procedures are not carried out effectively, additional employee training should be undertaken and signage and procedures re-examined.

The Energy Management Plan should be progressively improved and updated on an annual basis, or as required, to reflect changes to the Energy Management System and to promote continual improvement of energy management at the Project Site.

Energy Metering and Monitoring

To enable effective review of energy usage by the project, sub-metering should be implemented for all major energy consuming processes or items of equipment including sub-metering for all loads greater than 100 kVA.

Electrical equipment should be maintained to Australian Standards to ensure unnecessary energy wastage is minimised. Roof access system is proposed for third party access to roof for carry out necessary maintenance as required.

A Building Users' Guide will be prepared for the Project. The Building Users' Guide provides details regarding the everyday operation of a building and should include energy minimisation initiatives such as natural ventilation strategies, user comfort control, maintenance of air conditioning units and other electrical devices to ensure maximum operating efficiency, and lighting zoning strategies. An effective Building Users' Guide will ensure that:

- Facility managers understand in detail their responsibilities for the efficient operation of the facility and any additional building tuning necessary to continuously improve energy management.
- Maintenance contractors understand how to service the particular systems to maintain reliable operations and maximum energy efficiency.

- Employees understand energy minimisation procedures and working limitations required to maintain design performance for energy efficiency.
- Future fit-out / refurbishment designers understand the design basis for the building and the systems so that these are not compromised in any changes.

Roles and Responsibilities

It is the responsibility of the facility manager to routinely check energy savings procedures are undertaken correctly (i.e. lighting turned off while areas of the development are not in use). The facility manager should also ensure all monitoring and audit results are well documented and carried out as specified in the Energy Management Plan. Senior management should also be involved in energy management planning as an indication of the organisation's commitment to the Energy Management Plan.

APPENDIX 6 INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

WRITTEN INCIDENT NOTIFICATION REQUIREMENTS

1. A written incident notification addressing the requirements set out below must be submitted to the Planning Secretary via the Major Projects website within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition C10 or, having given such notification, subsequently forms the view that an incident has not occurred.

2. Written notification of an incident must:
   (a) identify the development and application number;
   (b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
   (c) identify how the incident was detected;
   (d) identify when the applicant became aware of the incident;
   (e) identify any actual or potential non-compliance with conditions of consent;
   (f) describe what immediate steps were taken in relation to the incident;
   (g) identify further action(s) that will be taken in relation to the incident; and
   (h) identify a project contact for further communication regarding the incident.

INCIDENT REPORT REQUIREMENTS

3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.

4. The Incident Report must include:
   (a) a summary of the incident;
   (b) outcomes of an incident investigation, including identification of the cause of the incident;
   (c) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
   (d) details of any communication with other stakeholders regarding the incident.